



ORDER
ON
AGGREGATE REVENUE REQUIREMENT
&
TARIFF FOR FY 2015-16
FOR
MANIPUR STATE POWER DISTRIBUTION
COMPANY LIMITED

27 FEBRUARY 2015

JOINT ELECTRICITY REGULATORY COMMISSION
FOR MANIPUR AND MIZORAM

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Abbreviations

Abbreviation	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, 2003	Electricity Act, 2003
FSA	Fuel Surcharge Adjustment
FY	Financial Year
GFA	Gross Fixed Assets
GOI	Government of India
JERC	Joint Electricity Regulatory Commission for Manipur and Mizoram
kV	Kilovolt
kVA	Kilovolt-ampere
kW	kilowatt
kWh	kilowatt-hour
LT	Low Tension
MAT	Minimum Alternate Tax
MDI	Maximum Demand Indicators
MSPCL	Manipur State Power Company Limited
MSPDCL	Manipur State Power Distribution Company Limited
MUs	Million Units
NTI	Non-Tariff Income
O&M	Operation and Maintenance
PGCIL	Power Grid Corporation of India Ltd
PLF	Plant Load Factor
PLR	Prime Lending Rate
PPA	Power Purchase Agreement
PWW	Public Water Works
R&M	Repair and Maintenance
RoE	Return of Equity
SBAR	State Bank Advance Rate
SLDC	State Load Despatch Centre
T&D	Transmission and Distribution
UI	Unscheduled Interchange

JOINT ELECTRICITY REGULATORY COMMISSION FOR MANIPUR AND MIZORAM

**TBL Bhawan, 2nd to 5th Floor peter street,
E18, Khatla, Aizwal, Mizoram – 796001**

Case No. 1 of 2014

In the matter of

Determination of Aggregate Revenue Requirement (ARR) and Retail Tariff for FY 2015-16 for sale of electricity by the Manipur State Power Distribution Company Limited (MSPDCL) in the State of Manipur.

AND

Manipur State Power Distribution Company Limited
(herein referred to as MSPDCL)

Petitioner

Present

Mr. A. Chhawnmawia
Chairperson

ORDER

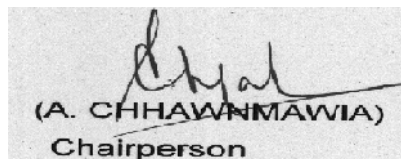
(27.2.2015)

1. The Manipur State Power Distribution Company Limited (herein after referred to as MSPDCL) is a deemed licensee in terms of section 14 of the Electricity Act 2003 (herein after referred to as Act), engaged in the business of generation and distribution of electricity in the state of Manipur.
2. As per the directive of the Commission, the MSPDCL has filed the Petition for determination of Aggregate Revenue Requirement (ARR) and Retail Tariff for FY2015-16.
3. In exercise of the powers vested under section 62(1) read with section 62(3) and section 64 3(a) of the Electricity Act 2003 and Regulation 5.2 JERC (M&M) (Terms and conditions for determination of Tariff) Regulations, 2010 (herein after referred to as Tariff Regulations) and other enabling provisions in this behalf the Commission issues this order for approval of the ARR and determination of retail Tariff for FY 2015-16 for supply of electricity in the state of Manipur.
4. Tariff Regulations specify that the distribution licensee shall file ARR and Tariff Petition in all aspects along with requisite fee as specified in Commission's fees, fines and charges regulations, on or before 30th November of the preceding year. Accordingly the MSPDCL has filed the ARR and Tariff Petition for the period FY 2015-16.
5. Regulation 21 of the Tariff Regulations, 2010 provides that the Commission shall undertake a review along with next Tariff Order of the expenses and revenue approved by the Commission in the current year's Tariff Order. After audited accounts of the year are made available the Commission shall

undertake a similar exercise based on the final actual figures as per the audited accounts, which is called true up.

6. Regulation 17 of the Tariff Regulations, 2010 provides for giving adequate opportunities to all stake holders and general public for making suggestions/objections on the Tariff Petition as mandated under section 64(3) of the Electricity Act 2003. Accordingly the Commission directed MSPDCL vide letter No.H.20013/06/14-JERC (I) dt. 7.1.2015 to publish the ARR and Tariff Petition for the period FY 2015-16 in an abridged form as public notice in news papers having wide circulation in the state inviting suggestions/objections on the Tariff Petition.
7. Accordingly MSPDCL has published the Tariff Petition in the abridged form as public notice in various news papers and the Tariff petition was also placed on the website of MSPDCL. The last date of submission of suggestions/objections was fixed on 29.1.2015 and later extended up to 14.2.2015 with the approval of the Commission.
8. The Commission, to ensure transparency in the process of Tariff determination and for providing proper opportunity to all stake holders and general public for making suggestions/objections on the Tariff petition and for convenience of the consumers and general public across the state, has decided to hold the public hearing at the headquarters of the state. Accordingly the Commission held public hearing at Imphal on 20.2.2015 in the conference Hall of Hotel Imphal from 1:00 PM to 3:00PM.
9. The proposal of MSPDCL was also placed before the State Advisory Committee in its meeting held on 19.2.2015 and various aspects of the Petition were discussed by the Committee. The Commission took the advice of the State Advisory Committee on the ARR and Tariff Petition of MSPDCL for the year FY 2015-16 during the meeting of the committee.
10. The Commission took into consideration the facts presented by the MSPDCL in its Petition and subsequent various filings, the suggestions/objections received from stakeholders, consumer organizations, general public and State Advisory Committee and response of the MSPDCL to those suggestions/objections.
11. The Commission taking into consideration all the facts which came up during the public hearing and meeting of the State Advisory Committee, has approved the ARR and revised tariffs for the year FY 2015-16.
12. The Commission has reviewed the directives issued earlier in the Tariff orders for FY 2010-11 to FY 2014-15 and noted that some of the directives are complied and some are partially attended. The Commission has dropped the directives complied with and the remaining directives are consolidated and fresh directives are added.
13. This order is in Eight chapters as detailed below;
 1. Chapter 1 : Introduction.
 2. Chapter 2 : Summary of ARR & Tariffs for FY2015-16.
 3. Chapter 3 : Power Sector in Manipur - An overview.

4. Chapter 4 : Public hearing process.
 5. Chapter 5 : Analysis of ARR for FY 2015-16 and Commission decisions.
 6. Chapter 6: Tariff principles and design.
 7. Chapter 7 : Wheeling charges for FY2015-16.
 8. Chapter 8 : Directives.
 9. Chapter 9 : Fuel and Power purchase cost Adjustment.
14. The MSPDCL should ensure implementation of the order from the effective date after issuance of a public notice, in such a font size which is clearly visible in two daily newspapers having wide circulation in the state within a week and compliance of the same shall be submitted to the Commission by the MSPDCL.
15. This order shall be effective from 1st April, 2015 and shall remain in force till 31st March, 2016 or till the next Tariff Order of the Commission.



(A. CHHAWNMAWIA)
Chairperson

Place: Aizawl
Date: 27th February, 2015.

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 authorization 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 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. January 24th, 2008.

- a) In accordance with the Act, the Commission discharges the following functions:
- i. Determine the tariff for generation, transmission, distribution 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 of the Act, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
 - ii. 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;
 - iii. Facilitate intra-State transmission and wheeling of electricity;
 - iv. Issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
 - v. 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;

- vi. adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;
- vii. Levy fee for the purposes of this Act;
- viii. Specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section (1) of Section 79 of the Act;
- ix. Specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- x. Fix the trading margin in the intra-State trading of electricity, if considered, necessary;
- xi. Discharge such other functions as may be assigned to it under the Act.

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

- i. Promotion of competition, efficiency and economy in activities of the electricity industry;
- ii. Promotion of investment in electricity industry;
- iii. Reorganization and restructuring of electricity industry in the State;
- iv. Matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by the State Government.

(c) The State Commission ensures transparency while exercising its powers and in discharging its functions.

(d) 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:

- Ensure availability of electricity to consumers at reasonable and competitive rates;
- Ensure financial viability of the power sector and attract investments;
- Promote transparency, consistency and predictability in regulatory

- approaches across jurisdictions and minimize perceptions of regulatory risks;
- Promote competition, efficiency in operations and improvement in quality of supply.

1.2 ARR and Tariff Petition

After the enactment of Electricity Act 2003, various reforms have been initiated in the power sector including restructuring of integrated state electricity boards into separate companies. The Electricity Department of Manipur has been restructured into two companies, the Manipur State Power Company Limited(MSPCL) responsible for transmission function and the Manipur State Power Distribution Company Limited(MSPDCL) responsible for distribution and generation functions with effect from 1st Feb' 2014,

At present, as the petitioner does not own any major generating plant and is not in a position to sell power to other licensees, the question of fixation of generation tariff may not arise. In the petition MSPDCL has, estimated an ARR of Rs. 514.41 crore for Distribution Sector and considered a tariff support of Rs. 211.91 crore from the Government of Manipur thereby showing a revenue gap of Rs. 13.45 crore, which the MSPDCL proposed to recover through proposed tariff.

1.3 Admission of Petition

There has been delay in filing of the ARR & tariff petition for the FY 2015-16. However, the Commission considers it appropriate to admit the ARR and tariff petition for the FY 2015-16 filed by the MSPDCL.

The Commission also 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. Therefore, MSPDCL was asked to submit the required information vide Commission's letter No.H.20013/06/14-JERC(I), dated 5th January, 2015.

Pending receipt of additional information, the ARR and Tariff Petition was admitted on 6th January, 2015 and marked as **Petition No. 1 of 2014 of JERC for M&M** to avoid delay in processing of ARR.

The MSPDCL has submitted some data / information / clarifications etc vide its letter No.1/17/GM/C-II/TP/2015-16/857-60, dated 20th January, 2015.

1.4 Public Hearing Process

The Commission directed the MSPDCL, 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 Act to ensure public participation.

The public notice was published by the Executive Director, MSPDCL in the following newspapers inviting the public to forward their objections and suggestions on the petition on or before 14th February, 2015.

Sl. No.	Name of the Newspaper	Language	Date of Publication
1	The Sangai Express	English	5 th and 6 th February,
2	Huiyen Lanpao	Manipuri	6 th and 7 th February,

The Commission received one objection / suggestion by all Manipur Power Consumers' Association on the petition filed by the MSPDCL. The Commission passed on the objection received to MSPDCL for communicating their response to the objections raised.

1.5 Notices for Public Hearing

A Public Notice was published by the Commission in the following leading newspapers giving due intimation to the general public, interested parties, objectors and the consumers about the public hearing to be held at Imphal on 20.2.2015

Sl. No.	Name of the news paper	Language	Date of Publication
1	Poknapham	Manipuri	4 th and 5 th February, 2015
2	Imphal Free Press	English	4 th and 5 th February, 2015

1.6 Public Hearing

The Public hearing was held as scheduled on 20.2.2015 at Hotel Imphal Conference Hall from 1:00 PM to 3:00 PM. During the public hearing, each objector was provided a time slot for presenting before the Commission his views on the petition of the MSPDCL. The main issues raised by the objectors during the public hearing and corresponding response of the MSPDCL are briefly narrated in Chapter - 4.

1.7 Meeting of State Advisory Committee

The State Advisory Committee, which met on 19.2.2015 at 11:00 AM, at Hotel Imphal discussed the ARR & Tariff proposal for FY 2015-16 of the MSPDCL. Minutes of the meeting are given in the Annexure – I.

1.8 Compliance of Directives

In its previous Tariff orders the Commission had issued certain directives to the MSPDCL (erstwhile EDM) in the public interest. A summary of directives issued along with the comments of the Commission and new directives given are discussed in Chapter 8 of this Tariff Order.

2. Summary of ARR and Tariff Petition

2.1 Aggregate Revenue Requirement (ARR)

The MSPDCL, in its petition, has submitted the Aggregate Revenue Requirement for the year 2015-16 for meeting its expenses and the estimated revenue with the existing tariff. The proposed ARR and revenue gap are shown in Table below.

Table 2.1: Aggregate Revenue Requirement for FY 2015-16

(Rs. Crores)

Sl. No.	Particulars	FY 2015-16 Projected
1	Costs	
2	Power Purchase Cost (Including Tr. Charges)	417.27
3	Fuel Cost	1.19
4	Employee Cost	76.25
5	Repairs and Maintenance Cost	4.00
6	Admin & General Cost	3.19
7	Depreciation	0.61
8	Interest and Finance charges	0.39
9	Interest on working capital	5.92
10	Provision for Bad Debts	3.00
11	Add: Return on Equity	2.91
12	Less: Non-Tariff Income	0.32
13	Annual Revenue Requirement	514.41
14	Less Revenue from Sale energy at existing Tariff and UI Sales	289.06
15	Revenue Gap	225.35

(Source: Table-24 of ARR Petition)

2.2 Tariff

The MSPDCL in its petition has submitted the proposed tariff for the FY 2015-16 requesting the Commission to revise the tariff duly reducing the billing slabs from existing four to three under domestic and commercial categories as detailed in the Table 2.2 below:

Table 2.2: Proposed Tariff Structure for FY 2015-16 against the existing tariff

Existing Tariff			Proposed Tariff		
Particulars	Fixed Charges (Rs./kW/kVA/ Month)	Energy Charges (Rs./kWh)	Particulars	Fixed Charges (Rs./kW/kVA/Month)	Energy Charges (Rs./kWh)
LT SUPPLY			LT SUPPLY		
Kutir Jyoti			Kutir Jyoti		
0-15 kWh	20	1.00	1-15 kWh	20	1.00
Above 15 kWh	20	1.50	Above 15 kWh	20	1.50
Domestic Light & Power			Domestic Light & Power		
0-100 kWh	60	2.80	1-100 kWh	60	2.95
101-200 kWh	60	3.40	101-200 kWh	60	3.60
201-300 kWh	60	4.10	Above 200 kWh	60	4.60
Above 300 kWh	60	4.60			
Commercial			Commercial		
0-100 kWh	80	3.80	1-100 kWh	85	4.00
101-200 kWh	80	4.50	101-200 kWh	85	4.75
201-300	80	5.10	Above 200 kWh	85	5.70
Above 300 kWh	80	5.60			

Existing Tariff			Proposed Tariff		
Particulars	Fixed Charges (Rs./kW/kVA/ Month)	Energy Charges (Rs./kWh)	Particulars	Fixed Charges (Rs./kW/kVA/Month)	Energy Charges (Rs./kWh)
Public Lighting	60	4.90	Public Lighting	65	5.15
Public Water Works	100	4.90	Public Water Works	105	5.15
Agriculture	60	2.90	Agriculture	65	3.05
Cottage & Small Industry	80	2.90	Cottage & Small Industry	65	3.05
Temporary Supply	80	5.00	Temporary Supply	85	5.25
HT SUPPLY			HT SUPPLY		
Commercial	100	5.40	Commercial	105	5.70
Public Water Works	100	4.60	Public Water Works	105	4.85
Agriculture	100	2.70	Agriculture	105	2.85
Medium Industry	100	3.80	Medium Industry	105	4.00
Large Industry	100	4.40	Large Industry	105	4.65
Bulk Supply	100	4.00	Bulk Supply	105	4.20

Prayer

The MSPDCL has requested the Hon'ble Commission to:

- Admit the Aggregate Revenue Requirement of FY 2015-16 and the Tariff Revision Proposal for FY 2015-16 as submitted herewith.

- Condone any inadvertent omissions/ errors/ shortcomings and permit the Petitioner to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date.
- Permit submission of any additional information required by the Commission during the processing of this petition.
- And pass such other and further orders as are deemed fit and proper in the facts and circumstances of the case.

3. Power Sector in Manipur- An Overview

3.1 Geographical Reality

The MPDCL is responsible for generation and distribution of electricity in the State of Manipur, which has a total area of 22,347 Sq KM with its nine districts namely, Bishnupur, Churachandpur, Chandel, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul. Manipur occupies an area of great strategic importance in North East corner of India. Manipur is bounded by States of Nagaland in the North, Mizoram in the South, Assam in the West and sharing international boundary with Myanmar in the East. The total population of Manipur State is 27.22 lakhs as per 2011 census. MSPDCL serves about 2.30 lakhs consumers of various categories. Per capita consumption is about 150 kwh for the year 2013-14.

3.2 Power Supply

a) Own Generation

The MSPDCL has own generation plants micro hydel, diesel with installed capacity of 45.11 MW. Actual net generation during 2013-14 is 1.01 MU while the energy requirement is about 600 MU. Balance energy requirement was met from power purchase from CGS and other sources. The details of own generating stations and station wise net generation are detailed in Table below:

Table 3.1: Own generation

Sl. No.	Item	Unit	Previous Year (Actuals)	Current Year (R.E)	Ensuing Year (Projection)
1	Installed Capacity	MW	42.87	42.87	42.87
2	Generation	MU			
3	PLF	%	0.18%	0.18%	0.18%
4	Plant Availability	%			
5	Auxiliary Consumption				
	(i)	MU			
	(ii)	%			
6	Net Generation	MU	0.33	0.33	0.33

Sl. No.	Item	Unit	Previous Year (Actuals)	Current Year (R.E)	Ensuing Year (Projection)
7	Station Heat Rate	K cal/kWh			
8	Calorific Value of Coal (Weighted Average)	Kcal/Kg	-	-	-
9	Coal Transit Loss	%	-	-	-
10	Total Coal Consumption	Tonnes	-	-	-
11	Total Diesel Consumption	KL	291	291	291
12	Specific Oil Consumption	MI/kWh	-	-	-
13	Calorific Value of Oil	Kcal/Litre			
14	Price of Coal	Rs./ Tonne	-	-	-
15	Price of Oil/ Diesel	Rs./KL	41172	41172	41172
16	Total Coal Cost	Rs. cr	-	-	-
17	Total Oil Cost/ Diesel Cost	Rs. cr	1.19	1.19	1.19
18	Total Fuel Cost	Rs. cr	1.19	1.19	1.19
19	Generation from hydel	MU	0.33	0.33	0.33
20	Diesel	MU	0.68	0.68	0.68
21	Total		1.01	1.01	1.01

The MSPDCL further stated that the diesel generating sets with a total capacity of 8.51MW cater to the emergency requirement of Imphal Power House and district hospitals. The heavy fuel plant of 36 MW (6X6 MW) at Leimakhong is kept on standby mode for the purpose of meeting emergency requirements in the State.

b) Power Purchase

The MSPDCL is mostly dependent on Central Generating Stations (CGS) located in different parts of the North Eastern Region for meeting its energy requirement. The total firm share from the Central Sector Generating Stations of NEEPCO and NHPC and Tripura is 154.30 MW as depicted in the Table below. The actual peak and off-peak availabilities are however always less because of low plant load factors.

Table 3.2: Energy Allocation from Central Generating Stations (CGS)

Sl. No.	Station	Installed Capacity	FY 13-14 (Actual)	
			Manipur Allocation (MW)	AVG Allocation in %
A	NEEPCO(Hydro)			
1	Kopili I HEP	200	14.78	7.39%
2	Kopili II HEP	25	1.74	6.95%
3	Khandong HEP	50	3.28	6.56%
4	Ranganadi HEP	405	33.90	8.37%
5	Doyang HEP	75	5.90	7.87%
	Sub total	755	59.60	
B	NEEPCO(Gas Based)			
1	Assam Gas based Power Project	291	23.60	8.11%
2	Agartala Gas Turbine Power Project	84	6.98	8.31%
	Sub total	375	30.58	
C	NHPC(Loktak HEP)			
1	Purchased	105	32.62	30.12%
	Sub total	105	32.62	
D	TRIPURA			
1	Baramura (Gas Based)(Unit IV)	21	5.25	25%
2	Baramura(Gas Based)(Unit V)	21	5.25	25%
E	New Projects			
1	OTPC- (Pallatana-Unit I)	363	21.00	0.00%
2	OTPC-	363		

Sl. No.	Station	Installed Capacity	FY 13-14 (Actual)	
			Manipur Allocation (MW)	AVG Allocation in %
	(Pallatana-Unit II)		0.00	0.00%
3	NTPC Bongaigaon Unit I	250	0.00	0.00%
4	NTPC Bongaigaon Unit II	250	0.00	NA
	Sub Total	768	31.50	
	Total	2003	154.30	

(Source table 8 of ARR)

The energy draws from various central generating stations and Tripura during 2013-14 are given Table below:

Table 3.3: Energy Draws from Central Generating Stations & Tripura

(MU)

Station	FY 2013-14 Actuals
NEEPCO (Hydro)	
Kopili I HEP	52.19
Kopili II HEP	5.37
Khandong HEP	11.67
Ranganadi HEP	81.98
Doyang HEP	18.38
Sub total	169.59
NEEPCO (Gas Based)	
Assam Gas based Power Project	137.29

Agartala Gas Turbine Power Project	52.33
Sub total	189.62
NHPC (Loktak HEP)	
Purchased	111.27
Free Power	73.69
Sub total	184.96
TRIPURA	
Baramura (Gas Based)- (Unit IV)	64.29
Baramura (Gas Based)- (Unit V)	35.47
Total	99.76
OTPC-Pallatana (Unit I)	
Sub total	80.56
Total	615.31
Less Inter State Transmission loss @3.6%	23.18
Net Power purchase	620.75
Total	643.93
Power Purchase from other sources	
UI	36.17
Total Power purchase	656.92
Own generation	1.01
Gross Power Purchase (including free power of 73.69 MU from Loktak)	657.93

(Source: Format 1.4 of ARR)

3.3 Transmission and Distribution

For the purpose of drawing power from the Central Sector generating stations and other sources in the North Eastern Region, the MSPDCL has utilized 4 Nos single circuit 132 kV interstate transmission lines, two being owned by PGCIL and two by MSPCL, as detailed below.

Owned by MSPCL

- Leimatak-Ningthoukhong-Karong-Kohima-132 kV line.
- Leimatak-Jiribam-132 kV line.

Owned by PGCIL

- Leimatak – Imphal - Dimapur – 132 kV line.
- Leimatak - Jiribam – 132 kV line.

Manipur, being a hilly state with its population unevenly dispersed and spread over remote corners, it is having large network of Sub-Transmission and Distribution system. The details of Distribution network, owned & operated by MSPDCL as on 31/03/2014, are given in Table below.

Table 3.4: Distribution Network as on 31.3.2014

Sl.No.	Voltage	Distribution lines (Ckt. Km)		Sub-stations (nos.)	Sub- station/ transformer MVA
		Double Ckt.	Single Ckt.		
1	11kV lines	16.090	5773.78		
2	LT lines		7685.00		
3	Distribution transformers			3732	3891.74
4	11 kV (UG)		0.010		
5	LT cable (UG)		0.280		

3.4 Transmission and Distribution (T&D) Losses

The Transmission and Distribution losses of MSPDCL system are 30.79% during the year 2013-14.

The technical and commercial losses are not segregated.

