



# **TARIFF ORDER**

**TRUE UP FOR FY 2021-22**

**REVIEW FOR FY 2022-23**

**AND**

**DETERMINATION OF AGGREGATE REVENUE REQUIREMENT**

**FOR 3<sup>rd</sup> MYT PERIOD FY2023-24 TO FY2027-28**

**&**

**RETAIL TARIFF FOR FY 2023-24**

**FOR**

**POWER & ELECTRICITY DEPARTMENT**

**GOVERNMENT OF MIZORAM**

**Petition (ARR & Tariff) No. 5 of 2022**

**JOINT ELECTRICITY REGULATORY COMMISSION**

**FOR MANIPUR AND MIZORAM**



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**ABBREVIATIONS**

<b>Abbreviation</b>	<b>Description</b>
A&G	Administrative and General
AAD	Advance Against Depreciation
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CWIP	Capital Work in Progress
DPS	Delayed Payment Surcharge
E.Act 2003	Electricity Act, 2003
FSA	Fuel Surcharge Adjustment
FY	Financial Year
GFA	Gross Fixed Assets
GOI	Government of India
HT	High Tension
IEGC	Indian Electricity Grid Code
IEX	Indian Energy Exchange
IR	Inter-Regional
ISGS	Inter State Generating Station
JERC	Joint Electricity Regulatory Commission for Manipur and Mizoram
kV	Kilovolt
kVA	Kilovolt-Ampere
kVAh	Kilovolt-Ampere hours
kW	kilowatt
kWh	kilowatt-hour
LT	Low Tension
MAT	Minimum Alternate Tax
MDI	Maximum Demand Indicators
MUs	Million Units
MYT	Multi Year Tariff
NEEPCO	North Eastern Electric Power Corporation
NHPC	National Hydro Electric Power Corporation
NLDC	National Load Despatch Centre
NTI	Non-Tariff Income
NTPC	National Thermal Power Corporation
O&M	Operation and Maintenance
P&ED	Power & Electricity Department, Mizoram
PGCIL	Power Grid Corporation of India Ltd
PLF	Plant Load Factor
PLR	Prime Lending Rate
POSOCO	Power System Operation Corporation Limited
PPA	Power Purchase Agreement

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<b>Abbreviation</b>	<b>Description</b>
PWW	Public Water Works
R&M	Repair and Maintenance
RAPDRP	Restructured Accelerated Power Development and Return Program
RE	Revised Estimate
R&M	Repairs & Maintenance
RoE	Return of Equity
RPO	Renewable Purchase Obligation
RTS	Roof Top Solar
SBAR	State Bank Advance Rate
SLDC	State Load Despatch Centre
T&D	Transmission and Distribution
UI	Unscheduled Interchange
YOY	Year On Year

**JOINT ELECTRICITY REGULATORY COMMISSION FOR MANIPUR AND MIZORAM**

**E18, TBL Bhawan, 2<sup>nd</sup> to 5<sup>th</sup> Floor, Peter Street,  
Khatla, Aizawl, Mizoram – 796001**

**Petition (ARR & Tariff) No. 5 of 2022**

In the matter of

True up for FY2021-22, Annual Performance Review for FY 2022-23 and Determination of Aggregate Revenue Requirement (ARR) for 3<sup>rd</sup> MYT Control period from FY 2023-24 to FY2027-28, Wheeling Tariff and Retail supply Tariff for FY 2023-24 for P&ED, Mizoram.

**FOR**

Power & Electricity Department, Government of Mizoram .....**Petitioner**  
(here in after referred to as P&ED)

**Present**

**Mr. LALCHHARLIANA PACHUAU**  
**CHAIRPERSON**

**Mr. R. THANGA**  
**MEMBER**

**ORDER**

1. The Power and Electricity Department, Government of Mizoram (herein after referred to as P&ED (Mizoram or Petitioner) is a deemed licensee in terms of section-14 of the Electricity Act 2003 (hereinafter referred to as Act), engaged in the business of generation, transmission and distribution of electricity in the State of Mizoram.

**Regulation-17** of the JERC (M&M) (MYT) Regulations, 2014 specify that the distribution licensee shall file ARR and Tariff Petition with all relevant data along with requisite fee as specified in Commission's Fees, Fines and Charges Regulations on or before 30th November of the preceding year. As per the directive of the Commission, the P&ED Mizoram has filed the ARR and Tariff Petition for true up for FY 2021-22 and Annual Performance review for FY 2022-23 and determination of

ARR for 3<sup>rd</sup> MYT Control period of FY 2023-24 to 2027-28, wheeling tariff and retail supply tariff for FY 2023-24 vide letter No.T.23012/01/20-EC(P)/Com/27, Dt. **12<sup>th</sup> January 2023**.