3.5 Consumer Profile

The category wise consumers and corresponding energy sales during the year 2013-14 are given in Table below:

Table 3.5: Consumer Profile and Energy Sales – 2013-14

Sl. No.	Consumer Category	2013-14			
		No. of consumers (Nos.)	(%)	Energy sales (MU)	(%)
A	Kutir Jyoti	19341	8.42	12.50	3.01
1	Domestic	195192	85	202.03	48.67
2	Commercial	11514	5.01	34.39	8.28
3	Small industry	2084	0.91	14.86	3.58
4	Medium industry	78	0.03	2.37	0.57
5	Large industry	22	0.01	14.38	3.51
6	Bulk supply	694	0.30	97.61	23.52
7	Public lighting	466	0.20	5.49	1.32
8	Irrigation	63	0.03	3.12	0.75
9	Public waterworks	170	0.07	28.25	6.81
10	Temporary supply	13	0.06	0.09	0.02
	Grant Total	229637		415.09	

3.6 Demand

The energy demand for the MPDCL is met by supply of power from own generation, central generating stations of North Eastern Region and Baramura Gas Based Plants in Tripura State. The annual energy requirement during FY 2013-14 was 657.96 MU.

3.7 Energy Audit

The MSPDCL is not doing Energy Audit effectively- neither at the incoming stage nor at the consumer end. At present, the MSPDCL is arriving at the losses by taking the input at 11kV point and compare it with energy sales at consumer end and showing the difference as distribution loss and this exercise cannot be termed as energy audit. The energy audit should be conducted Voltage wise and computed with standard norms.

Any abnormalities in loss level should be analyzed 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

Out of 229637 service connections as on 31.3.2014, 40977 connections are reportedly without meters. During the year 2013-14 (upto September, 2013) alone, 2664 new service connections are released without meters out of which 68 are HT service connections. Added to this 42123 service connections are with defective meters as on 31.3.2014. Metering of 11 KV feeders is not completed and DTRs are not provided with meters.

3.9 Continuity of Power Supply

The Power Supply in the state is in a very precarious condition. Nowhere in the state, barring a few privileged consumers, the Power Supply is continuous. The duration of power supply to the general consumers including the State capital is 4 to 8 hours a day.

4. Public Hearing Process

4.1 Points raised by the public :

- 1) Request for consideration to change the proposed tariff slabs of
0 - 100
101 - 200 to 0-200
Above 201 201-400
- 2) Requested that asset and depreciation register be maintained properly.
- 3) Heavy fuel power project at Leimakhong be run during peak hours.
- 4) Payment of transmission charges to PGCIL & MSPCL
- 5) Whereas addl. revenue of Rs. 1.41 crores from improvement of internal efficiency is shown in the ARR, 2014-15. The same is not incorporated in the ARR 2015-16.
- 6) Notice for public hearing for tariff petition be given/published at least 30 days in advance .
- 7) Other points raised related to consumers' grievances etc:
 - I) Pre-paid metering –functioning problems, accuracies .
 - II) Activation of pre-paid Meter already installed.
 - III) Revival of IGR cells/CGRF
 - IV) Load shedding (how long it will remain)
 - V) Regarding Langmeidong (Thoubal) : No complaint room; counter for paying bill near the locality; consumers awareness programme frequency in different areas of state requested.

4.2 Clarifications made by the Executive Director (Tech) MSPDCL :

1) **Tariff Slab** :-

The present trend of energy consumption in the State is as below:

Poorer section	-	below 100 units/month
Middle class	-	101 to 200 units/month
Upper class	-	above 200 units

Based on the above trend the 3 (three) slabs of tariff are proposed in the interest of public.

2) **Asset & Depreciation Register:**

The finalisation of Assets of MSPDCL with the help of consultant is in the final stage. Proper maintenance of above Register will be taken care of as the same will be required for preparation of ARR and Tariff Petition in future.

3) **Heavy Fuel based Power Project at Leimakhong:-** The O/M of the Power Project is under the purview of the MSPCL.

4) **Payment of Transmission charges to both PGCIL and MSPCL:-**

The PGCIL is responsible for inter-state transmission of power, whereas the MSPCL takes care of intra-state transmission of power, i.e. transmission of power within the state. As such MSPDCL is obliged to pay transmission charges both to PGCIL & MSPCL.

5) **Additional Revenue from Internal Efficiency Improvement:**

The State Power Sector (presently MSPDCL) while preparing the ARR 2015-16 has proposed the T&D losses for the FY 2013-14, 14-15 & 15-16 as 30.79%, 29.00% & 27.00% respectively. The Company has targeted to achieve a 3% reduction in T & D losses from the actuals of 2013-14, which will be a challenging task. The same is being aimed to achieve through the completion of various infrastructure development schemes like R-APDRP, RGGVY, Pre-Paid and Post-Paid metering etc. as well as improvement in the work culture of all staff of the Company.

As such the question of additional revenue from improvement of internal efficiency has been incorporated while preparing the proposed ARR.

6) **Notice for Public Hearing :**

Giving of Public Notice at least 30 days in advance will be taken care of in future.

7) **Other Points raised related to Consumer Grievances:**

i) **Proper functioning of Pre-Paid Meter:-** The prepaid meter is functional with supply voltage from 140 and above. When the voltage drops below 140 V due to temporary line and transformer faults, the meter may not function properly. When the voltage improves, the meter will automatically function properly.

Regarding accuracy of the Pre-paid meter, the class of accuracy is 1 (one) i.e. its accuracy will be $\pm 1\%$. All slab billings are programmed in the meter and it works accordingly as the consumption changes from one slab to another per month. The fixed charge is also accounted/adjusted per day even though no energy is consumed.

ii) **Activation of all Pre-Paid Meters:-** The Activation of all Pre-Paid Meters already installed will be completed by March 2015.

iii) **Revival of IGR Cells/CGRF:** - Due to problem of shortage of staff the Company is at present not in a position to properly function all the IGR Cells already Constituted in the Sub Divisional Manager Offices.

However, to redress the grievances the Company is opening a Consumers Call Centre (toll free) at Lamphel to receive all kinds of complaints from consumers anywhere in the state, and the same will be redirected by the Call Centre to the concerned Sub-Division for action to be taken up and will be monitored.

iv) **Load Shedding:**

Load shedding is subject to Power availability and transmission and distribution system constraints. During 2015 power availability will be improved with commissioning of Pallatna Unit-II and Bongaigaon Unit – I within 2/3 months and Bongaigaon Unit – II from Dec. 2015. System adequacy will be improved on completion of 400 kV DC Silchar-Imphal line by March 2015. Some 33 kV system constraint are also to be removed. As such load shedding may continue till the above system constraints are removed completely.

v) **Consumer awareness programme:** - Periodical consumer awareness mela/programme will be organised in future. Recently a district level consumer awareness programme was conducted at Kakching.

4.3 Commission's observation

- 1) As per GOM notification dated 31.12.2013 all assets and liabilities of erstwhile EDM have been transferred among the newly formed 2 (two) utilities viz. MSPCL and MSPDCL. Accordingly, generation assets are transferred to MSPDCL. As such O&M of generation projects shall be under the purview of MSPDCL.
- 2) Compliance on activation of proposed meters may be submitted by 30.6.2015.

5. Analysis of Aggregate Revenue Requirement for FY 2015-16

5.1 Energy Sales

Proper estimation of category wise energy sales is essential to determine the quantum of power purchase and the likely revenue. This section examines in detail the consumer category wise sales projected by the MSPDCL in its petition for assessment of ARR.

5.2 Consumer Categories

The MSPDCL serves about 2.30 lakh consumers in its licensed area and the consumers are categorized as under:

- a) Kurtir Joyti(LT)
- b) Domestic(LT)
- c) Commercial(LT&HT)
- d) Public Lighting(LT)
- e) Agricultural(LT&HT)
- f) Public water works(LT&HT)
- g) Cottage & Small industry(LT)
- h) Medium industry(HT)
- i) Large industry(HT)
- j) Bulk supply(HT)

The MSPDCL serves the consumers at different voltages according to the consumer's requirement. In the categories, of Commercial, Agriculture and public water works there are LT consumers as well as HT consumers, while medium Industry, Large Industry and Bulk Supply categories are under HT only.

5.3 Growth of Consumers and Connected Load

The MSPDCL projected the category wise growth of consumers and their connected load as detailed below.

5.3.1 Consumers and connected load

The MSPDCL has projected the category wise number of consumers and the connected load for the years 2013-14 to 2015-16 as detailed in Table below:

Table 5.1: No. of consumers and connected load of MSPDCL

Sl. No.	Category	2013-14		2014-15		2015-16	
		No. of consumers (No.)	Connected Load (KW)	No. of consumers (No.)	Connected Load (KW)	No. of consumers (No.)	Connected Load (KW)
1	Kutir Jyoti	19341	34	19802	1707	20273	1783
2	Domestic	195192	301792	199841	311256	204601	321017
3	Commercial	11514	32809	11909	34443	12317	36158
4	Public Lighting	466	1006	421	1066	380	1130
5	PWW	170	20265	180	22289	190	23924
6	Agriculture and Irrigation	62	947	62	1304	63	1795
7	Temp. Supply	13	3869	6	3908	2	68
8	Small and College Industries	2084	15909	2458	15931	2898	16074
9	Medium Industries	78	7820	47	7839	29	7857
10	Large Industries	22	2550	31	2583	44	2616
11	Bulk Supply	694	48858	818	52648	965	56731
12	Total	229636	434193	235575	451209	241762	469153

(Source: Format 1 & additional information)

Commission Analysis

As seen from the above Table 5.1 the connected load does not commensurate with the number of service connections especially in respect of Public lighting (Average 2.97 kW) Medium Industry (Average 271KW) and large Industry (Average 59KW). As fixed charges have to be worked out on connected load there is need for physical verification of the connected load of all LT category service connections and HT unmetered connections to bill the fixed charges based on actual connected load after regularization of unauthorized loads if any. Directive No. 11 was already issued in Tariff order 2010-11 inter alia for detailed survey and investigation of load assessment. The licensee seems to have not understood the impact of this directive fully. A plan of action should be chalked out in all divisions, for physical verification of connected load of all service connections section wise by mobilizing all staff including AEs/JEs sub division wise. A quarterly progress report in

this regard may be submitted to the Commission starting from 1st April, 2015.

5.4 Overall Approach to Sales Projection

The MSPDCL has projected the category wise energy sales for the year 2015-16 based on actual sales during FY 2013-14 considering appropriate growth rate(CAGR) of actual consumption during FY 2010 – 11 to FY 2013 -14. The MSPDCL has also stated that from the past experience, historical trend method is found to be reasonably accurate and is a well- accepted method for estimating the load, number of consumers and energy consumption. The actual sales during FY 2010-11 to FY 2013-14 and CAGR for different years are furnished Table below:

**Table 5.2: Consumer category wise energy sales from FY 10-11 to FY 14-15 (Till July `14)
(MU)**

Energy Sales	FY 10-11 Actuals	FY 11-12 Actuals	FY 12-13 Actuals	FY 13-14 Actuals	FY 14-15 (till July `14)
Kurti Jyoti			7.94	12.50	3.61
Domestic	152.00	173.72	195.81	202.03	74.89
Commercial	22.75	27.20	30.82	34.39	13.17
Small Industry	8.40	14.48	17.24	14.86	6.09
Medium Industry	3.03	2.92	2.36	2.37	0.97
Large Industry	2.05	11.86	13.93	14.38	5.1
Bulk	58.79	68.48	80.45	97.61	37.06
Public lighting	5.39	4.08	4.78	5.46	1.71
Irrigation & water works	0.49	0.83	1.59	3.12	1.13
Public water works	17.62	20.17	23.60	28.25	6.32
Temporary	0.58	1.10	0.54	0.09	0.02
Total Energy Sales	271.10	324.83	379.04	415.09	150.07

Table 5.3 Category wise Trend of Units Billed

Consumer Categories (Trend in units sold)	3 Year CAGR	2 Year CAGR	1 Year CAGR	Growth rate assumed for increase in restricted demand	Growth rate assumed for FY 2014-15	Growth rate assumed for FY 2015-16
Kutri Jyoti	12.17%	11.13%	5.29%	2yr CAGR	11.13%	49.61%
Domestic	9.95%	7.84%	3.18%	2yr CAGR	7.84%	45.19%

Commercial	14.77%	12.45%	11.60%	2yr CAGR	12.45%	51.40%
Small Industry	20.96%	1.29%	-13.82%	2yr CAGR	1.29%	36.37%
Medium Industry	-7.87%	-9.86%	0.59%	1 yr CAGR	0.59%	0.59%
Large Industry	91.46%	10.12%	3.24%	1 yr CAGR	3.24%	38.99%
Bulk	18.41%	19.39%	21.33%	2 yr CAGR	19.39%	60.74%
Public Lighting	0.64%	16.01%	14.90%	1 yr CAGR	14.90%	14.90%
Irrigation & Water Works	85.22%	94.23%	96.85%	2 yr CAGR	94.23%	94.23%
Public Water Works	17.04%	18.34%	19.72%	2 yr CAGR	18.34%	18.34%
Temporary	-46.39%	- 71.33%	-83.43%	3 yr CAGR	-46.39%	-46.39%
Total Energy Sales	15.26%	13.04%	9.51%		12.04%	47.31%

- (a) For domestic category which is the major consumption category in Manipur contributing 50% of sales (approx.) in the state, MSPDCL projected energy sales for FY 2014-15 at 2 year CAGR of 7.84% over actual sales during FY 2013-14. For FY 2015-16 a growth rate of 45.19% adopted over estimated sales for FY 2014-15.
- (b) For commercial, 2 year CAGR on 12.45% applied over actual sales during FY 2013-14 to estimate sales for FY 2014-15 and for FY 2015-16 a growth rate of 51% adopted over actual sales for 2013-14.
- (c) For small industry two year CAGR of 1.29% applied over actual sales of 2013-14 for estimate sales for 2014-15 and for FY 2015-16 a growth rate of 36.37% applied over actual sales of 2013-14.
- (d) For medium industry growth rate of 0.59% (1 year CAGR) applied over actual sales of 2013-14 to estimate sales for 2014-15 and for projecting sales for 2015-16.
- (e) For Large industry a growth rate of 3.24% (YoY growth) applied over actual sales of 2013-14 to estimate sales for 2014-15 and for 2015-16 a growth rate of 38.99% applied over 2014-15.
- (f) For Bulk Supply a growth rate of 19.39% (2 Year CAGR) applied over actual sales of 2013-14 to estimate sales for 2014-15 and for 2015-16 a growth rate of 60.74% applied over

estimated sales of 2014-15.

- (g) For other categories like irrigation and agriculture, public water works and public lighting two year CAGR of 94.23%, 18.34% (2 year CAGR), 14.90% (YoY) have been applied respectively.

The actual sales of FY 2013-14 estimated sales for FY 2014-15 and projected sales for FY 2015-16 proposed by MSPDCL are furnished in Table below:

Table 5.4: Energy sales projected by MSPDCL

(MU)

Energy Sales (MU)	FY 2013-14	FY 2014.15	FY 2015-16
	Actuals	Estimated	Projected
Kutir Jyoti	12.50	13.89	20.78
Domestic	202.03	217.87	316.32
Commercial	34.39	38.67	58.55
Small Industry	14.86	15.05	20.53
Medium Industry	2.37	2.38	2.40
Large Industry	14.38	14.85	2.63
Bulk	97.61	116.54	187.33
Street Lighting	5.49	6.31	7.25
Irrigation and Water Works	3.12	6.06	11.77
Public Water Works	28.25	33.43	39.56
Temporary	0.09	0.05	0.03
Total Energy Sales	415.09	465.10	685.15

(Source: Table-4 of Petition)

5.5 Detailed Analysis of Energy Sales Projection

The MSPDCL has projected the energy sales for different categories of consumers for FY 2015-16 as given in Table 5.4 above. As per the tariff schedule commercial, public water works, and irrigation agricultural categories are mix of HT and LT categories and domestic, public lighting and cottage and small industries are under LT category, while medium Industry, Large Industry and Bulk Supply are under HT category. The energy sales are not following any definite trend. However, based on CAGR of actual sales during FY 2010 – 11 to FY 2013 – 14, the projected of sales for FY 2015-16 are arrived as discussed below.

(a) Kutir Jyoti

MSPDCL has projected energy sales of 20.78 MU for the FY 2015-16 considering actual sales of 2012-13 at 12.50 MU. But as per the definition of Kutir Jyoti category, if the total consumption in the past three months exceeds 45 kWh the connection should be converted to Domestic.

The Commission approves energy sales under Kutir Jyoti category at 10 MU for FY 2015-16 as against MSPDCL projection of 20.78.

(b) Domestic

MSPDCL has projected energy sales of 316.32 MU for FY 2015-16 while actual energy sales during FY 2013-14 are 202.03 MU. Domestic category is the major consumption category in Manipur, contributing about 50% of total energy sales in the State. The three years CAGR (FY-11 to FY-14) is 9.95% while two year CAGR (FY-12 to FY-14) is 7.84% and YoY growth rate (FY-13 to FY-14) is 3.18%. However, considering the normal increase in per capital consumption level and increased utilization of electrical appliances, the MSPDCL expects a growth rate of 25% PA in energy consumption for the year 2015-16 over the year 2013-14.

Considering the improved power supply position and consumer growth, the Commission approves the energy sales to the domestic category at 317 MU for the year 2015-16 as against MSPDCL projection of 316.32 MU.

(c) Commercial

The MSPDCL projected energy sales of 58.55 MU for this category for the year 2015-16 while actual sales during FY 2013-14 are 34.39 MU. The 3 year CAGR (FY-11 to FY-14) 14.77% and the 2 year CAGR (FY-12 to FY-14) is 12.45% and YoY growth rate is 11.60%. Considering the past growth and improvement in availability of power, it is considered reasonable to consider the suggested consumption of 58 MU.

The Commission approves the energy sales for commercial category at 58 MU as against MSPDCL projection of 58.55 MU for FY 2015-16

(d) Cottage and Small Industry

The MSPDCL has projected energy sales in this category at 20.53 MU for FY 2015-16 while actual sales during FY 2013-14 are 14.86 MU. The actual sales during FY 2013-14

are 14.86 MU. The three-year CAGR (FY-11 to FY-14) is 20.76% while 2 year CAGR (FY – 12 to FY – 14) is 1.29% and YoY growth (FY-13 to FY-14) is (-)13.82%. As seen from past sales there is a jump in sales during FY 2011-12. MSPDCL has not furnished reasons for abnormal increase during 2011-12, and decrease in FY 2013-14.

The Commission approves the energy sales of 20 MU for this category for the year 2015-16 as against MSPDCL projection of 20.53MU

(e) Medium Industry

The MSPDCL has projected energy sales of 2.40 MU for 2015-16 for this category. Actual sales during FY 2013-14 are 2.37 MU. There is negative growth during 2011-12 and 2012-13 compared to 2012-13 and started increasing since 2013-14. The MSPDCL has not furnished reason for such negative growth. Considering actual sales during 2013-14 Commission feels it reasonable to consider 3 MU for FY 2015-16.

The Commission approves the energy sales of 3 MU for this category for the year 2015-16 as against MSPDCL projection of 2.40 MU.

(f) Large Industry

The MSPDCL has projected energy sales of this category at 20.63 MU for the year 2015-16. The actual sales during FY 2013-14 were 14.38MU. There is a jump in sales during FY 2011-12 and the MSPDCL has not explained reasons for such increase. Since then the sales are steadily increasing. As such it is considered reasonable to adopt a growth rate of 25% PA over the actual sales during FY 2013-14 which works out to 22 MU.

The Commission approves the energy sales of 22 MU for this category for the year 2015-16 as against 20.63 MU projected by the MSPDCL.

(g) Bulk Supply

The MSPDCL projected energy sales of 187.33 MU for Bulk Supply category for the year 2015-16. The actual sales during FY 2013-14 are 97.61 MU. The 3(Three) years CAGR (FY 1 to FY 14) is 18.41% while 2 year CAGR (FY 12 to FY 14) is 19.39% and YoY growth (FY 13 to FY 14) is 21.33%. Substantial growth is observed since 2010-11. MSPDCL proposed growth rate of 60.74% own the sales during FY 2014-15 to projected sales for FY 2015-16. Hence, it is felt reasonable to project a sale of 191 MU.

The Commission approves the energy sales of 191 MU for the year 2015-16 as against 187.83 MU projected by MSPDCL.

(h) Public Lighting

The MSPDCL projected energy sales for this category at 7.25 MU for the year 2015-16. There is no definite trend in energy consumption for this category over the last four years. However, MSPDCL has considered a three year CAGR (FY 12 to FY 14) of 18.34% for sales projection for 2015-16 over FY 2013-14. It is observed negative growth during the year 2011-12 and an increase of 17.16% in 2012-13 over 2011-12. The MSPDCL has not explained the reason for such fluctuation. There is no reason for negative growth in view of better public lighting in all towns and villages. Hence a consumption of 7MU is considered reasonable for FY 2015-16.

The Commission approves the energy sales for Public lighting at 7.00 MU for the year FY 2015-16.

(i) Irrigation & Agriculture

The MSPDCL has projected energy sales of 11.77 MU for FY-2015-16. The actual sales during FY 2013-14 are 3.12 MU it seems for the past sales the consumption is increasing since FY 2011-12. The 3 year CAGR (FY 11 to FY 14) is 85.22%, two Yr CAGR is 94.25% and YoY growth rate is 96.85% it is considered reasonable to adopt YOY CAGR of 96.85% PA over FY 2013-14 to project for irrigation & Agriculture which works out to 12MU.

The Commission approves the energy sales for irrigation & agricultural category at 12 MU for the year 2015-16 as against 11.77 MU projected by MSPDCL.

(j) Public Water Works

The MSPDCL has projected energy sales at 39.56 MU for this category for the year 2015-16. The actual sales during FY 2013-14 are 28.25 MU. The three year CAGR (FY-11 to FY-14) is about 17.04% 2 year CAGR is 18.34% and YoY growth rate (FY-13 to FY-11) is 19.72%. Considering the growing demand, YOY growth of 19.22% PA is considered reasonable to project sales for FY 2015-16.

The Commission therefore approves the energy sales of 40 MU for public water works category for the year 2015-16 as against 39.56 MU projected by MSPDCL.

(k) Temporary supply

Temporary supply is being released under domestic, commercial and Industrial categories as per the requirement of the consumers and the tariff for temporary supply under the respective categories is suitable modified. As such the sales under temporary supply are to be accounted for in the respective categories in which supply is being availed. Hence, accounting sales under temporary category is disposed with.

5.6 Category wise Energy Sales Approved

The category wise energy sales for the year 2015-16 as discussed above and approved by the Commission segregating Kutir Jyoti, LT & HT categories as against the projected sales by the MSPDCL are given in Table below:

**Table 5.5: Category-Wise Energy Sale approved by the Commission for 2015-16
(MU)**

Sl. No.	Name of Category	Energy Sales projected by MSPDCL	Energy sales approved by Commission
1	Domestic		
	(a) Kutir Jyoti	20.78	10
	(b) Domestic	316.32	317
2	Commercial	58.55	
	(a) LT		50
	(b) HT		8
3	Industrial		
	(a) Cottage & Small industry	20.53	20
	(b) Medium Industry (HT)	2.40	3
	(c) Large Industry (HT)	20.63	20
4	Bulk Supply (HT)	187.33	191
5	Public Lighting	7.25	7
6	Public Water Works	39.56	

	(a) LT		10
	(b) HT		30
7	Irrigation & Agriculture	11.77	
	(a) LT		4
	(b) HT		8
8	Temporary Supply	0.03	-
	Total	685.15	678.00

5.7 T&D Losses

1. MSPDCL has stated that being a hilly terrain and characterised by population spread out throughout the State, the system network of the State consist of long length of distribution LT lines, with aging components which are being upgraded through various schemes, The MSPDCL has achieved a significant reduction in transmission and distribution losses. The T&D losses for FY 2009-10 and FY 2010-11 were 50.49% and 46.28% respectively. For FY 2011-12 and FY 2012-13 the MSPDCL has achieved significant reduction in losses and achieved T&D loss of 34.75% and 30.09% respectively. The actual T&D losses for FY 2013-14 were 30.79%.
2. MSPDCL has estimated the T&D loss of 29% for FY 2014-15 and proposed 27% for FY 2015-16.
3. The T&D Loss trajectory is summarised in the table given below:

Table 5.6: T&D Losses

Particulars	FY 2013-14 (Actual)	FY 2014-15 (Estimates)	FY 2015-16 (Projected)
T&D Losses	30.79%	29.00%	27.00%

4. The MSPDCL submits to the Commission to approve the T&D Losses submitted above.

Commission's Analysis

The erstwhile Electricity Department of Manipur is unbundled into (i) Manipur State Power Distribution Company Limited (MSPDCL) responsible for distribution function and (ii) Manipur State Power Company Limited (MSPCL) responsible for transmission function with effect from 1st Feb,

2014. As such transmission losses are shifted to MSPCL which are around 3.6 % as furnished by the licensee. The inter-state pool losses, which are about 2.99 % during FY 2013-14 based on weekly pool losses in the north eastern region from 1.4.2013 to 30.3.2014, shall be taken into consideration.

With the actual data given by MSPDCL, the distribution losses are calculated as detailed in table below.

Table 5.7: MSPDCL – Distribution Loss Calculation for FY 2013-14.

Sl.No.	Particulars	Unit	FY 2013-14
A	Energy Availability		
1	Own Generation	MU	1.01
2	Power Purchase from CGS in NER	MU	643.93
3	Pool Losses	%	2.99
4	Pool Losses on (2) above	MU	19.25
5	Add: UI Purchases	MU	36.17
6	Less: UI Sales	MU	58.17
7	Energy available (1+2+4+5+6)	MU	603.69
8	Less intra State Transmission Loss at 3.6% on (7)		21.73
9	Net energy available for sale within the state		581.96
10	Energy Sales with in the State	MU	415.09
9	Distribution Loss(9-10)	MU	166.87
10	T&D Loss(9/7)/100	%	28.67

Thus the distribution loss during FY 2013-14 works out to 28.67% as against 27.19%(30.79 – 3.6) furnished by the MSPDCL. The commission in its tariff order for FY 2014-15 had approved T&D loss at 25% for FY 2014-15 and fixed loss reduction trajectory for the period 2015-16 to 2017-18 as follows

(c) Trajectory of T&D losses

The trajectory loss reduction for FY 2015-16 to 2017-18 are fixed as follows:

Sl.No.	Year	% Loss
1	2015-16	24.00%
2	2016-17	23.00%
3	2017-18	22.00%

This is subject to system study and energy audit. A directive was also issued to conduct voltage wise energy audit and report. Since the erstwhile EDM has been bifurcated into two companies with effect from 1.2.2014, the MSPDCL is responsible for distribution loss only.

As a result the T&D loss as approved by the Commission in its tariff order for FY 2014-15 have been segregated into transmission loss and distribution loss as detailed in table below.

Table 5.8 Distribution loss Trajectory approved by the Commission.

Sl.No	Year	T&D Loss	Transmission loss	Distribution loss
1	2015 - 16	24 %	3.6 %	20.4 %
2	2016-17	23%	3.6%	19.4%
3	2017-18	22%	3.6%	18.4%
4	2018 – 19	21%	3.6%	17.4%

The Commission accordingly approves distribution loss for FY 2015-16 at 20.4%. The distribution loss reduction trajectory for the period 2016-17 to 2018-19 is fixed as above.

This is subject to system study and energy audit.

Segregation of Technical and Commercial losses shall also be completed by September 2015.

5.8 Energy Requirement and Availability

The MSPDCL has projected energy requirement as per its sale and availability as detailed in Table below:

Table 5.9: Energy Requirement projected by MSPDCL

Particulars	FY 2013-14 (Actual)	FY 2014-15 (Estimates)	FY 2015-16 (Projected)
Sales	415.09	465.10	685.15
T&D Losses %	30.7	29.00%	27.00%
Add: Losses (MU)	184.67	189.97	253.41
Energy state periphery	599.76	655.07	938.56

Energy available at State Bus	657.93	808.60	1022.52
Surplus/(Deficit) Power (UI)	58.17	153.53	83.96

(Source: Table - 6 of ARR)

Commission's Analysis

The Commission after considering Distribution losses at 20.4% has computed energy requirement based on energy sales approved for FY 2015-16 as given in table below:

Table 5.10: Energy requirement approved by the Commission for FY 2015-16

Sl. No.	Particulars	Projected by the MSPDCL	Approved by the Commission
1	Energy Sales (MU)	685.15	678.00
2	Distribution Loss (%)	27%	20.4%
3	Distribution Loss (MU)	253.41	169.50
4	Energy requirement at state Periphery (1+3)	938.56	851.76

The Commission approves the energy requirement at 851.76 MU for FY 2015-16 as against 938.56 MU projected by MSPDCL.

5.9 Sources of Power

(a) Own generation

The MSPDCL is having its own generation plants such as small hydel, diesel and HFO with installed capacity of 45.11 MW and projected a net generation of 1.01 MU during FY 2015-16 detailed in Table below:

Table 5.11: Own Generation

S.N.	Item	Unit	Previous year (Actuals)	Current Year (R.E)	Ensuring year (Projection)
1	2	3	4	5	6
1	Installed Capacity	MW	42.87	42.87	42.87
2	Generation	MU			

S.N.	Item	Unit	Previous year (Actuals)	Current Year (R.E)	Ensuring year (Projection)
3	PLF	%	0.18%	0.18%	0.18%
4	Plant Availability	%			
5	Auxiliary Consumption				
	(i)	MU			
	(ii)	%			
6	Net Generation	MU	0.33	0.33	0.33
7	Station Heat Rate	Kcal/kWh			
8	Calorofic Value of Coal (Weighted Average)	Kcal / Kg	-	-	-
9	Coal Transit Loss	%	-	-	-
10	Total Coal Consumption	Tonnes	-	-	-
11	Total Diesel Consumption	KL	291	291	291
12	Specific Oil Consumption	MI/kWh	-	-	-
13	Calorofic Value of Oil	Kcal/litre			
14	Price of Coal	Rs. / Tonne	-	-	-
15	Price of Oil/Diesel	Rs. / KL	41172	41172	41172
16	Total Coat Cost	Rs. Crores	-	-	-
17	Total Oil Cost/Diesel Cost	Rs. Crores	1.19	1.19	1.19
18	Total Fuel Cost	Rs. Crores	1.19	1.19	1.19
19	Generation from hydel	MU	0.33	0.33	0.33
20	Diesel	MU	0.68	0.68	0.68
21	Total		1.01	1.01	1.01

Commission's Analysis

The Commission accepts the own generation at 1.01 MU (Net) for the year 2015-16 as projected by MSPDCL.

(b) Purchase of Power from Central Generating Stations.

The MSPDCL has been allocated power from various central generating stations in North Eastern Region (viz. NEEPCO, NHPC, Tripura-Baramura and OTPC- Pallatana) and NTPC – Bongaigaon for power purchase under long term PPA basis, as detailed in Table below:

Table 5.12: Energy Allocation from Central Generating Stations

Source	Installed Capacity (MW)	FY 2013-14 (Actuals)		FY 2015-16 (Projected)	
		Manipur Allocation (MW)	Avg. Allocation in %	Manipur Allocation (MW)	Avg. Allocation in %
NEEPCO(Hydro)					
Kopili I HEP	200	14.78	7.39%	14.78	7.39%
Kopili II HEP	25	1.74	6.95%	1.74	6.95%
Khandong HEP	50	3.28	6.56%	3.28	6.56%
Ranganadi HEP	405	33.90	8.37%	33.91	8.37%
Doyang HEP	75	5.90	7.87%	5.90	7.87%
Subtotal	755	59.60		59.60	
NEEPCO (Gas Based)					
Assam Gas based Power Project	291	23.60	8.11%	23.59	8.11%
Agartala Gas Turbine Power Project	84	6.98	8.31%	6.98	8.31%
Subtotal	375	30.57		30.57	
NHPC (Loktak HEP)					
Purchased (20.02 MW) and Free (12.60 MW)	105	32.62	30.12%	32.62	30.12%
Subtotal	105	32.62		32.62	
TRIPURA					
Baramura (Gas Based)(Unit IV)	21	5.25	25%	5.25	25%
Baramura(Gas Based)(Unit V)	21	5.25	25%	5.25	25%
New Projects					
OTPC- (Pallatana- Unit-I)	363	21	0.00%	21.00	5.79%

Source	Installed Capacity (MW)	FY 2013-14 (Actuals)		FY 2015-16 (Projected)	
		Manipur Allocation (MW)	Avg. Allocation in %	Manipur Allocation (MW)	Avg. Allocation in %
OTPC- (Pallatana – Unit II)	363	0.00	0.00%	21.00	5.79%
NTPC Bongaigaon Unit –I	250	0.00	0.00%	13.33	5.33
Sub-Total	768	31.50		65.83	
Total	2003	154.30		188.62	

(Source: Table 8 of ARR)

1. MSPDCL stated that the energy availability from: (i) Hydro generating plants of NHPC- Loktakand NEEPCO have been taken at the average energy drawals during the last three years from FY 2011-12 to FY 2013-14.
2. From AGBPP, AGTPP and Baramura plants the average scheduled energy during FY 2013-14 has been considered.
3. From OTPC- Pallatana and NTPC- Bongaigaon unit-1 normative annual plant availability factor of 85% and normative auxiliary consumption of 1% and 8.5% have been estimated as per CERC tariff regulations.
Further pallatana unit-II is expected to be operational for full year 2015-16 .
4. Intra State losses have been considered at 3.6%.

Considering the above the MSPDCL has projected power purchase during FY 2015-16 as detailed in Table below:

Table 5.13: Power purchase projected by MSPDCL

(MU)

Source	FY 2011-12 (Actuals)	FY 2012-13 (Actuals)	FY 2013-14 (Actuals)	FY 2014-15 (Estimate)	FY 2015-16 (Projected)
NEEPCO (Hydro)					

Source	FY 2011-12 (Actuals)	FY 2012-13 (Actuals)	FY 2013-14 (Actuals)	FY 2014-15 (Estimate)	FY 2015-16 (Projected)
Kopili I HEP	66.61	48.42	52.19	55.74	55.74
Kopili II HEP	6.38	6.40	5.37	6.05	6.05
Khandong HEP	11.61	10.62	11.67	11.30	11.30
Ranganadi HEP	81.22	102.74	81.98	88.65	88.65
Doyang HEP	17.21	15.56	18.38	17.05	17.05
Subtotal	183.03	183.74	169.59	178.79	178.79
NEEPCO(Gas Based)					
Assam Gas based Power Project	140.40	131.88	137.29	137.29	137.29
Agartala Gas Turbine Power Project	53.91	51.23	52.33	52.33	52.33
Subtotal	194.31	183.11	189.62	189.62	189.62
NHPC (Loktak HEP)					
Purchased	92.16	101.00	111.27	101.48	101.48
Free Power	61.04	66.90	73.69	67.21	67.21
Subtotal	153.20	167.90	184.96	168.69	168.29
TRIPURA					
Baramura (Gas Based)(Unit IV and V)	76.58	80.56	64.29	64.29	64.29
OTPC - (Pallatana - Unit-I)	0.00	0.00	35.47	154.80	154.80
OTPC - (Pallatana - Unit-II)	0.00	0.00	0	38.70	154.80
NTPC Bongaigaon Unit - I	0.00	0.00	0	15.14	90.84
NTPC Bongaigaon Unit II	0	0	0	0	
30.11Renewable Solar					2.58-REC
Renewable Non-Solar					49.07- REC
Subtotal	76.58	80.56	99.76	272.93	430.55
Gross Power Purchase	607.12	615.31	643.93	830.33	1031.94
Less Inter State Transmission Loss @ 3.6%	21.86	22.15	23.18	29.16	37.15

Source	FY 2011-12 (Actuals)	FY 2012-13 (Actuals)	FY 2013-14 (Actuals)	FY 2014-15 (Estimate)	FY 2015-16 (Projected)
Net Power Purchase	585.26	593.16	620.75	780.87	994.79
Power Purchase from other sources					
UI	18.64	17.28	36.17	26.72	26.72
Total Power Purchase	602.54	610.44	656.92	807.59	1021.51
Own generation	1.30	1.01	1.01	1.01	1.01
Total Power available at state bus	603.84	611.45	657.93	808.60	1022.52

Commission's Analysis

The Commission after examining the allocation of power available for MSPDCL from the Central generating stations for the year 2015-16 has considered the energy availability at 1031.94MU as projected by MSPDCL as detailed in table below:

**Table 5.14: Energy drawal approved by the Commission for FY 2015-16
(MU)**

Source	Projected by MSPDCL for FY 2015-16	Approved by the Commission for FY 2015-16
NEEPCO (Hydro)		
Kopili I HEP	55.74	55.74
Kopili II HEP	6.05	6.05
Khandong HEP	11.30	11.30
Ranganadi HEP	88.65	88.65
Doyang HEP	17.05	17.05
Subtotal	178.79	178.79
NEEPCO(Gas Based)		
Assam Gas based Power Project	137.29	137.29
Agartala Gas Turbine Power	52.33	52.33

Source	Projected by MSPDCL for FY 2015-16	Approved by the Commission for FY 2015-16
Project		
Subtotal	189.62	189.62
NHPC (Loktak HEP)		
Purchased	101.48	101.48
Free Power	67.21	67.21
Subtotal	168.69	168.69
TRIPURA		
Baramura (Gas Based)(Unit IV and V)	64.29	64.29
OTPC - (Pallatana - Unit-I)	154.80	154.80
OTPC - (Pallatana - Unit-II)	154.80	154.80
NTPC Bongaigaon Unit - I	90.84	90.84
NTPC Bongaigaon Unit-II	30.11	30.11
Renewable-Solar	2.58 REC	2.58 REC
Renewable-Non Solar	49.07 REC	49.07 REC
Sub Total	494.84	494.84
Gross Power Purchase	1031.94	1031.94

The Commission approves power purchase at 1031.94 MU including free power 67.21 MU from Loktak for the FY 2015-16.

5.10 Energy Balance

The actual energy balance as furnished by MSPDCL is shown in Table below.

Table 5.15: Energy balance projected by MSPDCL for FY 2015-16

(MU)

Sl. No	Particulars	FY 2013-14	FY 2014- 15	FY 2015- 16
		Actuals	Estimated	Projected
A	Energy Requirement			

Sl. No	Particulars	FY 2013-14	FY 2014-15	FY 2015-16
		Actuals	Estimated	Projected
1	Sales	415.09	465.10	685.15
2	T&D Losses	30.79%	29%	27%
3	Add T&D Losses	184.67	189.97	253.41
4	Total Energy Requirement	599.76	655.07	938.56
B	Energy Available			
5	Gross Power Purchase	643.93	830.33	1031.94
6	Less Intra State Tr Loss @3.6%	23.18	29.16	37.15
7	Net Power Purchase	620.75	78.87	994.79
8	UI Purchase	36.17	26.72	26.72
9	Total Purchase	656.92	807.59	1021.51
10	Own Generation	1.01	1.01	1.01
11	Total Power available	657.93	808.60	1022.52
12	Surplus/ (Deficit) Power (UI) (11-4)	58.17	153.53	83.96

(Source: Table – 6 of ARR)

Commission's Analysis

The MSPDCL has considered intra-state transmission loss at 3.6%. The NER regional transmission losses which are about 2.99% and not considered by MSPDCL have been now considered by the Commission based on weekly pool losses for the period from 1.4.2013 to 3.3.2014 of NER and with the distribution losses at 20.4%, the energy balance approved by the Commission for FY 2015-16 is furnished in Table below:

Table 5.16: Energy balance approved by the Commission for FY 2015-16 (MU)

Sl. No.	Particulars	Unit	Projected by MSPDCL	Approved by the Commission
A	Energy requirement			
1	Energy sales	MU	685.15	678

Sl. No.	Particulars	Unit	Projected by MSPDCL	Approved by the Commission
2	Distribution loss	%	27%	20.4%
3	Distribution loss	MU	253.41	173.75
4	Energy requirement	MU	938.56	851.76
B	Energy availability	MU	1031.94	1031.94
5	Own generation (Net)	MU	1.01	1.01
6	Power purchase	MU	1031.94	1031.94
7	Less: External losses	%		2.99%
8	Less: External losses	MU		30.86
9	Net energy available at State Periphery	MU	808.60	1001.08
10	Tr Loss 3.6%	MU		36.04
11	Energy available for distribution	MU	153.58	965.04
12	Total Energy available (5+11)	MU		966.05
13	Surplus (12-4)			114.29
14	Surplus grossed up by 3.6% for sale outside the state			118.56

The Commission has not considered UI purchases as there is surplus power. If any contingency arises the same will be considered at the time of true up.

The Commission accordingly approves energy availability at 966.05 MU with surplus of 114.29 MU grossed up to 118.56 MU during FY 2015-16.

5.11 Revenue Requirement for FY 2015-16

The MSPDCL has projected a total ARR of Rs. 514.41 crore for the year 2015-16 as given in Table below:

Table 5.17: Expenses Projected by MSPDCL for FY 2015-16**(Rs. crore)**

Annual Revenue Requirement	FY 2015-16
	Projected
Costs	
Power Purchase Cost (Inc Fuel Cost)	303.48
Arrears of power purchase bills	27.00
Transmission Charges	87.98
Employee Cost	76.25
Repairs & Maintenance Cost	4.00
Admin & General Cost	3.19
Depreciation	0.61
Interest and Financial Charges	0.39
Interest on Working Capital	5.92
Provision for Bad Debts	3.00
Total Costs	511.82
Add: Return on Equity	2.91
Less: Non-Tariff Income	0.32
Annual Revenue Requirement	514.41

Commission's Analysis

The expenses projected by MSPDCL under each head and the Commission's analysis are discussed below.

5.12 Fuel Cost

The MSPDCL has submitted the actual fuel cost incurred during FY 2013-14 and estimated for FY 2014-15 and projected during FY 2015-16 as detailed in table below.

Table 5.18: Fuel Cost projected by MSPDCL**(Rs. crore)**

Particulars	FY 2013-14 (Actual)	FY 2014-15 (Estimated)	FY 2015-16 (Projected)
Fuel Cost	1.19	1.19	1.19

Source: Table 13 of ARR

The MSPDCL further stated that the average cost of generation comes to around Rs. 17/kWh.

The Commission approves the fuel cost of Rs. 1.19 crore for FY 2015-16 as projected by the MSPDCL.

5.13 Power Purchase Cost

The MSPDCL has projected power purchase cost of Rs. 417.27 crore for FY 2015-16 including arrears to a tune of Rs. 27 Crore and PGCIL transmission charges of Rs. 40.18 Crore, SLDC charges of Rs. 1.80 Crore and MSPCL transmission charges of Rs. 46.00 Crore to purchase power of 853.62 MU including free power of 67.21 MU as detailed in tables below:

Table 5.19: Power Purchase Cost Projected by MSPDCL for FY 2015-16 (Format 12 of ARR)

(Rs. Crore)

Sl. No.	Source	FY 2013-14 (Actual)	FY 2014-15 (Estimated)	FY 2015-16 (Projected)
A	CGS - NEEPCO			
1	Kopili I HE	5.03	5.37	5.37
2	Kopili II HE	0.97	1.05	1.05
3	Khandong HE Project	3.05	2.96	2.96
4	Ranganadi HE Project	26.71	24.29	24.29
5	Doyang HEP	8.05	5.64	5.64
6	Assam GBPP	49.10	47.94	47.94
7	Agartala GTPP	19.45	19.45	19.45
B	CGS- NHPC			
8	Loktak HE	29.54	26.89	26.89
9	Loktak Free Power			
C	TSECL			
10	Baramura GBPP Unit IV and V	22.16	22.57	22.57
D	New Plants			
11	OTPC Pallatana Unit I	8.97	39.16	46.91
12	OTPC Pallatana Unit II		15.64	46.91
13	NTPC Bongaigaon Unit I		4.54	27.25

Sl. No.	Source	FY 2013-14 (Actual)	FY 2014-15 (Estimated)	FY 2015-16 (Projected)
14	NTPC Bongaigaon Unit II	0	0	9.03
15	Renewable-Solar			2.40
16	Renewable-Non Solar			7.36
	Power Purchased under UI	12.88	7.16	6.28
	Power Purchase Cost	185.91	222.65	302.29
	Arrears of Power purchase bills	20.00	20.00	27.00
	Total Power Purchase Cost including Arrears	205.91	242.65	329.29

Table 5.20 Transmission charges projected by MSPDCL

Particulars	FY 13-14 (Actual) (Rs. Crore)	FY 14-15 (Actual) (Rs. Crore)	FY 15-16 (Actual) (Rs. Crore)
PGCIL charges	24.56	28.87	40.18
MSPCL charges	0.00	0.00	46.00
SLDC charges	0.94	0.90	1.80
Total Transmission charges	25.50	29.77	87.98

- The MSPDCL submitted that the cost of power purchase from CGS for FY 2015-16 is estimated.
 - Based on the average power purchase cost of FY 2011-12, FY 2012-13, FY 2013-14 and FY 2014-15 (first half year) latest invoices of stations of NHPC and NEEPCO for the month of 6/14 & 7/14.
 - For new generating plants of NTPC- Bongaigaon tariff has not been approved by CERC. As such provisional tariff of Rs. 3.00/ unit has been taken for OPTC- Pallatana and NTPC Bongaigaon Stations.
- Besides current purchase bills, MSPDCL shall also be required to clear the pending arrears bills which are around Rs. 30 crore as on 30.09.2013.
 - The reasons for these arrears are due to large number of supplementary bills issued by CGS based on new tariff orders issued by CERC.