## 2. ARR and Tariff Petition for 3<sup>rd</sup> MYT control period from FY2023-24 to FY2027-28

P&ED, being an integrated utility and functioning as an undivided power entity, which is responsible for three activities such as Generation, Transmission, and Distribution of electricity in the State of Mizoram and also discharging trading functions through its State Load Despatch Centre (SLDC).

The P&ED has filed the MYT Petition for determination of ARR and tariff petition for 3<sup>rd</sup> control period of 5 years from FY 2023-24 to FY 2027-28 along with true-up petition for FY2021-22 and Annual Review Petition for FY2022-23. In the petition P&ED estimated ARR and projected a gap of Rs. 184.08 Crores for FY 2023-24 at the prevailing Tariffs and with the additional revenue yielding expected due to proposed tariff revision of 3.15% amounts to Rs.12.61crs making the above deficit to get reduced to Rs. 171.47 Crores as per its ARR retail supply tariff filings, which is done in anticipation to be mitigated by Govt. subsidy U/s 65 of E.Act 2003 amount of Rs.171.47Crs during FY2023-24, while in the last year FY 2022-23, Govt. subsidy needed was determined at as Rs.109.22Crs in Tariff Order and same was revised in their APR by P&ED to have decreased to Rs.69.20Crs only based on their expenditure projection. As per the present submission the ARR projected for various years under 3<sup>rd</sup> MYT control period is as follows:

	(Rs in Crores)				
Year	2023-24	2024-25	2025-26	2026-27	2027-28
Aggr. Revenue Requirement	583.96	649.70	719.35	793.38	871.41
Revenue from Retail Sales	399.87	419.49	440.08	461.72	484.44
<b>Gap/Deficit</b>	<b>184.08</b>	<b>230.21</b>	<b>279.27</b>	<b>331.66</b>	<b>386.97</b>

## 3. Admission of Petition and Public Hearing Process

The Commission observed that the ARR filed by the petitioner was incomplete and requires lacking crucial and vital information as was specified in Commission's (MYT) Regulations 2014.

Subsequently, the P&ED was asked to submit the required additional information vide Commission's letter No.H.20013/41/22-JERC, Dt. 24.01.2023. Pending receipt of additional information, the ARR and Tariff Petition was admitted on **27.01.2023** and marked as Petition (ARR & Tariff) **No. 5 of 2022**. in order to avoid delay in processing of ARR submission and directed the P&ED to publish the summary of the ARR and Tariff proposal in an abridged form and manner as approved in accordance with section-64 of the Electricity Act 2003 to ensure public participation vide Commission's letter No.H.20013/41/22-JERC, dt: 27.01.2023. The P & ED department submitted its replies to the additional information vide their Letter No.T-23012/02/22-EC(P)/**Com/31**, dt: 02.02.2023 and letter No.T-23012/02/22-EC(P)/**Com/47**, dt: 13.03.2023.

The notification of the proposed ARR and the proposed Tariff schedule for FY 2023-24 was published by the P&ED in the following newspapers.

Sl. No	Name of News paper	Language	Date of publication
1	Newslink	English	3 <sup>rd</sup> & 4 <sup>th</sup> February 2023
2	Vanglaini	Mizo	3 <sup>rd</sup> & 4 <sup>th</sup> February 2023

Through the public notice, the stakeholders/general public was invited to file their objections and suggestions on the petition on or before **21-02-2023**.

#### 4. Notice for Public Hearing:

The Commission, to ensure transparency in the process of determination of ARR and tariffs for 2022-23 and providing proper opportunity to all stakeholders and public in general and consumers for making suggestions/objections on the ARR and Tariff petition, has also decided to hold a public hearing at the headquarters of the state. Accordingly, a notification was published by the Commission in the following leading newspapers giving due intimation to all stakeholders, general public, interested parties, and consumers about the public hearing to be held at 11.00 AM onwards at Aijal Club, Tennis Court, Aizawl on **22.03.2022**.

Sl. No.	Name of News-paper	Language	Date of Publication
1	The Aizawl Post	Mizo	8th & 9 <sup>th</sup> March 2023.
2	Highlander	English	8th & 9 <sup>th</sup> March 2023.

5. **Public Hearing details:**

The transparency in Public hearing was maintained by Commission in the meeting held on 22.03.2023 in the Aijal Club, Tennis Court, Aizawl. During the public hearing each one of the objectors was provided with a time slot for presenting his/her views on the petition of P&ED, Mizoram before the Commission. The main issues raised by the objectors during the public hearing along with response of P&ED and Commission's comments there on are briefly reproduced in **Chapter - 4**.