3. However MSPDCL is planning to liquidate about Rs. 27 crore of arrear bills in of FY 2015-16.

4. The method of estimating station wise average power purchase rate per unit for FY 2015-16 is summarised in table below.

Table 5.21: Power Purchase rate for FY 2015-16

Sl. No.	Source	Average Tariff in Rs/unit				Latest applicable	Latest applicable	Normative Tariff (Rs. kWh)	Average Tariff assumed (Rs. kWh)	Remarks
		FY 10-11	FY 11-12	FY 12-13	FY 13-14	fixed charges (Rs.Cr)	variable charges (Rs. kWh)			
A	CGS- NEEPCO									
1	Kopili - I HE	0.72	0.99	0.96	0.98	3.95	0.46	1.16	0.96	Tariff of FY 13-14
2	Kopili - II HE	1.73	1.88	1.81	1.50	0.56	0.94	1.86	1.73	Average of last 3 yrs
3	Khandong HE	1.37	2.77	2.62	2.80	2.00	1.11	2.88	2.62	Tariff of FY 13-14
4	Ranganadi HE Project	3.03	2.74	3.26	2.35	15.25	1.22	2.94	2.74	Tariff of FY 12-13
5	Doyang HE project	3.01	3.31	4.38	3.90	3.68	2.08	4.23	3.31	Tariff of FY 12-13
6	Assam GBPP	2.82	3.21	3.38	3.49	21.15	1.86	3.40	3.49	Tariff of FY 14-15
7	Agartala GTPP	3.10	3.46	3.62	3.72	6.26	2.49	3.69	3.72	Tariff of FY 14-15
B	CGS - NHPC									
8	Loktak HE	2.10	2.37	2.65	2.81	11.30	1.30	2.42	2.65	Tariff of FY 13-14

Sl. No.	Source	Average Tariff in Rs/unit				Latest applicable fixed charges (Rs.Cr)	Latest applicable variable charges (Rs. kWh)	Normative Tariff (Rs. kWh)	Average Tariff assumed (Rs. kWh)	Remarks
		FY 10-11	FY 11-12	FY 12-13	FY 13-14					
9	Loktak Free Power	0.00	0.00	0.00						
C	TSECL									
10	Baramura GBPP Unit IV and V	3.13	3.00	3.01	3.01			3.51	Tariff of FY 14-15, increase of Rs.0.50	
D	New Plants									
11	OTPC Pallatana Unit I			2.53	2.53		1.11	3.03	Tariff of FY 14-15, Increase of Rs.0.50	
12	OTPC Pallatana Unit II				2.53		1.11	30.3	Tariff of FY 14-15, Increase of Rs.0.50	
13	NTPC Bongaigaon Unit I				3.00		1.86	3.00	Assumed	
14	NTPC Bongaigaon Unit II				3.00		1.86	3.00	Assumed	
15	Renewable-Solar							9.30	IEX data (April` 14 to Oct`14)	
16	Renewable-							1.50	IEX data	

Sl. No.	Source	Average Tariff in Rs/unit				Latest applicable fixed charges (Rs.Cr)	Latest applicable variable charges (Rs. kWh)	Normative Tariff (Rs. kWh)	Average Tariff assumed (Rs. kWh)	Remarks
		FY 10-11	FY 11-12	FY 12-13	FY 13-14					
	Non solar								(April` 14 to Oct`14)	
	Power Purchased under UI		2.65	3.56	2.68			2.35	Based on the average rate from Oct`13 to Sept`14	

Commission's Analysis

As already discussed in para 5.9(b) ante, the Commission has finalized and approved the quantum of power to be purchased by MSPDCL during the year 2015-16. The power purchase cost constitutes about 70% of the ARR.

As verified from the power purchase rate arrived by the MSPDCL in table 5.21 supra, it is observed in general that the highest of average unit rates during FY 2012-13 and FY 2013-14 and FY 2014-15 are adopted by the MSPDCL. The Commission considers it appropriate to adopt average rate per unit as adopted by MSPDCL. For new Baramura and Pallatana, stations the rates assumed by MSPDCL are considered as it is. Regarding arrear bills erstwhile EDM in its tariff Petition for FY 2014-15 has stated that arrear bills to a tune of Rs. 80.01 crore are pending out of which EDM planning to liquidate about Rs. 48 crore in 2nd half of FY 2013-14 leaving a balance arrears amounting to Rs. 30 crore, which the EDM proposes to clear in ensuring years. That is Rs. 15 crore during FY 2014-15 and balance Rs. 15 crore during FY 2015-16. The Commission has observed that the arrear amount is accrued due to revision of tariffs retrospectively by Generation and Transmission companies for the past many years and is of the view that the timely payment will be necessary to avoid regulation of power. The Commission also realizes the great impact of the arrear due from the consumers. Thus out of pending the arrears of Rs. 30 crore projected by erstwhile by EDM, Rs. 15 crore are considered in the power purchase cost for FY 2014-15 leaving a balance

arrears of Rs. 15 Cr to be cleared in FY 2015-16.

Now the successor entity MSPDCL while confirming that out of pending Rs. 30 Core arrears, Rs. 15 Core cleared in FY 2014-15 and balance needs to be cleared, has furnished that it is planning to liquidate arrear bills around Rs. 27 Crore in the year 2015-16, which is contradicting the earlier statement of erstwhile EDM and MSPDCL.

The Commission needs a clear explanation on pending arrears and when the bills are received whether any penal charges included etc. After examining the arrears bills the commission will take a decision on admittance of arrear bills as penalty if any cannot be passed on to consumers. For the present the pending arrears of Rs. 15 Crore which the MSPDCL also confirmed above are considered in FY 2015-16 and power purchase cost approved as detailed in Table below: PGCLIL and SLDC transmission charges are admitted as projected by MSPDCL and MSPCL transmission charges are consider as approved by the Commission.

Table 5.22: Power Purchase Cost of MSPDCL approved by the Commission for FY 2015-16

Sl. No.	Station	Energy Purchase (MU)	Average rate (Rs./Kwh)	Total Cost (Rs.crore)	AV Cost (Rs/kWh)
A	NEEPCO				
1	Koppili I HEP	55.74	0.96	5.35	0.96
2	Koppili II HEP	6.05	1.73	1.05	1.73
3	Khandong HEP	11.30	2.62	2.96	2.62
4	Ranganadi HEP	88.65	2.74	24.29	2.74
5	Doyang HEP	17.05	3.31	5.64	3.31
6	Sub-total of (A)	178.79		39.29	2.20
B	NEEPCO (Gas Based)				
7	Assam Gas based power project	137.29	3.49	47.91	3.49

Sl. No.	Station	Energy Purchase (MU)	Average rate (Rs./Kwh)	Total Cost (Rs.crore)	AV Cost (Rs/kWh)
8	Agartala Gas Turbine power project	52.33	3.72	19.47	3.72
9	Sub-total of (B)	189.62		67.38	3.55
C	NHPC – Loktak HEP				
10	Power Purchase	101.48	2.65	26.89	2.65
11	Free Power	67.21	-	-	
12	Sub-total of (C)	168.69		26.89	1.59
D	TRIPURA				
13	Baramura IV & V	64.29	3.51	22.57	3.51
14	Sub-Total	64.29	3.51	22.57	3.51
E	OTPC				
15	Pallatana Unit-I	154.80	3.03	46.90	3.03
16	Pallatana Unit-II	154.80	3.03	46.90	3.03
17	Sub-Total	309.60		93.80	3.03
F	NTPC				
18	Bongaigam Unit-I	90.84	3.00	27.25	3.00
19	Bongaigam Unit-II	30.11	3.00	9.03	3.00
20	Sub-Total	120.95		36.28	3.00
G	Renewable Energy				
21	REC- Solar	-		2.40	
22	REC- Non solar	-		7.36	
23	Sub-Total	-		9.76	
24	Arrears	-		15.00	
25	Total	1031.94		310.97	3.01/3.22 (without free power)
H	Transmission Charges	-			

Sl. No.	Station	Energy Purchase (MU)	Average rate (Rs./Kwh)	Total Cost (Rs.crore)	AV Cost (Rs/kWh)
26	PGCIL			40.18	
27	SLDC Charges			1.80	
28	MSPCL Charges			43.76	
29	Sub-Total			85.74	
30	Total Power Purchased cost	1031.94		396.71	3.87/4.14 (Without free power)

The Commission accordingly approves the power purchase cost at Rs. 396.71 Crore including arrear amount of Rs. 15 Crores for purchase of 1031.94 MU (including 67.21 MU free power from Loktak HEP) for FY 2015-16 as against Rs. 417.27 crore projected by the MSPDCL.

5.14 Operation and Maintenance Expenses

(a) Employee cost

The MSPDCL has projected employee cost at Rs. 76.25 crore for the year 2015-16. Employee cost includes basic pay, dearness allowance, house rent allowances etc. MSPDCL has stated that as per transit scheme the existing employees of MSPDCL have been transferred to new companies on deputation on “as is where is” basis, Thus 2303 employees transferred to MSPDCL and 798 to MSPCL.

- In order to meet the need of corporatization and to strengthen the key activities, MSPDCL has recruited 14 employees till 2014-15 and plans to recruit 163 more in 2014-15 and 200 in FY 2015-16 to take care of retirements.
- Government of Manipur has adopted NPS for employees joined after 2005. There are about 80 employees eligible for NPS. MSPDCL contributes 10% of basic pay as pension contribution.
- For projection of employee cost, basic pay has been increased by 3%, DA by 12% and 1.5% towards training cost. Keeping in view of the above the employee cost projection is as detailed in Table below:

Table 5.23: Employee cost projected by MSPDCL**(Rs. Crore)**

Employees Cost	FY 2013-14	FY 2014-15	FY 2015-16
	Actuals	Estimates	Projected
Pay Band	25.91	26.67	27.49
Grade Pay	5.61	5.78	6.47
D.A.	24.81	27.77	28.63
H.R.A.	3.15	3.24	3.25
SCA	3.12	3.12	3.12
TA	1.97	1.97	1.97
Training Cost	0.00	0.00	1.06
NPS Contribution	0.00	0.00	0.25
Total	64.56	68.55	72.25
Medical	0.49	0.50	0.50
Others	2.66	3.50	3.50
Grand Total	67.71	72.55	76.25
Average number of employees	2306	2305	2307

Source: Table 14 of ARR

MSPDCL requested the commission to approve the costs as projected.

Employee cadre strength for the years 2013-14, 2014-15 and 2015-16 are furnished in Table below:

Table 5.24: Number of Employees furnished by MSPDCL

Sl. No.	Particulars	Previous year (Actuals)	Current Year (R.E)	Ensuing Year (Projection)
1	2	3	4	5
1	Number of employees as on 1 st April	2309	2303	2307
2	Number of employees on deputation/ foreign service as on 1 st April	2309	2303	2307
3	New recruitments during the year	0	177	250

Sl. No.	Particulars	Previous year (Actuals)	Current Year (R.E)	Ensuing Year (Projection)
4	Total Number of employees (1+3)	2309	2480	2507
5	Number of employees retired/ retiring during the year	6	173	200
6	Number of employees at the end of the year (4-5)	2303	2307	2307

Table 5.25: Employee Parameters

Sl. No.	Particulars	Previous year (Actuals)	Current year (R.E.)	Ensuing year (Projection)
1	2	3	4	5
1	Total number of consumers in thousands	229.636	235.574	241.762
2	Average contracted load in kW	432559	451209	469153
3	Energy sold in MU	415.09	465.10	685.15
4	Employees per MU of energy sold	5.55	4.61	2.85
5	Employees per 1000 consumers	10.03	9.10	8.08
6	Share of employees cost in total costs	22.41%	18.04%	12.75%
7	Employees cost in Rs./kWh of energy sold	1.58	1.39	0.91

Commission's analysis

As seen from the above the MSPDCL projected escalation in employee costs at 6.30% PA over the actual expenses during FY 2013-14, which is considered reasonable.

The Commission, approves the employee cost of Rs. 76.25 crore for the year 2015-16 as projected by the MSPDCL

(b) Repairs and Maintenance expenses

The MSPDCL has projected R&M expenses at Rs. 4.00 crore for the year 2015-16. Year wise expenses are furnished in the Table below:

Table 5.26: R & M Expenses furnished by the MSPDCL for FY 2015-16**(Rs. crore)**

Sl.No.	R&M Cost	FY 2013-14 Actual	FY 2014-15 Estimate	FY 2015-16 Projected
1	Grand Total	3.93	3.96	4.00

The MSPDCL requested the Commission to approve the expenses for FY 2015-16 as projected without any disallowance as the same is necessary for proper maintenance and strengthening of the system and quality of supply in the region in order to ensure consumer satisfaction.

Commission's Analysis

Considering actual expenditure during FY 2013-14, the MSPDCL has projected expenditure for FY 2015-16 at an escalation of 1.78% which is considered reasonable.

The Commission accordingly approves Rs. 4.00 crore towards R&M expenses for the year 2015-16 as projected by MSPDCL.

(c) Administrative and General Expenses

The MSPDCL has projected A&G Expenses of Rs. 3.19 crore for the year 2015-16 at an escalation of 1.29% PA over the actual expenses during 2013-14 as detailed in Table below:

Table 5.27: A&G Expenses projected by MSPDCL for FY 2015-16**(Rs. crore)**

A&G Cost	FY 13-14 Actual	FY 14-15 Estimate	FY 15-16 Projected
IT and Comp Expenses	0.020	0.021	0.022
Meter Relay Testing and Transformer Repair Workshop Expenses	0.013	0.014	0.015
Training Centre Office Expenses	0.150	0.159	0.169
Meetings and Seminar Expenses	0.003	0.003	0.003
Energy Conservation	0.001	0.001	0.001
Consultancy & Auditor Charges	1.150	1.150	1.150
Domestic Travel	1.200	1.200	1.200

A&G Cost	FY 13-14	FY 14-15	FY 15-16
	Actual	Estimate	Projected
Resource Mobilization	0.350	0.371	0.393
Advertisement & Printing Charges	0.100	0.106	0.112
Computerized Billing	0.010	0.011	0.011
Regulatory Charges & Fees	0.110	0.110	0.110
Other Miscellaneous Expenses	0.003	0.003	0.003
Grand Total	3.110	3.149	3.190

Source: Table 16 of ARR

Commission's Analysis

The erstwhile EDM projected Administrative and General expenses for FY 2014-15 at Rs. 0.83 Crore for both the corporations put together. As such the projection of MSPDCL at Rs. 3.19 Crore is on very high side.

However in view of increased costs, the Commission is of the view to allow 50% over the approved costs of Rs. 0.83 Crore for FY 2014-15 which works out to Rs. 1.25 Crore.

The Commission approves Rs. 1.25 crore towards A&G expenses for FY 2015-16 as against Rs. 3.19 crore projected by the MSPDCL.

5.15 Capital Expenditure Plan for FY 2015-16

The MSPDCL has projected capital expenditure to a tune of Rs. 48.75 crore FY 2015-16 for generation and distribution functions mainly focusing on increasing generation capacity, augmenting existing generating plants, strengthening electricity network and augment new networks for ensuring reliable power to its consumers

Capital expenditure plan

1. Considering the increased in demand from HT & LT consumers, MSPDCL would be required to undertake significant capital expenditure for system augmentation and strengthening. System augmentation would not only help MSPDCL in handling increased load but would also ensure better quality of supply and network reliability to the

consumers. MSPDCL's T&D loss levels are very high. The capital expenditure would help in reduction in the T&D loss level.

2. Every year MSPDCL prepares an Annual resources Plan for the capital investment for new schemes and continuing schemes, which it plans to incur in the ensuing year. The MSPDCL, has to undertake various capital projects for generation, transmission/sub-transmission and distribution functions mainly focusing on the increasing generation capacity, augmenting existing generating plants, strengthening electricity network and augment new networks for ensuring reliable power to its consumers.

Details of ongoing capital schemes are furnished hereunder:

Major Capital Expenditure Schemes

- Strengthening and upgrading of existing 11 Kv lines
 - Improvement of Distribution system in Greater Imphal and other Towns
 - Providing prepaid energy meters in Imphal and
 - Replacement of old electromechanical and defective meters with electronic meters
 - GoI schemes of RGGVY and R APDRP
3. Apart from the above schemes, MSPDCL has also undertaken large scale rural electrification and development, augmentation and improvement of electricity infrastructure under Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY) and Restructured Accelerated Power Development Reforms Programme (RAPDRP) respectively. Function wise details of actual expenditure during 2013-14 and estimated for 2014-15 and projected for 2015-16 are given in Table below:

Table 5.28: Proposed Capital Expenditure**(Rs. crore)**

Capital Expenditure	Rs. Crs	FY 13-14	FY 14-15	FY 15-16
		Actuals	Estimates	Estimates
11 Kv System Strengthening		3.50	3.50	3.50
APDRP & R-APDRP Scheme		1.25	1.25	1.25
Providing Prepaid Energy Meter in Imphal		1.00	2.00	2.00
Rural Electrification Schemes-RGGVY		6.00	6.00	6.00
Replacement of Electromechanical and defective meters with electronic meters		10.00	10.00	15.00
Rural Electrification State Plans-Electrification of Tribal Villages		6.00	6.00	6.00
Deendayal Upadhyaya Gram Jyoti Yojana (DUGJY)				5.00
Integrated Power Development Scheme (IPDS)				5.00
Civil Works-Construction of Administration Building-Divisional & Sub divisional office		6.00	5.00	5.00
Total		33.75	33.75	48.75

Source: Table 17 of ARR

The capitalization of new schemes from FY 2013-14 onwards has been considered at 70% of the planned capital expenditure in the same year, 30% in the second year. A summary of the capital expenditure and capitalization for FY 2014-15 and FY 2015-16 is summarized in Table below:

Table 5.29: Capital Work in Progress**(Rs.crore)**

Sl. No.	Particulars	FY 2013-14 (Actuals)	FY 2014-15 (Estimates)	FY 2015-16 (Projected)
1	Capital Expenditure	33.75	33.75	48.75
2	Capitalisation during the year for old and New Schemes		33.75	44.25

Commission's analysis

The MSPDCL has stated that it has capitalized the CWIP on percentage basis irrespective, whether the work is completed or not and asset put to use which is not in order. Further the CWIP is not furnished in the prescribed format i.e., opening CWIP at the beginning of the year, expenditure during the year, capitalised during the year and closing CWIP at the end of the year.

The MSPDCL is directed to reconcile the CWIP and furnish correct data in the above format along with future tariff petition.

With the above observations the capital expenditure of Rs. 48.75 crore and capitalisation of Rs. 44.25 crore during FY 2015-16 are approved.

5.16 Gross Fixed Assets

The MSPDCL has stated that as the department is not maintaining account statements as per relevant schedules of companies act, the exact value of gross fixed assets is not available with the department. The work of assets evaluation and preparation of asset registers along with segregated account statements for the various functions of the department has been given to M/s. SBI caps. The draft report in this regard has been submitted by them, which is under the process of review and finalisation as of now. As per the draft opening balance sheet the value of gross fixed assets have been taken to project GFA for FY 2015 – 16 as detailed in table below.

Table 5.30 Gross Fixed Assets Projected by MSPDCL

Asset Categories (Rs. Crores)	31.03.2014	31.03.2015	31.03.2016
Land	-	-	-
Plant & Machinery	1,066.64	1,097.85	1,138.78
Building	82.22	84.63	87.78
Furniture & Fittings	0.85	0.87	0.90
Computer	0.28	0.29	0.30
Heavy Equipments	0.55	0.56	0.58
Heavy Vehicle	0.36	0.37	0.39
Office Equipments	0.25	0.25	0.26

Asset Categories (Rs. Crores)	31.03.2014	31.03.2015	31.03.2016
Vehicles	2.12	2.19	2.27
TOTAL	1,153.27	1,187.02	1,231.27

Commission's Analysis

MSPDCL has stated that the value of GFA has been taken based on draft opening balance sheet. As such the same are considered subject to production of audited opening balance sheet.

5.17 Depreciation

The MSPDCL has projected depreciation amount at Rs. 0.61 crore for the year FY 2015-16 equivalent to the amount of loan repayment proposed as detailed in Table below:

Table 5.31: Depreciation projected by MSPDCL for FY 2015-16

(Rs. crore)

Asset Categories	31.03.2015	31.03.2016	CERC depreciation rate	Depreciation for FY 2015-16
Land	-	-	0%	-
Plant & Machinery	1,097.85	1,138.78	5.28%	59.05
Building	84.63	87.78	3.34%	2.88
Furniture & Fittings	0.87	0.90	6.33%	0.06
Computer	0.29	0.30	15%	0.04
Heavy Equipments	0.56	0.58	5.28%	0.03
Heavy Vehicle	0.37	0.39	9.50%	0.04
Office Equipments	0.25	0.26	6.33%	0.02
Vehicles	2.19	2.27	9.50%	0.21
TOTAL	1,187.02	1,231.27		62.32
Percentage of assets funded through grants				99.03%
Depreciation to be claimed (on non grant funded assets)				0.61

(Source: Table - 20 of ARR)

Commission's Analysis

Subject to production of audited opening balance sheet, the depreciation projected by MSPDCL is accepted.

The Commission accordingly approves depreciation of Rs. 0.61 crore for the year 2015-16 as projected by MSPDCL.

5.18 Interest and Finance Charges

The MSPDCL has projected the interest and finance charges at Rs. 0.39 crore for FY 2015-16. The MSPDCL states that consequent on bifurcation of EDM entire loans are taken over by the Government of Manipur. So the opening loans are nil. The MSPDCL proposed additional loans of Rs.1cr during FY 2014 – 15 and Rs.2 Crore during FY 2015-16 and worked interest at 13% P.A as detailed in table below:

Table 5.32: Interest and Finance Charges furnished by MSPDCL for FY 2015-16
(Rs. crore)

Particulars	FY 2013-14	FY 2014-15	FY 2015-16
	Actual	Estimates	Projected
Opening Loans	0.00	0.00	1.00
Addition during the year	0.00	1.00	2.00
Repayments	0.00	0.00	0.00
Closing Loans	0.00	1.00	3.00
Interest Paid during the year	0.00	0.07	0.26
Interest paid on consumer security deposit	0.00	0.01	0.03
Other Financial Charges	0.10	0.10	0.10
Total Interest and Finance Charges	0.10	0.17	0.39

Source: Table 21 of ARR

Commission's Analysis

The interest and finance charges projected by MSPDCL are in order.

The Commission approves the interest and finance charges of Rs. 0.39 crore for the year 2015-16 as projected by the MSPDCL.