6. **Meeting of State Advisory Committee (SAC)**

The proposal of the P&ED Mizoram was placed before the State Advisory Committee in its meeting held on 20-03-2023 in the Aijal Club, Tennis Court, Khatla, Aizawl and discussed the ARR for 3<sup>rd</sup> MYT control period FY 2023-24 to 2027-28 and wheeling & retail Tariff proposal for FY 2023-24 relating to P&ED, Mizoram. There were three objections from the members participated in the SAC meeting held on 20.03.2023 with regard to the upward revision of the existing tariff by the Commission for the FY 2023-24. The minutes of the SAC meeting held and the list of participants are placed at **Annexure - I** to this tariff Order of the Commission.

7. The Commission has reviewed the directives issued to the P&ED (the petitioner) in all the earlier Tariff orders from FY 2010-11 onwards to FY 2022-23 and noted that those directives felt complied with thoroughly are being dropped now while continuing the pending ones. The directives which were partly complied with and the remaining directives are now consolidated and fresh directives now felt required are being newly issued afresh.

8. In exercise of the powers vested under section 62(1) read with section 62(3) and 64 (3a) of the Electricity Act 2003 and Regulation 5.2 of JERC (M&M) MYT Regulations, 2014 (Notified on 09.06.2014) hereinafter referred to as "**Tariff Regulations 2014**", and other enabling provisions in this behalf, the Commission issues this order for truing up of the ARR and revenues for FY 2021-22 and Annual Performance Review for FY 2022-23 besides approving of the MYT Tariff Order for the 3<sup>rd</sup> control period from 2023-24 to 2027-28 with Wheeling charges and retail



supply business tariff for FY 2023-24 based on the submitted MYT & ARR filings for 3<sup>rd</sup> control period from FY 2023-24 to FY 2027-28 for electricity supply to retail consumers within the State of Mizoram, duly taking into consideration of the facts presented by P&ED Mizoram in its petition and in their subsequent filings in the form of additional data, suggestions/objections made by stake holders, consumer organizations, general public in the public hearings and also the minutes of the State Advisory Committee and the response of the P&ED Mizoram to the suggestions/objections as detailed below:

#### 9. True-up for FY 2021-22

The P&ED had submitted its true-up petition for FY 2021-22 together with approved audited annual accounts of FY 2021-22 by their Statutory Auditor issued on dt: 30.12.2022. The Commission, its Tariff Order dated 26.03.2021 had approved the net ARR for FY 2021-22 to be Rs. 478.11 Crs and it was revised in APR to Rs.558.96Crs in Tariff Order Dt 23.03.2022. With the actual figures furnished by the P&ED based on the audited annual accounts for FY 2021-22, the true-up calculation resulted in net ARR of Rs. 608.92Crs as against APR figure of Rs. 558.96 Crs and the revenue surplus arrived at was Rs.157.60Crs by commission upon considering the total Revenue subsidy amount of Rs. 367.31 crs. The P&ED claimed in its ARR filing a deficit Gap of Rs.155.92Crs by only considering Rs.82.96Crs. of Tariff Order indicated subsidy amount from state Government during FY 2021-22. The State Government during the year have released an additional revenue subsidy amount of Rs.284.3491 Crs (being the differential amount between 2021-22 to 2020-21 under **Revenue subsidies and grants from State Government of Schedule-33**) and Rs.82.96 Crs figure is considered from Schedule- 4 (Revenue Subsidies and Grants) of Audited Balance Sheet of FY 2021-22 duly certified by the Statutory Auditors of their Organisation. Thereby, upon adjusting the actual revenue subsidy of Rs.367.31Crs received from Government the above said revenue gap of the licensee (i.e., P&ED) results into a revenue surplus status to an amount of **Rs.157.60 Crs** which amount will be subjected to claw-back adjustment as per the provisions of the MYT Regulation 2014. As per Regulations 12.1(i) of the JERC for Manipur and Mizoram (MYT)

Regulation 2014 one-third ( $\frac{1}{3}^{\text{rd}}$ ) share of surplus amount of **Rs.49.72Cr**s is being passed on as rebate to the consumers in the ARR for FY 2023-24 and the **remaining ( $\frac{2}{3}^{\text{rd}}$ ) excess amount of Rs.99.45Cr**s would be allowed to be retained by the Licensee at its disposal to utilise it on their own accord.

#### 10. Annual Performance Review for FY 2022-23

The P&ED have submitted annual review petition for FY 2022-23 based on its revised estimate afresh. The Commission has reviewed the earlier approved net ARR of Rs. 494.88 Crs in its Tariff Order dated 23.03.2022 with due reference the P&ED now revised APR figure of net ARR to Rs.629.81Cr before adjusting for any realised revenue at existing tariff, outside state sales revenue and State Government revenue subsidy of Rs.109.22Cr it should have received during in 2022-23 financial year. But Commission with the available information had assessed the net ARR to be Rs.609.37Cr and its estimated revenue from all sources would be Rs.530.42Cr thus leaving a revenue gap of Rs.78.95Cr subject to consideration of Govt. subsidy amount they might have received actually. Hence, the Commission is not giving any opinion on the Gap status as it is too early to express right now.