5.19 Interest on Working Capital

The MSPDCL has projected interest on working capital at Rs. 5.92 Crore for FY 2015-16.

Commission's Analysis

As per the provisions of Regulation 98(6) of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2010 interest for working capital loan shall be payable on normative basis notwithstanding that the distribution licensee has not taken working capital loan.

The rate of interest on working capital loan shall be equal to the State Bank Advance Rate(SBAR) as on 1st April of the financial year in which petition is filed. The rate of interest as on 1.4.2014 is 14.75%. The interest on working capital is worked out on the approved expenses as detailed in Table below:

Table 5.33: Interest on Working Capital approved by the Commission for the FY 2015-16

(Rs. crore)

Sl. No.	Particulars	Total Cost	FY 2015-16
1	Fuel cost one month	1.19	0.10
2	Power purchase cost one month	396.63	33.05
3	Employee cost one month	76.25	6.35
4	R&M expenses one month	4.00	0.33
5	Adm. & Gen expenses one month	1.25	0.12
6	Receivables 2 months		44.82
7	Total working capital		84.77
8	Rate of interest		14.75%
9	Interest on working capital		12.50

The Commission, accordingly, approves the Interest on Working Capital at Rs. 12.50 crore for FY 2015-16 as against Rs. 5.92cr projected by MSPDCL.

5.20 Provision for Bad Debts

The MSPDCL has projected the provision for bad debts at Rs. 3.00 crore for FY 2014-15 as detailed in Table below:

Table 5.34: Provision for Bad debts

	(Rs. Crore)
Provision for Bad & debts	FY 2015-16 Estimated
Total arrears outstanding from consumers as on 30.09.2013	390.00
Provision for Bad & debts as % of receivables	1.00%
Provision for Bad & debts (rounded off)	3.00

The MSPDCL has stated that it has considered provision for bad debts at 1% of receivables as per Regulation 98 (5) of the JERC (Terms and Conditions of Determination of Tariff), Regulations 2010 issued by the Commission.

Commission's analysis

As per Regulations 98 (5) of JERC for M&M (Terms and Conditions and for determination of Tariff) Regulations 2010, a provision for bad debts upto 1% of audited receivables be allowed in revenue requirement. As seen from resources of Annual Plan for FY 2015-16 of MSPDCL the breakup of arrears are as follows:

		(Rs. in Core)
Sl. No.	Particulars	Amount
1	State Government	25.509
2	Semi Government	2.647
3	Banks	0.064
4	Central Government	5.709
5	Co-operative	0.156
6	District Council	0.237
7	Private & General Public	316.843
	Total	351.165

As verified from the above huge amount is due from private and general public which is more than two years assessment.

This clearly indicates that the MSPDCL is not taking sincere efforts in collection of arrears from the defaulting consumers. The MSPDCL is directed to initiate action as per JERC for M&M (Electricity Supply Code) Regulation, 2010 and Electricity Act, 2003 to realize the dues from the defaulting consumers.

The MSPDCL has not produced audited accounts for FY 2013-14. However the Commission considered the amount of Rs. 3.00 Crore as projected by MSPDCL.

The Commission approves a provision for bad debts at Rs. 3.00 Crore for FY 2015-16 as projected by MSPDCL.

5.21 Return on Equity

The MSPDCL has claimed RoE at Rs.2.91cr for FY 2015-16 stating that the opening equity is Rs.10cr and Rs.5cr is going to be added during FY 2014-15.

Commission's Analysis

The opening equity of Rs.10cr as per opening balance sheet is considered subject to production of audited balance sheet. But the additional equity proposed during FY 2014-15 is not considered as it is not actually paid. Rate of equity is considered as 14% and RoE works out to Rs.1.4cr.

The Commission approves RoE at Rs.1.40cr for FY 2015-16 as against Rs.2.91cr projected by MSPDCL.

5.22 Non-Tariff Income

The MSPDCL has projected the non-tariff income at Rs. 0.32 crore for FY 2015-16. Non-tariff income comprises meter rent, late payment charges, miscellaneous income such as interest on staff loans, cost of auctioned stores, rebate on timely payment of power purchase bills etc. The MSPDCL has stated that for projecting non-tariff income for FY 2015-16, income under this head for the past three years have been assumed as provided in Table below:

Table 5.35: Non-Tariff Income projected by MSPDCL for FY 2015-16

(Rs. crore)

Particulars	FY 2013-14	FY 2014-15	FY 2015-16
	Actuals	Estimates	Projected
Non-Tariff Income	0.11	0.32	0.32

(Source: Table 23 of ARR)

Commission's Analysis

MSPDCL in its letter No. 1/17/GM/CII/TP/2015-16/857-60 dated 20.1.2015 has stated that meter rent is not included under non-tariff income and the same is included in revenue from sale of energy, which is not in order. Non-Tariff Income comprises of meter rent, late payment charges, miscellaneous income such as reconnection charges, Meter/consumer installation charges, interest on staff loans, rebate for timely payment, cost of auctioned stores material, penalty on theft of energy charges etc.

The MSPDCL is directed to account for revenue from the above heads under Non-Tariff Income invariably from next tariff petition.

For the present non-tariff income is approved as projected by MSPDCL.

The Commission approves the non-tariff income of Rs. 0.32 crore for the year 2015-16 as projected by the MSPDCL.

5.23 Aggregate Revenue Requirement

Based on the above analysis and approvals, the Aggregate Revenue Requirement projected by the MSPDCL and approved by the Commission for the year 2015-16 is furnished in Table below:

Table 5.36: Aggregate Revenue Requirement for FY 2015-16**(Rs. crore)**

Sl.No.	Particulars	Projected by MSPDCL	Approved by the Commission
1	Fuel Cost	1.19	1.19
2	Power purchase cost	302.29	295.97
3	Arrears of Power Purchase bills	27.00	15.00
4	Transmission charges	87.98	85.74
5	Employee costs	76.25	76.25
6	Repair & Maintenance expense	4.00	4.00
7	Adm & Gen. Expenses	3.19	1.25
8	Depreciation	0.61	0.61
9	Interest & Finance Charges	0.39	0.39
10	Interest on Working capital	5.92	12.50
11	Provision for bad debts	3.00	3.00
	Total Cost	511.82	495.90
12	Add:Return on Equity / ROE	2.91	1.40
13	Less: Non Tariff income	0.32	0.32
	Aggregate Revenue Requirement	514.41	496.98

5.24 Expected Revenue from Existing Tariff

The MSPDCL has projected the revenue from existing tariff at Rs. 289.06 crore for FY 2015-16 including the sales under UI as detailed in Table below:

Table 5.37: Revenue with Existing Tariff Projected by MSPDCL for FY 2015-16**(Rs. crore)**

Revenue	FY 2013-14 Actuals	FY 2014-15 Estimated	FY 2015- 16 Projected	Average per unit Existing Tariff
Kutir Jyoti	8.82	2.92	4.38	2.11
Domestic	58.47	88.32	117.04	3.70
Commercial	12.43	15.21	24.59	4.20
Public Lighting	2.44	2.98	3.43	4.73
Public water works	10.94	16.57	19.61	4.96
Agriculture and irrigation	1.42	3.27	6.35	5.40
Cottage & Small Industries	2.26	2.20	3.00	1.46

Revenue	FY 2013-14 Actuals	FY 2014-15 Estimated	FY 2015-16 Projected	Average per unit Existing Tariff
Bulk	39.25	50.09	80.52	4.30
Temporary	0.04	0.02	0.01	5.00
Medium Industries	1.39	1.23	1.24	5.15
Large Industries	5.42	6.29	8.74	4.24
Total	142.88	189.12	268.91	
UI Receivable	25.04	25.04	20.15	2.40
Total	167.92	214.16	289.06	

(Source: Table 25 of ARR)

Commission's Analysis

As already discussed in para 5.10, the surplus power to be sold under UI sales is 118.56 MU. The MSPDCL has projected UI sales at Rs. 2.40 per kWh.

Now, with the category wise sales approved vide para 5.6 the revenue from existing tariffs including UI sales works out to Rs. 307.44 crore during FY 2015-16 as detailed in Table below:

Table 5.38: Revenue from Existing Tariff approved by the Commission for FY 2015-16

Sl No	Category LT Supply	Energy sales (MU)	Average Rate (Rs./kWh)	Revenue (Rs. Crores)
A	LT Supply			
1	Kutir Jyoti	10	1.82	1.82
2	Domestic	317	3.69	117.12
3	Commercial	50	5.50	27.48
4	Public Lighting	7	4.97	3.48
5	Public water works	10	4.92	4.92
6	Agriculture	4	2.94	1.17
7	Small Industries	20	3.48	6.96
8	Total LT	418		162.95

Sl No	Category LT Supply	Energy sales (MU)	Average Rate (Rs./kWh)	Revenue (Rs. Crores)
B	HT Supply			
9	Commercial	8	6.00	4.80
10	Public water works	30	5.48	16.44
11	Agriculture	8	2.94	2.35
12	Medium Industries	3	6.94	2.08
13	Large Industries	20	4.56	9.12
14	Bulk Supply	191	4.26	81.30
15	Total HT	260		116.09
16	Grand Total(LT+HT)	678		279.04
17	UI sales	118.56	2.40	28.45
18	Total Sales	796.56		307.49

Detailed calculation of revenue from sale within the State is given in Annexure -V.

The Commission, accordingly, approves the revenue from existing tariff at Rs. 307.49 Crore for FY 2015-16 as against Rs. 289.06 Crore projected by the MSPDCL.

5.25 Revenue Gap for FY 2015-16 with existing tariff

Table 5.39: Revenue Gap for FY 2015-16

Particulars	Unit	Projected by MSPDCL	Approved by the Commission
Revenue requirement	Rs. crore	514.41	496.98
Revenue from existing tariff	Rs. crore	268.91	279.04
Outside state sales	Rs. crore	20.15	28.45
Total revenue from sale of energy	Rs. crore	289.06	307.49
Revenue gap	Rs. crore	225.35	189.49
Energy sales	MU	769.11	796.56
Average cost	Rs. /kWh	6.69	6.22

The total energy available for sale is 796.56 MU inclusive of the energy available free of cost from Loktak HEP (NHPC). Had it not been there, the average cost of supply would have been much more.

5.26 Revenue from Revised Tariff for FY 2015-16

As seen from Para 5.25 supra there is a revenue gap of Rs. 189.49 Crore which is about 38.13 % of Net ARR FY 2015-16. The existing tariffs are fixed on 28.2.2014. As such the Commission considers to revise the tariffs by 4% under telescopic billing without giving tariff shock to consumers to bridge the gap partially. Owing to revision of tariffs the MSPDCL is expected to get additional revenue of Rs. 11.78 Crore as detailed in Table below:

Table 5.40 : Revenue from Approved sales for FY 2015-16 with Revised Tariff

Sl. No.	Consumer category	Energy sales approved by the Commission (MU)	Average Rate (Rs. / kWh)	Revenue (Rs. crore)
1	Kutir Jyoti	10	1.82	1.82
2	Domestic	317	3.82	120.95
3	Commercial	58	5.60	32.46
4	Public lighting	7	5.23	3.66
5	Public water works LT	1	5.17	5.17
	Public water works HT	30	5.64	16.92
6	Irrigation & Agriculture LT	4	3.09	1.24
	Irrigation & Agriculture HT	8	3.09	1.24
7	Small Industries	20	3.68	7.35
8	Medium Industries	3	7.14	2.14
9	Large Industries	20	4.81	9.61
10	Bulk supply	191	4.56	87.03
11	Total	678		290.82
12	UI sales	118.56	2.40	28.45
13	Grand Total	796.56		319.27
14	Less Revenue from existing Tariff			307.49
15	Additional Revenue			11.78

There by the gap is reduced to Rs. 177.71 Crore (189.49-11.78) which the MSPDCL shall meet from Government subsidy and by improving internal efficiency.

5.27 Government Subsidy

The MSPDCL proposed budgetary support of Rs. 211.91 crore from Government of Manipur. As seen from the above it is clear that the revenue from sale of power is not sufficient to meet the expenditure of MSPDCL as a result of this the MSPDCL shall continue to depend upon the subsidy from Government of Manipur. Out of net revenue gap of Rs. 177.71 Crore arrived in para 5.26 supra the MSPDCL shall generate additional revenue of Rs. 1.71 Crore by improving internal efficiency and balance Rs. 176 Crore shall be met from Government subsidy as against Rs. 211.91 crore proposed by MSPDCL.

6. Tariff Principles and Design

6.1 Background

- a. The Commission, in determining the revenue requirement of MSPDCL for the year 2015-16 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.

- b. The 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. The present MIS and regulatory reporting system of the MSPDCL 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 a directive to the MSPDCL in the Tariff Order 2010-11 as well as in the present Tariff order for 2015-16 to chalk out a long-term action plan for reduction of distribution losses for both technical and non- technical with relevant load flow studies and energy audit and submit to the Commission by September, 2015. Under these conditions, it would not be practicable to implement the MYT framework this year. The Commission, after taking into account all factors, has

decided to introduce MYT in due course, when the data is available.

- c. The mandate of the NTP is that tariff should be within plus / minus 20% of the average cost of supply by 2010-11. It is not possible for the Commission at this stage to lay down the road map for reduction of cross subsidy within $\pm 20\%$ mainly because of consumers' low paying capacity and relatively high cost of power. There has been a high level of fluctuating revenue gap. The gap in the year 2010-11 was 36% and that of 2015-16 is about 38%. However, in this tariff order an element of performance target has been indicated by setting target for distribution loss reduction and increasing sales volume during the period from 2015-16 to 2017-18. The improved performance, by reduction of loss level, and increase in sales will result in substantial reduction in average cost of supply. The existing and proposed tariffs of MSPDCL are two part tariff. The Commission has considered for a nominal increase in tariff in view of the extremely poor conditions of power supply in the State.

d. Clause 8.3 of National Tariff Policy lays down the following principles for tariff design:

- (i) 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.
- (ii) 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 2015-16, 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.

- (iii) 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.
- e. Regulation 16 of JERC for M&M (Terms and Conditions for Determination of Tariff) Regulations specifies.
 - i. 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 combine average cost of supply per unit expressed in percentage terms as a portion of the combined average cost of supply.
 - ii. In the first place, 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.
- f. The Commission has considered special treatment to Kutir Jyoti connections and agricultural sector. It has also aimed at raising the per capita consumption of the State from 100 kwh in 2010-11 to 195 kwh in 2014-15 to 300 kWh by the end of 2015-16. The Commission endeavors that the tariffs progressively reflects cost of supply in a shortest period and the Government subsidy is also to be reduced gradually. The tariffs have been rationalized with regard to inflation, paying capacity of consumers and to avoid tariff shock.

6.2 Tariffs Proposed by the MSPDCL and Approved by the Commission

(a) Existing & Proposed by MSPDCL

MSPDCL in its tariff petition for FY 2015-16 has proposed for revision of the existing retail tariffs to various categories of consumers to earn additional revenue to meet the

expenses partly.

The MSPDCL has proposed tariff revision as indicated in table - 6.1 below. The proposed increase in tariff by the MSPDCL would result in an overall increase of about 5%.

Table 6.1: Existing and Proposed Tariff for FY 2015-16

Existing Tariff			Proposed Tariff		
Particulars	Fixed Charges (Rs./kW/kVA/ Month)	Energy Charges (Rs./kWh)	Particulars	Fixed Charges (Rs./kW/kVA/Month)	Energy Charges (Rs./kWh)
LT SUPPLY			LT SUPPLY		
Kutir Jyoti			Kutir Jyoti		
0-15 kWh	20	1.00	1-15 kWh	20	1.00
Above 15 kWh	20	1.50	Above 15 kWh	20	1.50
Domestic Light & Power			Domestic Light & Power		
0-100 kWh	60	2.80	1-100 kWh	60	2.95
101-200 kWh	60	3.40	101-200 kWh	60	3.60
201-300 kWh	60	4.10	Above 200 kWh	60	4.60
Above 300 kWh	60	4.60			
Commercial			Commercial		
0-100 kWh	80	3.80	1-100 kWh	85	4.00
101-200 kWh	80	4.50	101-200 kWh	85	4.75
201-300	80	5.10	Above 200 kWh	85	5.70
Above 300 kWh	80	5.60			

Existing Tariff			Proposed Tariff		
Particulars	Fixed Charges (Rs./kW/kVA/ Month)	Energy Charges (Rs./kWh)	Particulars	Fixed Charges (Rs./kW/kVA/Month)	Energy Charges (Rs./kWh)
Public Lighting	60	4.90	Public Lighting	65	5.15
Public Water Works	100	4.90	Public Water Works	105	5.15
Agriculture	60	2.90	Agriculture	65	3.05
Cottage & Small Industry	80	2.90	Cottage & Small Industry	65	3.05
Temporary Supply	80	5.00	Temporary Supply	85	5.25
HT SUPPLY			HT SUPPLY		
Commercial	100	5.40	Commercial	105	5.70
Public Water Works	100	4.60	Public Water Works	105	4.85
Agriculture	100	2.70	Agriculture	105	2.85
Medium Industry	100	3.80	Medium Industry	105	4.00
Large Industry	100	4.40	Large Industry	105	4.65
Bulk Supply	100	4.00	Bulk Supply	105	4.20

(b) Tariff Categories approved by the Commission

The Commission approved tariff categories / sub-categories are given below. The un-metered supply includes consumers not provided with energy meters. Unmetered supply will be billed based on assessed consumption arrived as per JERC for M&M (Electricity Supply Code) 2013 at the relevant rates of metered Tariff of the respective

categories.

LT Supply

(1) Power Supply for “Kutir Jyoti” – of Domestic Consumers.

- A. Metered Supply
- B. Un-metered Supply

(2) Power Supply for Domestic

- A. Metered Supply
- B. Un-metered Supply

(3) Power Supply for Non-Residential/Commercial

- A. Metered Supply
- B. Un-metered Supply

(4) Power Supply for Public Lighting

- A. Metered Supply
- B. Un-metered Supply

(5) Power Supply for Public Water Works (PWW)

- A. Metered Supply
- B. Un-metered Supply

(6) Power Supply for Irrigation & Agricultural

- A. Metered Supply
- B. Un-metered Supply

(7) Power Supply to Small Industries

- A. Metered Supply
- B. Un-metered Supply

HT Supply

(1) Commercial

Metered Supply Only

(2) Public Water Works

A. Metered Supply

B. Un-metered Supply

(3) Irrigation & Agriculture

A. Metered Supply

B. Un-metered Supply

(4) Medium Industry

A. Metered Supply

B. Un-metered Supply

(5) Large Industry

A. Metered

B. Un Metered

(6) Bulk supply within the State

A. Metered Supply

B. Un-metered Supply

(c) Tariff for FY 2015-16 Approved by the Commission

Having considered the Petition No. 1 of 2014 of MSPDCL for approval of Aggregate Revenue Requirement (ARR) and determination of Retail Tariff for sale of energy and having approved the Aggregate Revenue Requirement (ARR) with a revenue gap of Rs.189.49 Crore vide para 5.26 supra the Commission considers to revise the tariffs under Telescopic billing dully reducing billing slabs under LT domestic and commercial categories from four to three, as detailed in table below:

Table 6.2: Category wise Tariff approved by the Commission for FY 2015-16

Sl.No.	Category & Consumption Slab	***Fixed Charges per month (Rs.)	Variable Charges (Rs./kwh)
	LT SUPPLY		
1	Kutir Jyoti		
	First - 15 kwh/Month	20/connection	1.00
	Above 15 kwh/Month	20/connection	1.50
2	Domestic		
	First - 100 kwh/Month	60	2.90
	Next 100 kwh/Month	60	3.50
	Above 200 kwh/Month	60	4.40
3	Non-Domestic/Commercial		
	First - 100 kwh/Month	80	3.90
	Next 100 kwh/Month	80	4.65
	Above 200 kwh/Month	80	5.50
4	Public Lighting	65	5.15
5	Public Water Works	100	5.15
6	Irrigation & Agriculture	60	3.05
7	Small Industry	65	3.05
	HT SUPPLY		
1	Commercial	100	5.40
2	Public Water Works	90	4.85
3	Irrigation & Agriculture	100	2.85
4	Medium Industry	100	4.00
5	Large Industry	100	4.65
6	Bulk Supply	100	4.20

*** Fixed charge in LT supply except kj is per kW of contracted load and in HT supply is per kVA of Billing Demand.

Details are given in the tariff schedule in the Appendix.

(d) Miscellaneous Charges and Important Conditions of Supply

The detailed Tariffs including rates for un-metered categories of consumer, Miscellaneous charges and Important Conditions of Supply furnished by MSPDCL are examined and approved as given in the Tariff Schedule in the Appendix.

7. Wheeling Charges

7.1 Wheeling Charges

MSPDCL has not filed petition for determination of wheeling charges. However under regulation 88 of JERC (M&M)(Terms and Conditions for determination of Tariff) Regulations 2010, the Commission has determined the wheeling charges Suo moto in order to implement open access in the state. The MSPDCL is not maintaining separate accounts for the distribution wire business and retail supply business. So the ARR of the wheeling business is arrived at as per the following matrix.

Table 7.1 Allocation matrix

Sl. No.	Particulars	Wire business	Retail Supply business
1	Power purchase cost	0	100
2	Employee cost	60	40
3	R & M expenses	90	10
4	Adm. & General Expenses	50	50
5	Depriciation	90	10
6	Interest & Finance Charges	90	10
7	Interest on working Capital	10	90
8	Provision for bad debts	0	100
9	Income tax	90	10
10	Return on equity	90	10
11	Contribution to contingency reserves	100	0
12	Non-tariff Income	10	90

7.2 ARR for wheeling business.

ARR for wheeling business arrived in accordance with the above methodology is as detailed in table below.

Table 7.2 ARR of wheeling business approved by the Commission for FY 2015-16.

Sl. No.	Particulars	Total ARR for 2015-16	Wheeling ARR for 2015-16	Retail Supply ARR for FY 2015-16
1	Power purchase cost	396.71	-	396.71
2	Employee cost	76.25	45.75	30.50
3	R & M expenses	4.00	3.60	0.40
4	Adm. & General Expenses	1.25	0.62	0.63
5	Depriciation	0.61	0.55	0.06
6	Interest & Finance Charges	0.39	0.35	0.04
7	Interest on working Capital	12.50	1.25	11.25
8	Provision for bad debts	3.00	-	3.00
9	Income tax	-	-	-
10	Return on equity	1.40	1.26	0.14
11	Contribution to conveyance resources	-	-	-
12	Non-tariff Income	0.32	0.03	0.29
		495.79	53.35	442.44

7.3 Wheeling Tariff

The wheeling tariff has been calculated on the basis of the ARR for wheeling business and total energy sold as detailed in table below.

Table 7.3 : Wheeling Tariff approved by the Commission for FY 2015-16.

Sl. No.	Particulars	Unit	FY 2015-16
1	ARR for wheeling function	Rs./Cr.	53.35
2	Energy sold within the state	MU	678
3	Wheeling tariff	Rs./kWh	0.79

The Commission approves wheeling charge at Rs. 0.79/kWh for FY 2015-16

8. Directives

8.1 General

While examining the information and data contained in the proposed ARR and Tariff Petition for the FY 2015-16, it is observed that the computation and compilation of the data have been done based on assumptions only and as a result, there has been difficulties in finalization of the ARR and determination of retail tariff also. The above observation itself substantiates the fact that the administrative, technical and commercial performances of the MSPDCL require substantial improvement within a specified time frame.

Similar situation was noticed in the ARR & Tariff petition for the FY-2012-13. The Commission had observed that while there is ample scope for reducing cost and increasing efficiency in the operation of the department, serious efforts appear to be lacking. It is in the above context that 22 directives were given for compliance in the Tariff Order 2010-11 out of which 5 directives were fully complied with five fresh Directives were issued in tariff order for FY 2012-13. The Commission expected that MSPDCL would take prompt action on the directives and monitor their implementation. Unfortunately, action is yet to be taken on most of the important directives, which could make significant difference to operational efficiency and cost. In some cases action has no doubt been initiated, but overall the seriousness with which the directives were issued by the Commission does not appear to have been realized by the MSPDCL.

In the above background, the Commission is constrained to repeat the directives which have not been fully complied with and also gives specific new directives.

8.2 Status and Compliance of directives issued in Tariff Order FY 2012-13

Directive 2: Annual Statement of Accounts

The MSPDCL was directed to prepare separate Annual accounts statements such as balance sheet, profit and loss Account and relevant schedules and statements, every year for regulatory purpose and submit to the Commission duly got them audited.

Compliance Status

The MSPDCL would like to submit that the power reform system of the department has been under

active consideration of the State Government. The two Companies MSPCL and MSPDCL have been incorporated on 15/7/2013. SBICAPs, the consultant, who is providing the Advisory Services to the Department on the Corporatization process has finalized the document of Financial Re-Structuring Plan, Delegation of Power and Administrative Plan of the Department/the New Entities. Separate annual accounts such as balance sheet, profit and loss account and relevant schedules and statements are prepared by the financial consultant team M/S Singhi & Co. along with the newly appointed Account Manager. The draft opening balance sheet for the new entities as on 31.01.2014 is ready and is in the process of finalization. MSPDCL shall submit the same to the Commission as soon as it is finalized.

Comment of the Commission

The directive is not fully complied with

Directive 3: Maintenance of Asset & Depreciation Registers

Compliance Status:

The finalisation of the Corporatization activities is done and the maintenance of asset and depreciation registers will be submitted by the MSPDCL to the commission once it is finalized, as given above.

Comment of the Commission

The directive is not fully complied with

Directive 4: Management Information System (MIS)

The MSPDCL was directed to take appropriate steps to build up credible & accurate database and management information system (MIS) and regularly update the same for future record and reference. Arrangement may also be made for "On-line Payment" and "Payment through Bank" of the electricity bills.

Compliance Status

MSPDCL has tied up with NIC vide letter no.1/2/CMTR/2K 11-12 ED (COMM) 1395-01 dated 04.04.12 for implementation of MIS system. Online submission of CMTR-3 in two Divisions have been implemented; other Divisions in progress. Online payment and payment through Bank of the

electric bill is also under process in consultation with TCS, NSDL and SBI officials. Also, MSPDCL is in the process of computerization of billing.

Comments of the Commission

The directive is not fully complied with

Directive 5: Revenue Arrears

The MSPDCL was directed to assess year wise Revenue Arrears due from consumers and submit a report by 30th September, 2011 to the Commission. The MSPDCL was also further directed to initiate action to collect/ liquidate the arrears.

Compliance Status

The revenue arrears for the last four years are as given below:

- 1 As on 31.03.2010 Rs. 256.91 Crore
- 2 As on 31.03.2011 Rs. 279.09 Crore
- 3 As on 31.03.2012 Rs. 317.69 Crore
- 4 As on 31.03.2013 Rs. 351.165 Crore
- 5 As on 30.09. 2013 Rs. 396.420 Crore
- 6 As on 31.03.2014 Rs.420 Crore
- 7 As on 30.06.2014 Rs.446 Crore
- 8 As on 31.08.2014 Rs. 429 Crore

The MSPDCL will submit the henceforth quarterly progress report to the Hon'ble Commission.

Comments of the Commission

The directive is not fully complied with

Directive 6: Availability of Energy

The Commission has observed that there is a seasonal power shortage in the State, even though the available annual energy is adequate. Heavy Fuel Based Power Project at Leimakhong which is stated to be made available for standby generation may be operated during peak hours to minimize load shedding. The high cost of generation from this plant will not cause much impact on the tariff revision when mixed with the cheaper rate of the grid power and 12% free power received from Loktak Hydro Electric Plant by the State. The Department is therefore directed to generate 20 MU

from the plant during peak hours.

Compliance Status

MSPDCL would like to submit that the approved budget for the purchase of heavy fuel for the LHFPP is very meagre, timely approval for purchase of furnace oil is not there and the operational cost is about Rs. 16 per unit. As such, in spite of the best effort of MSPDCL, the plant is made operational only on special occasions.

Comment of the Commission

If the plan is not put into operation, it will deteriorate. Hence need to operate.

Directive 7: De-commissioning of Generating plants

The Compliance to this directive shall be reported to the Commission soon on written off the asset value of defunct generating plants which are lying idle for more than 15 years.

Compliance Status

MSPDCL has stated that M/s SBI cap who have been appointed for evaluation and finalisation of assets have submitted report which is under examination by MSPDCL.

Comment of the Commission

Directive is not complied with. MSPDCL is directed again to write off.

Directive 8: Sale of Power outside the State

The MSPDCL is directed to ensure that only surplus power be sold under UI sales after fully meeting the state's requirement without any staggering of supply in the state. This may be ensured strictly.

Compliance Status

MSPDCL would like to clarify that the UI mechanism is inherent in the inter-state transmission system and is required for grid stability as per CERC guidelines. The state power supply is wholly dependent upon the Central Generation Stations. There is a big gap between the supply and demand in the state and therefore MSPDCL has to resort to area wise alternate day load-shedding which depends upon the availability of power. Further the MSPDCL has to buy surplus energy through UI mechanism during peak hours to supply reliable power as per its schedule whereas during midnight, demand is less and therefore MSPDCL underdraws power from the system.

From FY 2014-15, MSPDCL has also started selling surplus power during off peak hours to exchange or under banking. Hence, the UI under-drawl will be restricted.

Comment of the Commission

The MSPDCL shall ensure that there are no staggering of supply in the State while selling/banking power under UI mechanism/trading.

Directive 9: Distribution Losses

To know the actual Distribution losses in the system, MSPDCL was directed to ensure 100% metering of all feeders, DTs, and consumer connections and conduct voltage wise energy audit. To achieve this it was directed to chalk out an action plan for preliminary energy audit and submit the same to the Commission by May 2011.

Compliance Status

For completion of 100% metering the following schemes are being undertaken :-

- 1 Installation of 1,00,000 Optical Port 1-phase Electronic energy meter in Greater Imphal areas. The work for this scheme is under progress.
- 2 Providing of 60,336 Pre-paid energy meters under R-APDRP in 13 towns. Work order has been issued to two firms and the work is targeted to be completed by March'2015.
- 3 The work of providing of feeder meters, boundary meters, DT meters, HT meters is in progress under R-APDRP/RGGVY/State Scheme, which is to be completed by mid of 2015-16.
- 4 Under APDRP Scheme 51,585 nos. of 1 phase static energy meter (5-40 Amp) are being provided through a firm and present program as on October 2013 is 26,643 nos. in various areas of Greater Imphal, Chandel and Thoubal. The target completion is by March'2015. Actual energy audit is only possible when there is 100% metering in the system from 132 KV level up to the consumers premises.

Comment of the Commission

The directive is not fully complied with

Directive 10: Unauthorized Connection/ Theft of power Cases

&

Directive 11: Detailed Survey & Investigation

In the above two directives the Commission had directed to carryout detailed survey & Investigation to -

1. Identify an authorized connections.
2. Physical verification of the connected load of all connections.
3. Physical verification of the categories under which the consumers are availing supply.
4. Verification & updation of names of the consumers etc. and
5. Regularize 30000 unauthorised consumers annually.

Compliance Status

MSPDCL had developed a scheme/plan for outsourcing 147 persons for engaging in Survey and Investigation of consumers but the same could not be materialized due to want of fund. The Department is now undertaking a scheme of expediting Survey and Investigation of consumers while carrying out the installation work of 1,00,000 nos. of 1-phase of Electronic Energy Meter through 3 (three) Turn Key contractors to whom work orders have already been issued. In this regard, the Department held a meeting on 29-8-2013 with the representatives of the 3 Turn Key Contractors and concerned officials of the Department for speedy and successful installation of the 1 lakh Energy meters by March 2015 in parts of Greater Imphal and the Town Areas of other Districts of the State.

Further, it was also decided in the meeting that an advance team of the Department officials will carry out Survey and Investigation of consumers as per JERC (M&M) directives along with regularization of unauthorized connections. The Turn Key Contractors shall provide computerized data base for the consumers installed with Energy Meter and reports will be monitored by the Department. The Department officials will furnish the Survey and Investigation reports in the prescribed format. Work has already started with 70% material procurement as on date, and necessary reports will be submitted to the Hon'ble Commission at the earliest.

In FY 2013-14, MSPDCL has released new connections to 13810 number of consumers which includes regularization of illegal connections.

Comment of the Commission

If departmental staff engaged for physical verification work, the fund crunch will be reduced to greater extent.

Directive 12: Replacement of Defective Meters and Installation of Meters to Un-Metered Connections

The MSPDCL was directed to provide meters to all un metered consumers and replace the defective meters within the time frame given in the commission order No. 24012/2/5/09 – JERC dt 7.1.2011 on 100% metering plan and submit quarterly report regularly.

Compliance status

MSPDCL has installed 99,515 meters for new connections, unmetered to metered connections as well as replacement of old/defective meters till Sept'2014.

Further, MSPDCL would like to submit to the Hon'ble Commission that it has targeted 100% metering of consumers by end of 2015. A number of schemes are being implemented for the metering of consumer installations as stated in para 8.

Comment of the Commission

The directive is not fully complied with

Directive 13: Physical and Financial Status of RAPDRP & RGGVY Schemes

As per above directive MSPDCL has to submit physical and financial progress of work done and the impact of the works on revenue performance and metering with details of work done, amount of revenue increase etc.

Compliance Status

The Physical and Financial Status of RAPDRP & RGGVY Schemes have been detailed in Annexure.

Comments of the Commission:

As verified physical progress of works is very poor. Unless targeted works are completed in time and put the assets into use, the required benefits will not be achieved.

Directive 14: Interest on Security Deposit

MSPDCL was directed to furnish upto-date position of interest on security deposit as per regulation 6.10(5) of JERC (supply code) regulations 2010.

The above rule position may be followed scrupulously and not to commit breach of rule.

Compliance Status

MSPDCL would like to submit that the data of security deposit is not available with them for old consumers and as such they are unable to pay interest on security deposit for old consumers. However, after corporatization, MSPDCL has started maintaining the data of security deposit and as such, a provision has been kept in FY 2015-16 to provide interest on security deposit for the new consumers connected from Feb'2014 onwards.

Comment of the Commission

The directive is not fully complied with

Directive 15: Power from Renewable Sources

The MSPDCL was directed to procure power for renewable sources.

Compliance Status

There is no grid connected renewable energy in NE region. Efforts have been made to purchase REC through IEX or PTC and the same will be done in the ensuing FY 2015-16. For past years, MSPDCL requests waiver of RPO obligation since there is no grid connected renewable energy in the state.

Further, MSPDCL along with MANIREDA is planning to formulate a scheme for grid connected solar roof top plants which should help MSPDCL to comply with the solar RPO.

Comment of the Commission

The MSPDCL should either procure renewable energy or purchase REC to fulfill its RPO fixed by the Commission.

Directive 16: Investment Plan and Capping of Capital expenditure

Annual Investment Plan shall be submitted to the Commission and necessary approval of Commission shall be obtained for all major capital works costing Rs. 5.00 crore and above before

execution of the works.

Compliance Status

The annual investment plan is being submitted every year with the ARR and Tariff Petition to the Hon'ble Commission. In the present petition for FY 15-16, MSPDCL is submitting the annual investment plan of FY 15-16 to the Commission. All the major capital investment schemes are being undertaken by MSPDCL with the prior approval of State Government and as per the approved schemes of State Government and Central Government. Most of capital investment schemes are being funded entirely by grants from the State Government and as such are not recovered through tariff from consumers.

Comment of the Commission

Individual works costing Rs.5.00cr and above should be submitted separately to the Commission for approval before execution.

Directive 17: Maximum Demand Indicator Meters (MDI)

Compliance Status

The new meters being purchased by the department have the provision of maximum demand indicator which are being installed on bulk and HT consumers. Recently, the department has purchased 259 no. of such meters and more number of such meters are being planned for further purchase. A total of 1568 such meters are already installed in bulk consumers.

Comment of the Commission

The directive is not fully complied with

Directive – 18

Transmission Charges

MSPDCL is directed to file tariff petition for determination of transmission charges along with next ARR and tariff petitions.

Compliance Status

On finalization of SBI Caps report on corporatization and unbundling and segregation of assets and financial statements, separate petition will be filed.

Comment of the Commission

Since, corporatization is completed and separate companies are established, separate petitions for Transmission and Wheeling charges be filed along with next tariff petition.

New Directive.**Directive 20**

MSPDCL is directed to file the next tariff petition under MYT for control period FY 2016-17 to FY 2018-19 along with Annual performance review for FY 2015-16 within the scheduled date.

Directive 21

MSPDCL is directed to submit details 11 kV lines and distribution transformer within September, 2015 positively.

Directive 22

As per Electricity Act, 2003, electricity supply should not be given without meters. The Commission has also given directives regularly in this regard. Yet the MSPDCL is releasing new connections without meters which is a very serious deviation. In the next tariff order no unmetered tariff will be allowed.

9. Fuel and Power Purchase Cost Adjustment

9.0 Background

Section 62 sub-section 4 of the Electricity Act, 2003 provides that no tariff or part of any tariff may ordinarily be amended, more frequently than once in every financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified. This provision of the Act requires the Commission to specify the formula for fuel surcharge.

Accordingly, the Commission has specified the formula for working out the Fuel and Power Purchase Cost Adjustment (FPPCA) charges and other terms and conditions of FPPCA allowed the distribution licensee to recover the FPPCA charges from the consumers.

Accordingly, the amount of Fuel and Power Purchase Cost Adjustment (FPPCA) charges shall be computed as under:

$$\text{FAC (Rs./kWh)} = \frac{Q_c(RC_2 - RC_1) + Q_o(RO_2 - RO_1) + Q_{pp}(R_{pp2} - R_{pp1}) + V_z + A}{(Q_{Pg1} + Q_{pp1} + Q_{pp2}) \times \left[1 - \frac{L}{100}\right] - \text{PSE}} \times 100$$

Where,

- Q_c = Quantity of coal consumed during the adjustment period in Metric Tons (MT).
= $(\text{SHR} \times Q_{pg}) (1 + \text{TSL}) \times 1000 / \text{GCV}$, or actual whichever is less.
- R_{c1} = Weighted average base rate of coal supplied ex-power station coal yard as approved by the Commission for the adjustment period in Rs./MT
- R_{c2} = Weighted average base rate of coal supplied ex-power station coal yard for the adjustment period in Rs./MT
- Q_o = Actual Quantity of oil (in KL) consumed during the adjustment period or normative oil consumption as per Tariff order whichever is

less.

- R_{o1} = Weighted average base rate of oil ex-power station (Rs./KL) approved by the Commission for the adjustment period.
- R_{o2} = Weighted average actual rate of oil ex-power station supplied (Rs. / KL) during the adjustment period.
- Q_{pp} = Total power purchased from different sources (kWh) = $Q_{pp2} + Q_{pp3}$
- Q_{pp1} = $Q_{pp3} \left[1 - \frac{TL}{100} \right]$ in kWh
- TL = Transmission loss (CTU) (in percentage terms).
- Q_{pp2} = Power Purchase from sources with delivery point within the state transmission or distribution system (in kWh)
- Q_{pp3} = Power Purchase from sources on which CTU transmission loss is applicable (in kWh)
- R_{pp1} = Average rate of Power Purchase as approved by the Commission (Rs./kWh)
- R_{pp2} = Average rate of Power Purchase during the adjustment period (Rs./kWh)
- Q_{pg} = Own power generation (kWh)
- Q_{pg1} = Own Power generation (kWh) at generator terminal – approved auxiliary consumption
- L = Percentage T&D loss as approved by the Commission or actual, whichever is lower.
- SHR = Station Heat Rate as approved by the Commission (Kcal / kWh)
- TSL = Percentage Transit and Stacking Loss as approved by the Commission

- GCV = Weighted average gross calorific value of coal as fired basis during the adjustment period (Kcal / Kg)
- V_z = Amount of variable charges on account of change of cost of unknown factors like water charges, taxes or any other unpredictable and unknown factors not envisaged at the time of Tariff fixation subject to prior approval of the Commission (Rs.)
- A = Adjustment, if any, to be made in the current period to account for any excess / shortfall in recovery of fuel of Power Purchase cost in the past adjustment period, subject to the approval of the Commission (Rs.)
- PSE = Power sold to exempted categories (presently agriculture and BPL-Kutir Jyoti consumers)

If there are more than one power station owned by the Licensee Q_c , R_{c1} , R_{c2} , Q_o , R_{o1} , R_{o2} , Q_{pg} and Q_{pg1} will be computed separately for each power station and sum of the increase/decrease of cost of all power stations shall be taken into consideration.

In case of the two distribution companies, there is no generation of their own. Therefore, Q_c , Q_o and Q_{pg1} will be zero in this case.

The Generating Company can levy FPPCA charges with the prior approval of the Commission.

9.1 Terms and conditions for application of the FPPCA formula

- 1) The basic nature of FPPCA is 'adjustment' i.e. passing on the increase or decrease in the fuel costs and power purchase cost, as the case may be, compared to the approved fuel costs and power purchase costs in this Tariff Order.
- 2) The operational parameters / norms fixed by the Commission in the Tariff Regulations / Tariff Order shall be the basis of calculating FPPCA charges.
- 3) The FPPCA will be recovered every month in the form of an incremental energy charge (Rs/kwh) in proportion to the energy consumption and shall not exceed 10% of the approved avg. cost of supply in the Tariff order and balance amount, if any, in the FPPCA over and above this ceiling shall be carried forward to be billed in subsequent month.

- 4) Incremental cost of power purchase due to deviation in respect of generation mix or power purchase at higher rate shall be allowed only if it is justified to the satisfaction of the Commission.
- 5) Any cost increase by the licensee by way of penalty, interest due to delayed payments, etc. and due to operational inefficiencies shall not be allowed.
- 6) FPPCA charges shall be levied on all categories of consumers.
- 7) Distribution licensee shall file detailed computation of actual fuel cost in Rs./kWh for each month for each of power stations of the state generators as well as cost of power purchase (Fixed and Variable) from each source/station and a separate set of calculations with reference to permitted level of these costs.
- 8) The data in support of the FPPCA claims shall be duly authenticated by an officer of the licensee, not below the rank of Chief Engineer on an affidavit supported with the certified copy of energy bills of power purchase, transmission and RLDC charges, bill for coal purchase and its transportation cost, oil purchase bill and the quantity of coal and oil consumed during the month.
- 9) Levy of FPPCA charge will be allowed only when it is ten (10) paise or more per unit. If it is less than 10 (ten) paise/unit, the same may be carried forward for adjustment in the next month.
- 10) The incremental cost per kWh due to this FPPCA arrived for a quarter shall be recovered in the energy bill of the month subsequent to the order of the Commission approving FPPCA with full details of rate and unit(s) on which FPPCA charges have been billed. The Generating Company and the Distribution Companies shall provide along with the proposal of FPPCA (as applicable to them) for a quarter, a compliance report of the previous order of the commission in respect of FPPCA.

TARIFF SCHEDULE

Tariff Schedule

1. General Conditions of Supply (For all categories of Consumers):

- 1.1 Rebate for advance payment:** For payment of energy bill in advance, a rebate of 2 p.c. shall be allowed on the rate of charge of the applicable tariff. This will be applicable only all consumers provided with prepaid energy meters.
- 1.2 Rebate/Surcharge for availing supply at voltage higher/lower than base voltage:** In spite of feasibility/availability of voltage as in the classified supply voltage for corresponding load as per clause 3.2 of the JERC for Manipur and Mizoram(Electricity Supply Code) Regulations, 2013;
- (i) For consumers having contracted load up to 50 kW – If the supply is given at HV/EHV, a rebate of 5 % would be admissible on the rate of energy charge of the applicable tariff.
 - (ii) For consumers having contracted load above 50 kW – If supply is given at voltage lower than the base voltage for corresponding load as per clause mentioned above, the consumer shall be required to pay an extra charge of 10 % on the bill amount calculated at the applicable tariff.
 - (iii) All voltages mentioned above are nominal rated voltages as per clause 3.2 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013.
- 1.3 Payment:** All payments shall be made by way of Cash (up to the amount as acceptable to the licensee), Banker's Cheque, Demand Draft or Money Order or e-transfer on line. Cheques and demand drafts shall be payable at any branch of a scheduled commercial bank that is a member of the clearing house for the area where the concerned Sub Divisional Office is located.
- However, part payment is subjected to acceptance by the competent authority. Bank commission/charges, if any, should be borne by the consumers.

1.4 Surcharge for late payment of bills: If payment is not received within due date surcharge @ 2% at simple interest on the outstanding principal amount for each 30 days successive period or part thereof will be charged, until the amount is paid in full.

1.5 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.

1.6 Voltage and frequency: All voltages and frequency shall be as per clause 3.1 and 3.2 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013.

1.7 Power Factor Incentive / Surcharge :-

a) If the average monthly power factor of the consumer increases above 95%, he shall be paid an incentive at the following rate:

For each one percent increase by which his average monthly power factor is above 95%, up to unity power factor	One percent (1%) of the total amount of the bill under the head 'energy charge'.
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b) If the average monthly power factor of the consumer falls below 90%, he shall pay a surcharge in addition to his normal tariff, at the following rate:

For each one percent by which his average monthly power factor falls below 90% up to 85%	One percent (1%) of the total amount of the bill under the head 'energy charge'.
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c) If average monthly power factor of the consumer falls below 85%, he shall pay a surcharge in addition to his normal tariff at the following rate :

For each one percent by which his average monthly power factor falls below 85%	Two percent (2%) of the total amount of the bill under the head 'energy charge'.
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d) If the average monthly power factor of the consumer falls below 70%, then the utility shall have the right to disconnect supply to consumer's installation after serving a notice of 15 days. Supply may be restored only after steps are taken to improve the power

factor to the satisfaction of the Utility. This is, however, without prejudice to the levy of surcharge for low power factor in the event of supply not being disconnected.