#### 11. Aggregate Revenue Requirement & Retail Tariff for FY 2023-24

The P&ED have submitted ARR petition for FY 2023-24 for a gross ARR amount of Rs.782.34Cr and with net revenue gap of Rs. 184.08 Crs after adjusting for projected revenue realisation of Rs.598.25Cr (including surplus energy sales) but without any Government subsidy amount as it still under consideration on the amount of subsidy to be announce. The Commission after detailed examination and scrutiny had arrived at a net revenue gap of **Rs.98.30Cr**s adopting the existing tariff-based revenue along with two newly proposed categories such as HT Industrial-TOD, and Electric Vehicle Charging Station under LT & HT for introduction and revenue yield from Outside state Sales but before considering the Government subsidy. If the subsidy amount matches with the above gap, then the Costs would get break-even fully. The Govt of Mizoram had announced Tariff subsidy amount for FY 2023-24 a conditional subsidy amount to be derived

based on adopting 20.50% on the net ARR finalised subject to a ceiling limit of Rs.157.60Cr as per their **letter No.19018/9/2022-P&E, Dt.10.01.2023** is placed at **Annexure-VII** for reference.

12. This Order contains thirteen (13) chapters as detailed below:
1. Chapter 1: Introduction.
  2. Chapter 2: Summary of ARR for control period 2023-24 to 2027-28 and Tariff petition for FY 2023-24.
  3. Chapter 3: Power Sector in Mizoram - An over view.
  4. Chapter 4: Public hearing process.
  5. Chapter 5: True-up of ARR for FY2021-22.
  6. Chapter 6: Annual performance Review of ARR for FY 2022-23.
  7. Chapter 7: Analysis of ARR for FY 2023-24 and approvals of the Commission.
  8. Chapter 8: Tariff principles and design and determination of tariffs for FY2023-24.
  9. Chapter 9: Wheeling charges for FY 2023-24.
  10. Chapter 10: Fuel and Power purchase cost Adjustment.
  11. Chapter 11: ARR of Transmission Function and Transmission charges for FY2023-24.
  12. Chapter 12: ARR of Generation Function for FY2023-24.
  13. Chapter 13: Directives issued.
13. The P&ED should ensure implementation of the Order from the effective date after issuance of a public notice, in such a font size which is clearly & conspicuously visible in two daily newspapers having wider circulation with in the state within a week and submit in writing the compliance report of doing so to the Hon'ble Commission before the effective date itself.
14. This Order shall be effective from **1st April, 2023** and shall remain in force until the issue of next year's Tariff Order by this Commission.



(R. THANGA)  
MEMBER



(LALCHHARLIANA PACHUAU)  
CHAIRPERSON

**Place: Aizawl**

**Date: 28/03/2023**

## 1. Introduction

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

In exercise of the powers conferred as per Electricity Act 2003, (hereinafter referred to as Act) the Government of India has constituted 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 the States of Manipur and Mizoram. The powers and functions of the Commission are as prescribed in the Act. The head office of the Commission is presently located at Aizawl, the capital town of Mizoram. The Commission became functional w.e.f. 24th January, 2008.

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

- a). Determine the tariffs for generation, transmission, distribution of power supply whole sale/ bulk or retail and wheeling of electricity, as the case may be, within the State: Provided that where open access has been permitted to a category of consumers under Section-42, the State Commission shall determine the wheeling charges and surcharge thereon, if any, for the said category of consumers;
- b). Regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- c). Facilitate intra-State transmission and wheeling of electricity;

- d). Issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- e). Promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
- f). Adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;
- g). Levy fee for the purposes of this Act;
- h). Specify State Grid Code consistent with the Grid Standards specified under Clause (h) of sub-section (1) of Section 79 of the Act;
- i). Specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- j). Fix the trading margin in the intra-State trading of electricity, if considered, necessary;
- k). Discharge such other functions as may be assigned to it under the Act.

**1.1.1. Further, the Commission shall also advise the State Government on all or any of the following matters namely:**

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

**1.1.2. The State Commission shall ensure transparency while exercising its powers and discharging its functions.**

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

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

**1.2. Power & Electricity Department (P & ED) and Tariff Petition**

P&ED, being an integrated utility, is responsible for generation, Transmission and Distribution of electricity in the State of Mizoram and it also discharges trading functions through its SLDC. As per the Tariff regulations, the utility is required to submit the ARR and the Petition in the month of November for fixing the Tariff for the next financial year.