- e) For this purpose, the “average monthly power factor” is defined as the ratio of total ‘Kilo Watt hours’ to the total ‘Kilo Volt Ampere hours’ recorded during the month. This ratio will be rounded off to two figures after decimal. Figure 5 or above, in the third place after decimal being rounded off to the next higher figure in the second place after decimal.
- f) Notwithstanding the above, if the average monthly power factor of a new consumer is found to be less than 90% at any time during the first 6 (six) months from the date of connection, and if he maintains the average monthly power factor in subsequent three months at not less than 90%, then the surcharge billed on account of low power factor during the said period, shall be withdrawn and credited in next month’s bill

1.8 Transformation loss: The consumers getting their supply at HT and metered on the LT side shall be charged transformation loss in kWh as per clause 5.7 JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. The same is reproduced for convenience sake:

- (1) The average losses in the transformer shall be calculated as follows and added to the energy consumption indicated by the meter :

$$\text{Average loss (kWh)} = \frac{730 \times 1.0 \times C}{100} \text{ Units per month}$$

where C = KVA rating of the transformer.

- (2) The transformer loss arrived at by the above formula shall be added to the energy consumption, even when the recorded energy* consumption is nil.
- (3) 1% of the transformer capacity for transformer above 63 KVA will be added to the recorded maximum demand on the Low Tension side to arrive at the equivalent High Tension demand.

** Note:- In case of un-metered supply, consumed energy computed as per clause 5(1) of this tariff schedule shall be taken as recorded energy consumption.*

1.9 Rounding of Contracted Load/billing demand: For the purpose of calculation of fixed/demand charge in the monthly billing, the contracted load/billing demand shall be taken on actual basis (not to be rounded), except for load less than 500 W. Load less than 500 W shall be taken as 0.5 kW for calculation of fixed/demand charge in the monthly billing. Fixed/Demand charge in the monthly billing shall be calculated as follows:- Fixed/Demand charge per month = Contracted load (in kW) or Billing demand (in kVA) x Rate of fixed charge per month per kW/kVA (as the case may be).

Sample calculation for Domestic Purpose (1) 1.24KW (2) 0.36 kW, Fixed charge for Domestic is Rs 60.00 per kW of contracted load. Sample 1;- Fixed charge = 1.24 x 60 = Rs 74.40 = Rs 74.00. Sample 2 ;- Fixed charge = 0.36 kW (=0.50 kW after rounding) x 60 = Rs 30.00. *Note Fraction of rupees is rounded as per clause 1.10 of this tariff schedule and load below 0.5 kW is rounded to 0.5 kW as per clause 1.9 of this tariff schedule.*

1.10 Rounding of Rupees: Each components of bill, such as energy charge, fixed/demand charge, meter rent, surcharge, rebate of any kind, etc, including interest, involving fraction of a rupee should be individually round off to nearest rupee (fraction of 50 paise and above to be round off to the next higher rupee and fraction less than 50 paise to be ignored). In case of non-availability/scarcity of small change of rupees less the Rs. 10, consumer may be allowed to tender next higher amount divisible by 10. Such over tendered amount shall be carried to next bill as credit and shall not earn interest whatsoever.

1.11 System of supply:

1.11.1 LT Supply:-

- i) Alternating current, 50 Hz, single phase 230 Volts up to 8kW
- ii) Alternating current, three phase, 400 Volts for loads above 8 kW, subject to the availability of supply. Wherever 3-phase connection is required for load less than or equal to 8 kW, necessary justification shall be provided along with such request for consideration of licensee for extending such supply.

1.11.2 HT Supply ;-

Supply of Electricity to the Consumers at voltage above 400V as per clause 3.2 of JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

1.12 The maximum demand means the highest load measured in average kVA or kW at the point of supply of a consumer during any consecutive period of 30 (thirty) minutes during the month or the maximum demand recorded by the MDI during the month.

1.13 Billing demand: The billing demand shall be the maximum demand or 75% of the contracted demand whichever is higher.

1.14 Tax or Duty

The tariff does not include any tax or duty, etc, on electrical energy that may be payable at any time in accordance with any law / State Government Rules in force. Such charges, if any, shall be payable by the consumer in addition to tariff charges.

1.15 Contingency :- In case of any inconsistency between this Tariff schedule and the prevailing JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013, the provision, meaning and content of the said Code shall prevail.

2. LT Supply:-

2.1 LT Category -1:- Kutir Jyoti

Applicability: Applicable to all households who have 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. As per existing norms unless superseded by other new norms of KJS, if the total consumption in the last three months exceed 45 kWh, the connection should be converted to Category-2.

Permitted load:- 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.

Tariff Rates:

A) Fixed Charge : Rs 20.00 per month per connection.

B) Energy charge per month :-

1) Metered Supply:

First 15 kWh : @ Rs 1.00 per kWh

Balance above 15 kWh : @ Rs 1.50 per kWh

2) Un – metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

2.2 LT Category-2:- Domestic

Applicability: Applicable for supply of energy exclusively for domestic purposes only in domestic premises. The Tariff is applicable to 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 not be applicable to institutions conducting commercial activities of any nature.

Tariff Rates:

A) Fixed Charge : Rs 60.00 per month per kW of contracted load

B) Energy charge per month:-

1) Metered Supply:

First 100 kWh : @ Rs 2.90 per kWh

Next 100 kWh : @ Rs 3.50 per kWh

Balance above 200 kWh : @ Rs 4.40 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

Note: *If any part of the domestic connection is utilized for any use other than dwelling purpose like commercial, industrial, etc., a separate connection should be taken for such*

loads under appropriate category, failing which the entire consumption shall be treated as the case may be, in the corresponding category with applicable tariff.

2.3 LT Category-3:- Non Domestic / Commercial:

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 tariff includes power loads for non-domestic purposes like Government/semi-government/non-government offices, shops, hospitals, nursing homes, clinics, dispensaries, health centers, restaurants, bars, hotels, clubs, guest houses, circuit houses/rest houses, tourist lodges, picnic spots, resorts, farm/garden houses, clubs, markets, optical houses, public buildings, community halls, stadiums, meeting/conference halls, religious premises like churches, temples, mosques, gurudwaras, religious offices, all types of studios, tea stalls, professional chambers (like Advocates, chartered Accountants, consultants, Doctors, etc.), private trusts, marriage halls, public halls, show rooms, centrally air-conditioning units, commercial establishments, X-ray plants, diagnostic centers, pathological labs, carpenters and furniture makers, repair workshops, laundries, typing institutes, internet cafes, STD/ISD PCO's, FAX/photocopy shops, tailoring shops, Government/Non-Government Institutions, schools, colleges, libraries, research institutes, boarding/lodging houses, railway stations, fuel/oil stations/pumps, bottling or filling stations /plants, service stations, Railway/Bus stations/terminals, All India radio/T.V. installations, printing presses, commercial trusts, societies, banks, financial institutions, theatres, cinema halls, circus, coaching institutes, common facilities in multistoried commercial offices/ buildings, public museums, crematoriums, graveyards, orphanages/recognized charitable institutions where rental or fees of any kind are charged, non-recognized charitable institutions, power supply to tele-communication system/towers and others applications not covered under any other categories.

Tariff Rates:

A) Fixed Charge : Rs 80.00 per month per kW of contracted load.

B) Energy charge per month:-

1) Metered Supply:

First 100 kWh	:	@ Rs 3.90 per kWh
Next 100 kWh	:	@ Rs 4.65 per kWh
Balance above 200 kWh	:	@ Rs 5.50 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

2.4 LT Category-4:- Public Lighting

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

Tariff Rates:

A) Fixed Charge : Rs 65.00 per month per kW of contracted load.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 5.15 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

2.5 LT Category-5:- Public Water Works (PWW)

Applicability: Applicable to all public water supply system.

Tariff Rates:

A) Fixed Charge : Rs 100.00 per month per kW of contracted load.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 5.15 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per section 5(1) shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

2.6 LT Category-6:- Irrigational Agricultural

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

Tariff Rates:

A) Fixed Charge : Rs 60.00 per month per kW of contracted load.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 3.05 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

2.7 LT Category-7:- Small Industry

Applicability: Applicable to all Industrial power consumers with demand of power upto 50 kW which are not covered by Category No. 3 (Supply of Non-Domestic/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 units, agriculture based industries, 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.

Tariff Rates:

A) Fixed Charge : Rs 65.00 per month per kW of contracted load.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 3.05 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

3. HT Supply:- The tariffs are applicable for Consumer availing supply at voltage above 400 V irrespective of connected load/contracted demand. It is mandatory to supply with voltage

above 400 V, to consumer having a contracted Load of above 50 kW or Contract Demand of above 59 kVA, as per clause 3.2 of JERC for M&M (Electricity Supply Code) Regulations, 2013

3.1 H.T. Category – 1: Commercial

Applicability: This Tariff is applicable to similar purposes defined in LT Supply Category-3 Supply for Commercial Purposes.

Tariff Rates:

A) Demand Charge : Rs 100.00 per month per kVA of Billing Demand.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 5.40 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

3.2 H.T. Category - 2: Public Water Works (HT- PWW)

Applicability: This tariff is applicable to similar purposes defined in LT Category-5 Supply for Public Water Works(PWW).

Tariff Rates:

A) Demand Charge : Rs 90.00 per month per kVA of Billing Demand.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 4.85 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

3.3 H.T. Category - 3: Irrigation & Agriculture

Applicability: This Tariff is applicable to irrigation / pumping for agricultural purposes only.

Tariff Rates:

A) **Demand Charge** : Rs 100.00 per month per kVA of Billing Demand.

B) **Energy charge per month:-**

1) **Metered Supply:**

All units : @ Rs 2.85 per kWh

2) **Un-metered Supply:**

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

3.4 H.T. Category - 4: Medium Industry

Applicability: This Tariff is applicable to similar purpose defined in LT Category-7 for Small industry. with Contract Demand upto 125 kVA or Contracted Load upto 100kW.

Tariff Rates:

A) **Demand Charge** : Rs 100.00 per month per kVA of Billing Demand.

B) **Energy charge per month:-**

1) **Metered Supply:**

All units : @ Rs 4.00 per kWh

2) **Un-metered Supply:**

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

3.5 H.T. Category- 5: Large Industry

Applicability: This Tariff is applicable for supply of power to industrial consumers having license from designated authority of appropriate government and not covered under any other category, at a single point for industrial purposes with Contract Demand above 125 kVA or Contracted Load above 100 kW.

Tariff Rates:

A) Demand Charge : Rs 100.00 per month per kVA of Billing Demand.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 4.65 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

3.6 H.T. Category - 6: Bulk Supply within the State

Applicability: This tariff is applicable for all installations, including mixed loads similar to LT category 2 & 3 such as private sector installation, educational institution, defense installation, government & public sector offices & complexes and Hospital etc., that arrange their own distribution system of power within the premises with the approval of competent authority. This will not include industrial complexes consisting mixed load of LT category 2 & 3.

Tariff Rates:

A) Demand Charge : Rs 100.00 per month per kVA of Billing Demand.

B) Energy charge per month:-

1) Metered Supply:

All units : @ Rs 4.20 per kWh

2) Un-metered Supply:

The energy (kWh) so computed as per clause 5(1) of this tariff schedule shall be charged at the same rate for metered tariff given above to arrive at the cost of energy consumed.

4. Temporary Power Supply

Applicability: Temporary power supply shall be given through correct meter and carried out as per procedure laid down in clause 4.56 to 4.70 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013. Bill shall be served at the following rates:

Tariff Rates:

A) Fixed / Demand charge : 1.5 times the rate of fixed/demand charge of the applicable tariff category for which power supply is given.

B) Energy charge per month:- 1.5 times the rate of the highest rated slab of the applicable tariff category for which energy is supplied.

5 Computation of energy consumed for un-metered supply:

(1) This shall be applicable to consumer (inclusive of street lightings) without meter from initial connection and have not been covered under any of the metering schemes. The monthly energy consumption shall be computed as below:-

$$\text{Energy Consumption} = L \times H \times F \times D$$

Where L = Contracted load in kW or Billing Demand in kVA, (as per clause 1.9 of this tariff schedule)

H = (a) **For consumer in general:-** Total number of hours in a month during which power is actually supplied to that consumer through that feeder / through that DT concerned, whichever is less, (after taking into account all interruptions of power feeding that) or (730 minus total hours interruptions of power feeding that consumer). where 730 is average number of hours in a month in a non-leap year. (Note:- Interruption shall mean breakdowns of Feeders, Part of feeder, Distribution Transformer, load sheddings, all types of shut downs which should be recorded and informed to concerned billing station)

(b) **For street lights:-** Total number of hours in a month during which power is actually supplied to street lights through that feeder / through that DT concerned, whichever is less, (after taking into account all interruptions of power feeding that) or (365 minus total hours interruptions of power feeding that street light). where 365 is average

number of hours between 5 pm to 5 am in a month in a non-leap year.
(Note:- Interruption shall mean breakdowns of Feeders, Part of feeder, Distribution Transformer, load sheddings , all types of shut downs which occurs between 5 pm and 5 am. which should be recorded and informed to concerned billing station)

F = Load Factor shall be as stipulated for theft cases in ANNEXURE 11.19 of the Joint Electricity Regulatory Commission for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013. Which is reproduced for convenience sake:-

S. No.	Particulars	Load factor
1.	Domestic (LT/HT)	40%
2.	Non-domestic/Commercial (LT/HT)	50%
3.	Industrial (LT/HT)	75%
4.	Public Water supply(LT/HT)	50%
5.	Bulk supply	50%
6.	Agriculture/Irrigation(LT/HT)	50%
7.	Street light	50%
8.	Direct theft – All categories	100%

D = Demand factor which shall be taken as (1) 50 % in case of street lighting and (2) 45 % in case of other consumption.

- (2) **Short period of unmetered supply:-** For un-meter (meter not available) supply as a result of defective, burnt, lost meter shall be treated as per 6.11 – 6.13 Of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

Note: *The licensee shall install energy meter within three (3) months from the effective date of this Tariff Order 2015-16 and shall regularized the assessed consumption based on average three (3) months record of metered consumption and adjustment of bill shall be done accordingly.*

- (3) **For Un-authorized consumer/theft (includes by-pass of meter)/pilferage and cases cover by section 135 of the Act.:-** The energy consumed shall be computed as per

Annexure 11.1.19 Of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. The energy so computed shall be evaluated as follows:-

(a) Load less than 10 kW

- (1) First instance:- Three (3) times of the rate of the applicable tariff (fixed and variable charges) for which the stolen energy was utilized.
- (2) Second and subsequent instance:- Six (6) times of the rate of the applicable tariff (fixed and variable charges) for which the stolen energy was utilized.

(b) Load exceeding 10 kW

- (1) First instance:- Three (3) times of the rate of the applicable tariff (fixed and variable charges) for which the stolen energy was utilized.
- (2) Second and subsequent instance:- Six (6) times of the rate of the applicable tariff (fixed and variable charges) for which the stolen energy was utilized.

Note;- Additional punishment of theft shall be as per Electricity Act 2003 (with latest amendment) and as per the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

6. Miscellaneous Charges

6.1 Meter Rent

6.1.1 Meter Rent for non-prepaid meters : Monthly charges for hiring of the meter, indicator payable shall be as follows:

a)	AC, Single phase Energy meter, whole current	Rs. 10.00 per month
b)	AC, Three phase Energy meter, whole current	Rs. 20.00 per month
c)	AC, Three phase Energy meter, CT operated	Rs. 50.00 per month
d)	AC, Three phase Energy meter, CT & PT operated	Rs. 500.00 per month

6.1.2 Meter Rent for Pre-Paid Meters: Monthly charges for hiring of the meter, indicator payable shall be as follows:

a)	AC, Single phase PP, Energy meter, whole current	Rs. 20.00 per month
b)	AC, Three phase PP, Energy meter, whole current	Rs. 40.00 per month

6.2 Other charges for meter:

(i) Meter shifting charge:

- (1) Rs 100.00 per shifting if resulted from reconstruction / modification of building and at consumer's request.
- (2) Free of cost if shifting is done in the interest of work.

Meter shifting shall be carried out as per Chapter – 5 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

- ### (ii) Replacement of meter:--
- Licensee shall have stock of energy meter as per clause 5.51 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. Replacement of meter shall be carried out as per clause 5.31 to 5.50 of the same code mentioned above. Charges for other materials will be extra. *However, in case of replacement of post-paid meter by prepaid meter by the utility, no meter replacement charge shall be borne by the consumer and the entire charge shall be borne by the utility.*

iii) Execution charge for re-installation/installation of meter:-

- a) For existing consumer shall be Free of cost.
- b) For disconnected consumer being re-connected (if meter is removed) shall be charged Rs 75.00.
- c) For new consumer, it shall be included in the cost of service connection as under execution charges.

iv) Cost of Energy Meters supplied by Licensee :

As per the Licensee's purchase rate plus 15% of its charge if supplied from the Licensee (energy meters approved / tested by the Licensee only shall be used. However, when the cause leading to subsequent replacement is either manufacturing defect or fault of licensee then, it shall be free of

cost.

6.3 Charges for testing of Meters at the request of consumers: : (Testing charge is inclusive of costs of meter re-sealing materials/equipment).

- (i) For AC single phase LT energy meter: Rs. 50.00 per meter per testing.
- (ii) For AC three phase LT energy meter, whole current: Rs. 75.00 per meter per testing.
- (iii) For AC three phase LT energy meter, CT operated: Rs. 100.00 per meter per testing.
- (iv) For energy meter AC three phase, CT & PT operated : Rs. 150.00 per meter per testing.

In case the meter supplied by the Licensee fitted to the consumer premises is found to be defective from initial fitting, testing and replacement of meter shall be carried out as per clause 5.31 to 5.50 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

6.4 Testing of Consumer's Installation:

The first test and inspection will be carried out free of cost as per clause 4.47 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity supply Code) Regulations, 2013. 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 Rs. 100.00 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 Licensee will be at liberty to disconnect the consumer's premise from the supplier's main.

6.5 Disconnection and Reconnection:

Disconnection: Disconnection of an installation in all cases will be free of charges.

Reconnection:

- (i) For AC single phase LT supply: Rs.80.00
- (ii) For AC three phase LT supply: Rs. 150.00
- (iii) For AC HT supply: Rs. 400.00

Note: - Extra material required will be chargeable.

6.6 Charges for change of category:

Change of category will be carried out as per clause 4.72 to 4.80, clause 4.85 to 4.86 and 4.90 to 4.93 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity supply Code) Regulations, 2013.

6.7 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 Licensee plus 15% of its charges if the Licensee supplies the materials or the consumer may arrange the required materials as per the required specifications of the Department.

The execution charge shall be as given below:

- (a) For Cable and wire:-
 - i) Single phase connection: Rs.400.00 per connection.
 - ii) LT three phase connection: Rs.600.00 per connection.
 - iii) HT three phase connection: Rs.900.00 per 100 meters of the HT line

- (2) For Cut out & Fuse:-
 - (a) Rs 15.00 per cut out.
 - (b) Rs 5.00 per fuse

6.8 Re-rating of Installation:- This charge is for meeting expenses toward spot verification of load and other connected recording works. Fees for re-rating of the

consumer's installation at the request of the consumer shall be Rs. 100.00 per rerating per connection.

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. Rerating shall be carried out as per clause 4.94 to 4.107 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

6.9 Security Deposit:

The amount of load/meter security shall be calculated as per the procedure prescribed in clause 4.123 – 4.127 and determine as per Annexure 11.18 of the JERC for M&M (Electricity Supply Code) Regulations, 2013. *Billing Demand shall be taken as 'L' in case of HT consumers load security calculation. However, consumer with prepaid meter shall not be required to pay load security deposit*

6.10 Charges for Replacement of tamper proof Meter Box:

For AC single phase LT or three phases LT without CT or with CT, the charge will be as per Licensee's purchase rate plus 15% of its charge in case the energy meter box is replaced by the Licensee from its store.

6.11 Service Lines & Service Connection:

- (i) Type of Service Connection:** Type of service connection and distance for service connection line length will be as per clause 4.2 read with clause 5.10 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.
- (ii) Cost of Service Connection:** As stipulated in clause 4.37 and 4.131 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. If the consumer desires to arrange service connection materials, the Department (not below rank of Junior Engineer concerned) will check all the materials.

6.12 Mutation Fee: Mutation fee i.e fee for change of name shall be Rs 50 per change. This shall be carried out as per clause 4.81 to 4.84 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

6.13 Cost of Application Form: The application form shall be free of cost vide clause 4.14 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013.

6.14 Operation & Maintenance (O & M) Charge on dedicated assets :-

The O & M charge of assets created out of such amount received without any obligation to return the same and no interest costs attached to such subvention, from consumer contribution, Deposit work and any similar nature shall be as follows:-

- (1) The completion costs shall be escalated at the rate of 4 % per annum from the year of completion to arrive the costs of the assets for 2015-16 level.
- (2) The annual O & M charges/expenses shall be 5 % from the 2015-16 level costs.
- (3) The O & M charges/expenses for each subsequent will be determined by escalating the base charges/expenses determined above for 2015-16, at the escalation factor of 5.72 % to arrive at possible O & M charges / expenses for each year.

ANNEXURE



**No.H.11019/26/10-JERC
JOINT ELECTRICITY REGULATORY COMMISSION
FOR MANIPUR AND MIZORAM
AIZAWL : MIZORAM**

**TBL Bhawan, 2nd – 5th Floor, E-18, Peter's Street, Khatla, Aizawl, Mizoram – 796001
0389- 2333625 (O), 0389- 2335523/2336299 (F)
Website: www.jerc.mizoram.gov.in, Email: jerc.mm@gmail.com**

Dated Aizawl, the 27th February, 2015

MINUTES OF THE 15TH STATE ADVISORY COMMITTEE OF MANIPUR MEETING

Venue : Conference Hall of Hotel Imphal, Imphal.

Date & Time : 19th February 2015, 11:00 AM.

The Chairman of the Committee, Mr. A. Chhawnmawia IDES (Rtd.) and Chairperson of the Joint Commission for Manipur & Mizoram chaired the meeting. The list of members and participants attending the meeting is appended.

After welcoming the members and the invitees the Chairman initiated the agenda wise discussion as:

**Agenda I: Confirmation on the Minutes of the 14th Meeting of the SAC of Manipur
held on 19th May, 2015:**

Requesting the members to give their views and comments on the minutes of the 14th SAC and after obtaining nod from the members, the minute was declared as confirmed.

The Chairman requested the Executive Director (Tech.) MSPDCL Mr. L. Priyokumar on the actions taken by the Corporation on the minutes of the last meeting in respect of their jurisdiction. The Executive Director informed the Committee that installation of 100% metering is being taken up and about 3 lakhs consumers has been regularised with simplification of the electric connection process and he hoped that most of the unauthorised consumers in the state would be regularised with installation of proper electric meters. He also added that customers care centre is being in the process of opening to which grievances of the consumers would be dealt instantly through E-Mail, telephone and written complaints. Also, he added that payment of electricity bills through net-banking is also on the process of completion with ICICI bank. And further supplemented that the installation of prepaid meters has plugged the loss of revenue and has

boosted the revenue collection of the company tremendously. With the induction of new employees, he hoped that the running of the MSPDCL would be in a better position than it was under the Government with the changing of the mindset of the employees.

Mr. N. Sarat Singh, Managing Director, MSPCL also gave on the progress of transmission improvement work being taken up by the Department. He informed the Committee that the present 400 kV line being taken up by the Corporation which will draw power from outside the state will be the life line of Manipur and with augmentation of transformers, enough power could be drawn from outside sources to Manipur. He further added that no other states in the North East has such kind of ambitious power line transmission system and that the transmission system could sufficiently cater the power requirement of the whole state for the next 20 – 30 years. As the work is being monitored personally by the Hon'ble Chief Minister, Manipur and with the co-ordination of district administrations and police, he hoped that the transmission line would be completed soon.

Agenda II: Determination of Retail Tariff for MSPDCL and Transmission Tariff for MSPCL, Manipur for FY 2015 - 16.

The Chairman informed the committee members that the main agenda for the meeting was to obtain the views and comments on the above agenda. With the permission of the Chair, the Executive Director (Technical), MSPDCL explained the brief outline of their Tariff Petition and the reason why the Corporation requires to submit the petition. He also added that with more power to be procured from outside, Manipur will be getting a regular supply of power. And for this the Corporation has put forward a proposal of Rs. 372.46 crores for FY 15 – 16 against the last year power purchase cost of Rs. 279.55 crores. He also stated that the expected support from the Government of Manipur is Rs. 211.91 crores and informed the Committee Members that the Government of Manipur is giving a huge support to the Corporation.

Mr. S. Rishikumar Singh, President, All Manipur Entrepreneurs Association stated that the Corporation needs to improve their services much and that they need to attend complaints of the consumers promptly. He also cited his own personal experience where-in his complaints was not attend properly even in spite of the intervention of the Executive Director (Tech.) and stated that the Corporation should be customers - centric and they should maintain proper complaint redressal mechanism within the Corporation. He concluded that he is not against the hike in Tariff but with the condition that the Corporation should give regular power supply to all consumers and urgently rectify the complaints of the consumers. Interacting to this issue Er. N. Sarat Singh, Managing Director, MSPCL stated that the loss of the revenue is mostly from the commercial side

and that there is not much technical loss in the main holding company with the co-operation from the public and installation of prepaid meters, he hoped that this commercial loss also will be plugged soon.

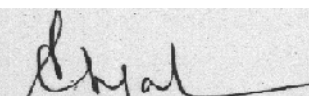
Mr. E.Dolendro Singh, Advisor, All Manipur Consumers' Association highlighted the problems of the consumers where even the prepaid meters installed are not working properly and enquired whether the Corporation has any meter testing mechanism before supplying it to the consumers and also enquired how on the prepaid meters tariff slab could be billed. Replying to the query, the Corporation stated that there is an inbuilt programme where there is no problem on billing of tariff slab even if a new tariff is issued by the Commission. And also added that the prepaid meters are not working properly on low voltage problem and the Corporation is on a look out to solve this serious issue.

Mr. S. Rishikumar again added that the Corporation Officers and staff needs to have a cordial relation with their customers and only with the co-operation from the public the company can work efficiently.

Mr. L. Sadananda Singh, General Secretary, Senior Citizen for Society also added that with the on-going 400 kV transmission line likely to be commissioned very soon and with the personal supervision by the Hon'ble Chief Minister, Manipur and with the availability of more power from outside he expects a better power supply and with this, he agrees to the proposed tariff hike.

The Committee recommends the proposed hike on the Tariff Petition of MSPDCL and Transmission Tariff of MSPCL FY 15 – 16 unanimously.

The Meeting ends at 12 :45 PM with a vote of thanks from the Chair.



(A. CHHAWNMAWIA)
Chairperson

**LIST OF PERSONS WHO ATTENDED 15TH SAC OF MANIPUR MEETING HELD
ON 19TH FEBRUARY, 2015, HOTEL IMPHAL CONFERENCE HALL, IMPHAL**

Sl No.	Name	Designation / Profession
1.	Mr. A. Chhawnmawia, IDES (Rtd.)	Chairperson, JERC (M&M)
2.	Mr. Th. Saratkumar Singh	Director Industries Department
3.	Mr. Ng. Chittaranjan Singh	S.O. MANIREDA
4.	Mr. L. Sadananda Singh	General Secretary, Sr. Citizens for Society, Manipur
5.	Mr. Elangbam Dolendra Singh	Advisor, All Manipur Power Consumers' Association
6.	Mr. S. Rishikumar Singh	President, All Manipur Entrepreneurs' Association
7.	Mr. P. Arunkumar Singh	President, Consumers' Club, Imphal
8.	Dr. Chongtham Narendra Singh	Advocate, Former President, District Consumer Redressal Forum, Imphal
9.	Mr. G. Khupchinpau	Advocate, New Lamka, Churachandpur District, Manipur
10.	Er. N. Sarat Singh	Managing Director, MSPCL
11.	Mr. Richard Zothankima	Asst. Secretary, JERC (M&M)
12.	Er. H.Thanthianga	Asst. Chief (Engg), JERC (M&M)
13.	Er. L. Pachuau	Chief (Engg), JERC (M&M)
14.	Mr. L. Chandrakumar Singh	Member, Consumer District Forum
15.	Er. Kh. Khamba Singh	General Manager, EC No-I, MSPDCL

16.	Er. L. Joychandra Singh	General Manager, EC-III, MSPDCL
17.	Mr. Piyush Lohia	Consultant, PWC
18.	Er. Th. Aton Singh	General Manager, EC-II
19.	Ms. Rinita Keisham	General Manager (F&A)
20.	Ms. N. Purnima	Commercial Supervisor, MSPDCL
21.	Mr. L. Birdas Singh	Company Secretary, MSPDCL
22.	Er. Kh. Umakanta Singh	Asst. Manager, MSPCL
23.	Er. Pamching Lungleng	General Manager, Commercial
24.	Er. Th. Gokulchand Singh	Dy. General Manager-I, MSPCL
25.	Er. S.Chandradhaja	Dy. General Manager, MSPCL
26.	Er. Ranjan W	Dy. Manager, MSPCL
27.	Er. A. Birendra Kumar	Dy. General Manager, MSPCL
28.	Er. I. Sarat Singh	Dy. General Manager (Comm- Tariff)
29.	Er. Ng. Birjit Singh	General Manager, Transmission, MSPCL
30.	Er. M. Jadumani Singh	OSD (Planning) MSPCL
31.	Er. Ng. Subhachandra Singh	General Manager (Store & Purchase) MSPCL
32.	Er. K. Jila Singh	General Manager (PPP), MSPDCL
33.	L. Priyokumar	Executive Director (Technical) MSPDCL

LIST OF PERSONS WHO ATTENDED PUBLIC HEARING ON ARR & TARIFF PROPOSAL FOR FY 2015-16**IN RESPECT OF MSPDCL, MANIPUR ON 20.02.2015, CONFERENCE HALL OF HOTEL IMPHAL,****IMPHAL FROM 1:00 PM – 3:00 PM**

Sl No.	Name	Designation / Profession
1.	Mr. E. Dolendra Singh	Advisor, AMPCA
2.	Mr. S.Chaoba Singh	President, AMPCA
3.	Mr. K. Sanatomba	Gen. Secretary, AMPCA
4.	Mr. Piyush Lohia	Consultant, PWC
5.	Er. Pamching Lungleng	Gen. Manager (Commercial)
6.	Er. I. Sarat Singh	Dy. Gen. Manager (Commercial-Tariff)
7.	Er. L. Badalkumar Singh	Dy. Manager, Commercial
8.	Er. K. JiLa Singh	Gen. Manager (PPP)
9.	Mr. TH. Ngouba Singh	Exe. Director, OKH-TRUST
10.	Er. L. Priyo kumar	Executive Director, MSPDCL
11.	Er. Kh. Khamba Singh	Gen. Manager, EC-I, MSPDCL
12.	Er. Th. Aton Singh	Gen. Manager, EC-II, MSPDCL
13.	Ms. N. Purnima	Commercial Supervisor
14.	Mr. KH. Raina	Dy. Manager (Com), IED-I
15.	Er. L. Pachuau	Chief (Engg.) JERC (M&M)
16.	Mr. Richard Zothankima	Asst. Secretary, JERC (M&M)
17.	Er. H.Thanthianga	Asst. Chief (Engg.) JERC (M&M)
18.	Mr. Y. Satyanarayana	Consultant (ASCI), JERC(M&M)

2014-15

Scheduling Loss Percentage for ER Transmission System

Week	FROM DATE	TO DATE	Update Date	SEM Loss %	APPLICABLE PoC LOSS %		
					High	Normal	Low
1	31 March 2014	06 April 2014	28 March 2014	2.08	1.34	1.04	0.74
2	07 April 2014	13 April 2014	04 April 2014	2.10	1.35	1.05	0.75
3	14 April 2014	20 April 2014	11 April 2014	1.92	1.26	0.96	0.66
4	21 April 2014	27 April 2014	18 April 2014	2.06	1.33	1.03	0.73
5	28 April 2014	04 May 2014	25 April 2014	1.84	1.22	0.92	0.62
6	05 May 2014	11 May 2014	02 May 2014	1.94	1.27	0.97	0.67
7	12 May 2014	18 May 2014	09 May 2014	2.36	1.48	1.18	0.88
8	19 May 2014	25 May 2014	16 May 2014	2.08	1.34	1.04	0.74
9	26 May 2014	01 June 2014	23 May 2014	1.92	1.26	0.96	0.66
10	02 June 2014	08 June 2014	30 May 2014	2.08	1.34	1.04	0.74
11	09 June 2014	15 June 2014	06 June 2014	2.20	1.40	1.10	0.80
12	16 June 2014	22 June 2014	13 June 2014	2.04	1.32	1.02	0.72
13	23 June 2014	29 June 2014	20 June 2014	2.12	1.36	1.06	0.76
14	30 June 2014	06 July 2014	27 June 2014	2.02	1.31	1.01	0.71
15	07 July 2014	13 July 2014	04 July 2014	1.96	1.28	0.98	0.68
16	14 July 2014	20 July 2014	11 July 2014	2.28	1.44	1.14	0.84
17	21 July 2014	27 July 2014	18 July 2014	1.90	1.25	0.95	0.65
18	28 July 2014	03 August 2014	25 July 2014	2.24	1.42	1.12	0.82
19	04 August 2014	10 August 2014	01 August 2014	1.98	1.29	0.99	0.69
20	11 August 2014	17 August 2014	08 August 2014	1.94	1.27	0.97	0.67
21	18 August 2014	24 August 2014	14 August 2014	2.26	1.43	1.13	0.83

22	25 August 2014	31 August 2014	22 August 2014	2.22	1.41	1.11	0.81
23	01 September 2014	07 September 2014	29 August 2014	2.10	1.35	1.05	0.75
24	08 September 2014	14 September 2014	05 September 2014	2.30	1.45	1.15	0.85
25	15 September 2014	21 September 2014	12 September 2014	2.34	1.47	1.17	0.87
26	22 September 2014	28 September 2014	19 September 2014	2.20	1.40	1.10	0.80
27	29 September 2014	05 October 2014	26 September 2014	2.40	1.50	1.20	0.90
28	06 October 2014	12 October 2014	03 October 2014	2.36	1.48	1.18	0.88

MAX :2.36% MIN

:1.84%

AVG: 2.12%

Annexure-IV

2013-14			
Week No.	WEEK		% loss
	From	To	
1	01-04-2013	07-04-2013	3.3
2	08-04-2013	14-04-2013	3.3
3	15-04-2013	21-04-2013	3.2
4	22-04-2013	28-04-2013	2.8
5	29-04-2013	05-05-2013	3.8
6	06-05-2013	12-05-2013	3.4
7	13-05-2013	19-05-2013	3.3
8	20-05-2013	26-05-2013	2.4
9	27-05-2013	02-06-2013	2.8
10	03-06-2013	09-06-2013	2.6
11	10-06-2013	16-06-2013	1.8
12	17-06-2013	23-06-2013	2.4
13	24-06-2013	30-06-2013	2.9
14	01-07-2013	07-07-2013	2.5
15	08-07-2013	14-07-2013	2.7
16	15-07-2013	21-07-2013	2.9
17	22-07-2013	28-07-2013	3.0
18	29-07-2013	04-08-2013	2.2
19	05-08-2013	11-08-2013	3.5
20	12-08-2013	18-08-2013	2.6
21	19-08-2013	25-08-2013	2.2
22	26-08-2013	01-09-2013	2.8
23	02-09-2013	08-09-2013	3.4
24	09-09-2013	15-09-2013	2.4
25	16-09-2013	22-09-2013	3.4
26	23-09-2013	29-09-2013	2.5
27	30-09-2013	06-10-2013	2.3
28	07-10-2013	13-10-2013	2.5
29	14-10-2013	20-10-2013	3.0
30	21-10-2013	27-10-2013	2.7
31	28-10-2013	03-11-2013	2.6
32	04-11-2013	10-11-2013	3.0
33	11-11-2013	17-11-2013	3.2
34	18-11-2013	24-11-2013	2.6
35	25-11-2013	01-12-2013	2.5
36	02-12-2013	08-12-2013	2.7
37	09-12-2013	15-12-2013	2.7
38	16-12-2013	22-12-2013	2.7
39	23-12-2013	29-12-2013	2.8
40	30-12-2013	05-01-2014	2.9
41	06-01-2014	12-01-2014	3.3
42	13-01-2014	19-01-2014	3.6
43	20-01-2014	26-01-2014	3.4
44	27-01-2014	02-02-2014	3.4
45	03-02-2014	09-02-2014	3.6
46	10-02-2014	16-02-2014	3.7
47	17-02-2014	23-02-2014	4.0
48	24-02-2014	02-03-2014	4.0
49	03-03-2014	09-03-2014	3.6
50	10-03-2014	16-03-2014	3.6
51	17-03-2014	23-03-2014	3.5
52	24-03-2014	30.03.2014	3.7
52 Week Average Loss:		2.99%	
Total ISGS + IR:		8271 MU	
Total Loss:		243 MU	

Manipur - Expected Revenue from Existing Tariff effective from 01.04.2014

Sl. No.	Category	Consumers	Connected Load (in kW)	Annual energy Sales (in MU)	Sales/Consumer/Month (in kWh)	Revised Tariff		Revenue /month				Annual Revenue (in Rs lakh)	Av.realisation (Rs/kWh)
						Fixed Charge (Rs/kW)	Energy charge (Rs./kWh)	Total Fixed Charges (in Rs lakh)	Energy charge /Consumer(in Rs)	Total energy charge (in Rs lakh)	Total Revenue (in Rs lakhs)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Domestic												
1)	KJ												
i)	First 15 kWh	18000		3.00	13.89		1.00		13.89	2.50			
iii)	Balance above 15 kWh	2273		7.00	256.64		1.50		377.46	8.58			
	Sub Total KJ	20273	1783	10.00	41.11	20/connectn		4.05	391.35	11.08	15.13	181.56	1.82
2)	Normal Domestic LT												
i)	First 100 kWh	135000		135.00	83.33		2.80		233.32	314.98			
ii)	Next 100 kWh	35000		83.00	197.62		3.40		611.91	214.17			
iii)	Next 100 kWh	20000		53.00	220.83		4.10		705.40	141.08			
iv)	Balance above 300 kWh	14601		46.00	262.54		4.60		857.68	125.23			
	Sub Total LT	204601	301017	317.00	129.11	60		180.61	2408.31	795.46	976.07	11712.84	3.69
	Total Domestic	224874	302800	327.00	121.18			184.66	2799.66	806.54	991.20	11894.40	3.64
2	Commercial												
a)	LT												
i)	First 100 kWh	5500		6.00	90.91		3.80		345.46	19.00			
ii)	Next 100 kWh	3500		8.00	190.48		4.50		787.16	27.55			
iii)	Next 100 kWh	1600		5.75	299.48		5.10		1337.35	21.40			
iv)	Balance above 300 kWh	1707		30.25	1476.76		5.60		7929.86	135.36			
	Sub Total LT	12307	32158	50.00	338.56	80		25.73	10399.83	203.31	229.04	2748.48	5.50
b)	Commercial HT	10	4000	8.00	66666.67	100	5.40	4.00	360000.02	36.00	40.00	480.00	6.00
	Total Commercial	12317	36158	58.00	392.41			29.73	370399.85	239.31	269.04	3228.48	5.57
3	Public Lighting	380	1130	7.00	1535.09	60	4.90	0.68	7445.19	28.29	28.97	347.64	4.97
4	Public Water Works												
a)	PWW LT	10	200	10.00	83333.33	100	4.90	0.20	408333.32	40.83	41.03	492.36	4.92
b)	PWW HT	170	21924	30.00	14705.88	100	4.60	21.92	67647.05	115.00	136.92	1643.04	5.48
	Total PWW	180	22124	40.00	18518.52			22.12	475980.37	155.83	177.95	2135.40	5.34
5	Irrigation & Agri												
a)	Irr. & Agl LT	40	200	4.00	8333.33	60	2.90	0.12	24166.66	9.67	9.79	117.48	2.94
b)	Irr. & Agl HT	23	1595	8.00	28985.51	100	2.70	1.60	78260.88	18.00	19.60	235.20	2.94
	Total Irr. & Agl LT	63	1795	12.00	15873.02			1.72	102427.54	27.67	29.39	352.68	2.94
6	Industrial												
a)	Micro & Small LT	2898	16074	20.00	575.11	60	2.90	9.64	1667.82	48.33	57.97	695.64	3.48
b)	Medium HT	29	7857	3.00	8620.69	100	3.80	7.86	32758.62	9.50	17.36	208.32	6.94
c)	Large HT	44	2616	20.00	37878.79	100	4.40	2.62	166666.68	73.33	75.95	911.40	4.56
	Total Industrial	2971	26547	43.00	1206.10			20.12	201093.12	131.16	151.28	1815.36	4.22
7	Bulk Supply HT	965	56731	191.00	16493.96	100	3.90	56.73	64326.44	620.75	677.48	8129.76	4.26
	Grand Total	241750	447285	678.00	233.71			315.76	1224472.17	2009.55	2325.31	27903.72	4.12

Manipur - Expected Revenue from Revised Tariff effective from 01.04.2015

Sl. No.	Category	Consumers	Connected Load (in kW)	Annual energy Sales (in MU)	Sales/Consumer/Month (in kWh)	Revised Tariff		Revenue /month				Annual Revenue (in Rs lakh)	Av.realisation (Rs/kWh)
						Fixed Charge (Rs/kW)	Energy charge (Rs./kWh)	Total Fixed Charges (in Rs lakh)	Energy charge /Consumer(in Rs)	Total energy charge (in Rs lakh)	Total Revenue (in Rs lakhs)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Domestic												
1)	KJ												
i)	First 15 kWh	18000		3.00	13.89		1.00		13.89	2.50			
iii)	Balance above 15 kWh	2273		7.00	256.64		1.50		377.46	8.58			
	Sub Total KJ	20273	1783	10.00	41.11	20/connection		4.05	391.35	11.08	15.13	181.56	1.82
2)	Normal Domestic LT												
i)	First 100 kWh	135000		135.00	83.33		2.90		241.66	326.24			
ii)	Next 100 kWh	35000		83.00	197.62		3.50		631.67	221.08			
iii)	Balance above 200 kWh	34601		99.00	238.43		4.40		809.09	279.95			
	Sub Total LT	204601	301017	317.00	129.11	60		180.61	1682.42	827.27	1007.88	12094.56	3.82
	Total Domestic	224874	302800	327.00	121.18			184.66	2073.77	838.35	1023.01	12276.12	3.75
2	Commercial												
a)	LT												
i)	First 100 kWh	5500		6.00	90.91		3.90		354.55	19.50			
ii)	Next 100 kWh	3500		8.00	190.48		4.65		810.73	28.38			
iii)	Balance above 200 kWh	3307		36.00	907.17		5.50		4744.44	156.90			
	Sub Total LT	12307	32158	50.00	338.56	80		25.73	5909.72	204.78	230.51	2766.12	5.53
b)	Commercial HT	10	4000	8.00	66666.67	100	5.40	4.00	360000.02	36.00	40.00	480.00	6.00
	Total Commercial	12317	36158	58.00	392.41			29.73	365909.74	240.78	270.51	3246.12	5.60
3	Public Lighting	380	1130	7.00	1535.09	65	5.15	0.73	7828.96	29.75	30.48	365.76	5.23
4	Public Water Works												
a)	PWW LT	10	200	10.00	83333.33	100	5.15	0.20	429166.65	42.92	43.12	517.44	5.17
b)	PWW HT	170	21924	30.00	14705.88	90	4.85	19.73	71323.52	121.25	140.98	1691.76	5.64
	Total PWW	180	22124	40.00	18518.52			19.93	500490.17	164.17	184.10	2209.20	5.52
5	Irrigation & Agri												
a)	Irr. & Agl LT	40	200	4.00	8333.33	60	3.05	0.12	25416.66	10.17	10.29	123.48	3.09
b)	Irr. & Agl HT	23	1595	8.00	28985.51	100	2.85	1.60	82608.70	19.00	20.60	247.20	3.09
	Total Irr. & Agl LT	63	1795	12.00	15873.02			1.72	108025.36	29.17	30.89	370.68	3.09
6	Industrial												
a)	Micro & Small LT	2898	16074	20.00	575.11	65	3.05	10.45	1754.09	50.83	61.28	735.36	3.68
b)	Medium HT	29	7857	3.00	8620.69	100	4.00	7.86	34482.76	10.00	17.86	214.32	7.14
c)	Large HT	44	2616	20.00	37878.79	100	4.65	2.62	176136.37	77.50	80.12	961.44	4.81
	Total Industrial	2971	26547	43.00	1206.10			20.93	212373.22	138.33	159.26	1911.12	4.44
7	Bulk Supply HT	965	56731	191.00	16493.96	100	4.20	56.73	69274.63	668.50	725.23	8702.76	4.56
	Grand Total	241750	447285	678.00	233.71			314.43	1265975.85	2109.05	2423.48	29081.76	4.29