**The objectives of the P&ED are:**

- 1. Focuses on demand and distribution network growth.
- 2. Lays emphasis on metering to help reduce distribution losses (100% metering)
- 3. Focuses on metering to raise correct demand.
- 4. Focuses on collection of revenue to reduce commercial losses and improve cash flow.
- 5. Concentrated efforts into computerization of billing for efficient billing and in turn better and faster recovery.
- 6. Focuses on to arrest power theft and correct metering and energy audit to improve efficiency.





## 2. Summary of ARR & Tariff Petition of FY 2023-24 for 3rd MYT Control period

### 2.1. Aggregate Revenue Requirement (ARR)

The P&ED Mizoram, in its petition has projected the Aggregate Revenue Requirement (ARR) and Tariffs for FY 2023-24 and expected revenue with the existing tariffs and the resultant gap. The ARR and revenue gap are shown in Table below.

**Table 2.1: Aggregate Revenue Requirement projected by P & ED for MYT period FY 2023-24 to FY 2027-28**

		(Rs./ Cr)				
Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Cost of Power Purchase	479.70	508.49	539.14	571.47	606.12
2	Cost of Generation	12.68	13.29	13.94	14.63	15.36
3	Cost of Fuel	0.00	0.00	0.00	0.00	0.00
4	Operation & Maintenance Expenses	177.60	187.76	198.50	209.85	221.86
5	Transmission charges (CTU)	63.76	67.40	71.26	75.33	79.64
6	Intra- state Transmission Charges (STU)	58.50	61.63	64.94	68.90	72.61
7	Interest on Loan	0.14	0.00	0.00	0.00	0.00
8	Depreciation	1.67	1.55	1.37	1.33	1.27
9	Interest on Working Capital	8.74	8.84	8.95	9.06	9.18
10	Return on Equity	0.00	0.00	0.00	0.00	0.00
11	Prior period expenses	0.00	0.00	0.00	0.00	0.00
12	Provision for Bad Debt	0.00	0.00	0.00	0.00	0.00
13	Contribution to Contingency Reserve Fund	3.02	3.02	3.02	3.02	3.02
14	<b>Total Revenue Requirement</b>	<b>805.81</b>	<b>851.98</b>	<b>901.11</b>	<b>953.59</b>	<b>1009.06</b>
15	Less: Non-Tariff Income	8.48	8.96	9.47	10.02	10.59
16	Less: Efficiency Gains	15.00	15.00	15.00	15.00	15.00
17	Less: Revenue from units sold in Power-Exchanges	198.38	178.32	157.28	135.19	112.06
18	<b>Net Revenue Requirement (14-15-16-17)</b>	<b>583.96</b>	<b>649.70</b>	<b>719.35</b>	<b>793.38</b>	<b>871.41</b>

(Source: Table 3.28 of Petition)

### 2.2. Tariff

The P&ED, Mizoram in its petition has submitted the existing and proposed tariffs for the FY 2023-24 as detailed in the table below.

Table 2.2: Existing V/s. Proposed Tariff for FY 2023-24

Sl. No.	Consumer Category	Existing Tariff		Proposed Tariff	
		Energy Charge (Rs. /Month)	Fixed Charge (In Rs. ))	Energy Charge (Rs. /Month)	Fixed Charge (In Rs. ))
<b>1</b>	<b>Kutir Jyothi</b>				
i)	First 20 kWh	2.55/kWh	25/Connct	3.00kWh	30/Connct
ii)	All above 20 kWh	3.55/kWh	25/Connct	4.00/kWh	30/Connct
<b>2</b>	<b>Domestic</b>				
	<b>A.Low Tension</b>				
i)	First 100 kWh	4.90/kWh	50/CL/ kW	5.00/kWh	60/CL/ kW
ii)	Next 100 kWh	7.10/kWh	50/CL/ kW	7.40/kWh	60/CL/ kW
iii)	All above 200 kWh	8.20/kWh	50/CL/ kW	8.50/kWh	60/CL/ kW
	<b>B.High Tension</b>	8.65/kVAh	50/BD/ kVA	8.65/kVAh	60/BD/ kVA
<b>3</b>	<b>Non-Profit Public purpose (New) / Non-Domestic (previously)</b>				
	<b>A.Low Tension</b>				
i)	First 150 kWh	7.60/kWh	60/CL/ kW	8.30/kWh	75/CL/ kW
ii)	All above 150 kWh	8.30/kWh	60/CL/ kW		
	<b>B. High Tension</b>	8.75/kVAh	60/BD/ kVA	8.75/ kVAh	75/BD/ kVA
<b>4</b>	<b>Commercial</b>				
	<b>A.Low Tension</b>				
i)	First 150 kWh	8.20/kWh	80/CL/ kW	8.50/kWh	90/CL/ kW
ii)	All above 150 kWh	8.45/kWh	80/CL/ kW	8.50/kWh	90/CL/ kW
	<b>B. High Tension</b>	8.90/kVAh	80/BD/ kVA	9.10/kVAh	90/BD/ kVA
<b>5</b>	<b>Public Lighting</b>	11.35/kWh	80/CL/ kW	11.35/kWh	90/CL/ kW
<b>6</b>	<b>Irrigation &amp; Agriculture</b>				
	<b>A. Low Tension</b>	3.80/kWh	50/CL/ kW	4.70/kWh	50/CL/ kW
	<b>B. High Tension</b>	3.85/kVAh	50/BD/ kVA	4.80/kVAh	50/BD/ kVA
<b>7</b>	<b>Public Water Works</b>				
	<b>A. Low Tension</b>	11.10/kWh	90/CL/ kW	11.10/kWh	95/CL/ kW
	<b>B. High Tension</b>	9.85/kVAh	90/BD/ kVA	9.85/kVAh	95/BD/ kVA
<b>8</b>	<b>Industrial</b>				
A	<b>A. Low Tension</b>				
i)	First 400 kWh	7.10/kWh	80/CL/ kW	7.10/kWh	80/CL/ kW
ii)	All above 400 kWh	8.05/kWh	80/CL/ kW	7.10/kWh	80/CL/ kW
	<b>B. High Tension</b>				
	<b>Option-1 (Existing)</b>	9.05/kVAh	80/BD/ kVA	9.05/kVAh	80/BD/ kVA
	<b>Opt-2 (TOD-Introduced) – Newly to be Opted</b>			<b>For Opt-2</b>	<b>For Opt-2</b>
	i) Usage from 06.00Hrs upto 17.00Hrs (Normal)			10.05/kVAh	80/BD/ kVA
	ii) Usage from 17.00Hrs upto 22.00Hrs (Peak TOD)			11.55/kVAh	80/BD/ kVA
	iii) Usage from 22.00Hrs upto 06.00Hrs (Off-Peak TOD)			8.55/kVAh	80/BD/ kVA
<b>9</b>	<b>Bulk Supply</b>	6.85/kVAh	90/BD/ kVA	7.00/kVAh	95/BD/ kVA
<b>10.</b>	<b>Electric Vehicle Charging Station</b>				
	<b>A. LT category</b>	----	-----	8.20/kWh	75/CL/KW
	<b>B. HT Category</b>	----	-----	8.65/kVAh	75/BD/kVA

Note: (CL=Contracted Load ), (BD=Billing Demand), (Connct = Connection)

### 2.3. Prayer

- Approve True-up Petition for FY 2020-21 and APR for the FY 2021-22, ARR and Tariffs for FY 2022-23 in respect of distribution function, transmission function and generation function for P&ED, Mizoram formulated in

accordance with the guide lines out lined in the regulations of Joint Electricity Regulatory Commission (JERC) and the principles contained therein.

- Condone any inadvertent delay / omissions / errors / rounding off / differences / short comings and the P&ED may please be permitted to add / change / modify / alter the petition during its process.
- Permit P&ED, Mizoram to file additional data / information as may be necessary.
- Pass such further and other orders as the Hon'ble Commission may deem fit and proper keeping in view the facts and circumstances of the case.

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### 3. Power Sector in Mizoram - An Overview

#### 3.1. Geographical Reality

The P&ED, Mizoram is responsible for supply and distribution of electricity in the State of Mizoram which has a total area of 21087 Sq KM with eight districts, viz. Aizawl, Mamit, Kolasib, Champhai, Serchhip, Lunglei, Lawngtlai and Saiha. The State shares more than 700 Kms of international boundary with Bangladesh and Myanmar. The total population of Mizoram State is 10.92 Lakhs as per 2011 census. The per capita consumption is about **329.23 kWh during FY 2020-21**. The P&ED projects to serve about 2,75,294 consumers of various consumer categories during FY2022-23.

#### 3.2. Power supply

##### 3.2.1. Own Generation

P&ED has its own generating plants. The total installed capacity of the State-owned generating stations and the projected energy generated during FY2022-23 as furnished by P&ED is as in the Table below:

**Table 3.1: Own Generating Stations output proposed during FY2022-23**

Sl. No.	Station	Installed Capacity	Date of COD	Generation at 45% CUF	Auxl. Cons @1%	Net Energy
I	Small Hydelh	(MWs)	Date	(MU)	(MU)	(MU)
1	Serlui-A	1.00	24.04.84	3.942	0.039	3.903
2	Tuirivang --	0.30	14.08.89	1.183	0.012	1.171
3	Khawiva	1.05	08.12.88	4.139	0.041	4.098
4	Tuipui	0.50	15.12.91	1.971	0.020	1.951
5	Maicham-I	2.00	5.01.96	7.884	0.079	7.805
6	Teirei	3.00	12.10.99	11.826	0.118	11.708
7	Tuipanglui	3.00	17.12.04	11.826	0.118	11.708
8	Kau-Tlabung	3.00	05.05.05	11.826	0.118	11.708
9	Lamsial	0.50	26.08.08	1.971	0.020	1.951
10	Maicham-II	3.00	11.11.09	11.826	0.118	11.708
11	Tlawva	5.00	11.08.22	19.710	0.197	19.513
	<b>Sub-Total</b>	<b>22.35</b>		<b>88.105</b>	<b>0.881</b>	<b>87.224</b>
12	Serlui 'B'	12.00	In-Firm power	<b>14.00</b>	<b>0.46</b>	<b>13.53</b>
	<b>Total</b>	<b>34.85</b>		<b>102.105</b>	<b>1.341</b>	<b>100.754</b>

**Mini Hydel Stations maintained by Amazon Engineering on behalf of P&ED**

Sl. No.	Amazon Engineering	Installed Capacity	Actual in FY20-21	Projected in FY21-22	Proposed in FY22-23
I	Mini Hydel Stns	(MWs)	(MU)	(MU)	(MU)
1	Khawiva	1.05	1.46	1.38	4.098
2	Tuipui	0.50	1.01	0.64	1.951
3	Teirei	3.00	4.93	4.55	11.708
4	Kau-Tlabung	3.00	8.05	7.52	11.708
	Grand Total	7.55	15.45	14.09	29.465

P&ED has stated that they had now with the installed capacity of generation plants of 34.85 MWs which includes Lengpui diesel set. **The diesel generating set of 0.50 MW is for Lengpui Airport and the heavy fuel plant of 22.92 MW at Bairabi capacity are kept on standby mode for the purpose of meeting any emergency requirements only.** The rest are mini Hydel plants having seasonal generation. Of late in FY 2020-21, they have handed over four plants to M/s. Amazon Engineering company to manage the plants listed above separately to the extent of 7.55MWs consisting of Khawiva (1.05MW), Tuipui (0.50MW), Teirei (3MW) and Kau-Tlabung (3MW) SHP plants and these plants are still being managed by M/s. Amazon Engineering as per the Generation ARR petition submission made now. On ascertaining through additional information, it is noted that Serlui-A (1MW), Maicham-I (2MW), Tuipanglui (3MW) and Lamsial (0.50MW) totalling to 6.50 MW SHPs are not in operation and not generating any units in the past 3 years. Hence, plants effective in some power generation managed by P&ED is only 20.80MWs capacity including Lengpui diesel set and without considering the Bairabi 22,92MW heavy fuel plant. The Serlui-B (12MW capacity plant) is still due for Commissioned for various reasons relating to clearances issues. This plants PLF during 2021-22 is at 10.46% and in FY2022-23 its PLF has dropped to 3.469% during the 6 months period up to September 2022. **The Overall plant load factor adopted for all the State-Owned SHPs in FY2022-23 and for FY2023-24 to FY2027-28 is at 10.61% of total installed capacity as per the power procurement projection before accounting for 4% auxiliaries to arrive at**

**31.07 Mus net output.****3.2.2. Power Purchase**

The State mostly dependent upon outside state energy sources for meeting all its energy requirement. The State has got allocated share from Central Sector Generating Stations and total firm share from the Central Sector Generating Stations namely NEEPCO, NHPC and NTPC is 180.795 MW. Besides, the P&ED is also procuring TSECL power to a tune of 10.50 MW from NEC funded Baramura Gas based thermal power plant and OTPC power of 22 MW from Palatana Gas based power plant in Tripura state. Therefore, the total share allocation to Mizoram state from the generating stations outside the State is 213.293 MW as furnished by the P&ED is depicted in the Table below:

**Table 3.2: Available MW capacity share from All Generating Station sources****(in MW)**

Sl. No.	Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
<b>A</b>	<b>Central Generating Stations</b>			
<b>I</b>	<b>NTPC</b>			
1	Bongaigaon TPS	750.00	5.415	40.613
2	Farakka STPS	1600.00	0.142	2.272
3	Kahalgaon STPS	840.00	0.142	1.193
4	Talcher STPS	1000.00	0.142	1.420
	<b>NTPC-Total</b>	<b>4190.00</b>		<b>45.497</b>
<b>II</b>	<b>NHPC</b>			
1	Loktak HEP	105.00	5.020	5.271
	<b>NHPC-Total</b>	<b>105.00</b>		<b>5.271</b>
<b>III</b>	<b>NEEPCO</b>			
1	Kopili HEP	200.00	4.61	9.22
2	Kopili - II HEP	25.00	6.040	1.51
3	Khandong HEP	50.00	3.940	1.97
4	Ranganadi HEP	405.00	5.700	23.09
5	Doyang HEP	75.00	5.410	4.06
6	Pare HEP	110.00	5.765	6.34
7	Tuirial HEP	60.00	100.000	60.00
8	AGBPP	291.00	5.410	15.74
9	AGTPP	135.00	6.00	8.10
	<b>NEEPCO-Total</b>	<b>1351.00</b>		<b>130.027</b>
<b>IV</b>	<b>TSECL</b>			
1	B'mura - IV	21.00	25.000	5.25
2	B'mura - V	21.00	25.000	5.25
	<b>TSECL-Total</b>	<b>42.00</b>		<b>10.50</b>
<b>V</b>	<b>OTPC</b>			
1	Palatana	726.00	3.030	22.00
	<b>OTPC-Total</b>	<b>726.00</b>		<b>22.00</b>
<b>VI</b>	<b>Other Stations/IPPs</b>			

Sl. No.	Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
1	Power exchange through IEX			
	<b>Others-Total</b>			
<b>B</b>	<b>State generating Stations</b>			
1	All Units	34.85	100.000	34.85
	<b>State Generating Stations-Total</b>	<b>27.30</b>		<b>27.30</b>
	<b>Amazon Engineering (4HEPs)</b>	<b>7.55</b>	<b>100%</b>	<b>7.55</b>
<b>G</b>	<b>GRAND TOTAL</b>	<b>6448.85</b>		<b>248.14</b>

(Source: Format – F1 of ARR Petition)

The energy drawn from various Central Generating Stations and from Tripura state is given in Table below:

**Table 3.3: Energy drawal from Sources outside the State and Own Generation submitted by P & ED for FY 2021-22**

Sl. No	Energy Source	MU Purchased / generated (ex-bus)
<b>A</b>	<b>Central Generating Stations</b>	
<b>I</b>	<b>NTPC</b>	
1	Bongaigaon TPS	136.91
2	Farakka STPS	14.85
3	Kahalgaon STPS	8.37
4	Talcher STPS	9.90
	<b>NTPC-Total</b>	<b>170.04</b>
<b>II</b>	<b>NHPC</b>	
1	Loktak HEP	19.55
	<b>NHPC-Total</b>	<b>19.55</b>
<b>III</b>	<b>NEEPCO</b>	
1	Kopili HEP	0.00
2	Kopili - II HEP	0.67
3	Khandong HEP	10.52
4	Ranganadi HEP	65.09
5	Doyang HEP	4.97
6	Pare HEP	24.34
7	Tuirial HEP	115.75
	Free Power from Tuirial	15.78
8	AGBPP (Gas)	82.32
9	AGTPP (Gas)	46.05
	<b>NEEPCO-Total</b>	<b>365.49</b>
<b>IV</b>	<b>TSECL – Tripura State Electricity Corp Ltd.</b>	
1	Baramura – IV (Gas)	28.72
2	Bar'mura – V (Gas)	28.72
	<b>TSECL-Total</b>	<b>57.44</b>
<b>V</b>	<b>OTPC – ONGC Tripura Power Corporation</b>	
1	Palatana (Gas)	133.59
	<b>OTPC-Total</b>	<b>133.59</b>
<b>VI</b>	<b>Other Stations/IPPs</b>	
1	Amazon Engineering (4 HEPs stns of P&ED)	14.09



Sl. No	Energy Source	MU Purchased / generated (ex-bus)
2	Rooftop Solar generation	0.07
3	Solar Generation	2.32
	<b>Others-Total</b>	<b>16.48</b>
<b>B</b>	<b>State Own generating Stations</b>	
1	From all Generating Plants	11.80
	<b>State Generating Stations-Total</b>	<b>11.80</b>
<b>C</b>	<b>IEX power exchange purchases</b>	<b>1.54</b>
<b>D</b>	<b>UI / Deviation</b>	<b>2.05</b>
	<b>Total of C &amp; D</b>	<b>3.59</b>
	<b>GRAND TOTAL Energy (MU)</b>	<b>777.98</b>

(Source: Format F1 of Petition, page-15)

### 3.3. Transmission and Distribution

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

- i). 132kV S/C Jiribam (Manipur) – Aizawl
- ii). 132kV S/C Badarpur (Assam) – Aizawl
- iii). 132kV S/C Kumarghat (Tripura) – Aizawl

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

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

The details of transmission and distribution network, owned & operated by P&ED and furnished as on 31.03.2022 are given in Table below:

**Table 3.4: Network Details as on 31.03.2022**

Sl. No.	Particulars	FY 2021-22			
		At year beginning	Additions made	With-drawn services	At the end of year
1	<b>Length of lines (ckt-km)</b>				
	132 kV	870	7		877
	66 kV	111	0	18	93
	33 kV	1483	49	0	1532
	<b>11 kV</b>	5616	0	61	5555
	<b>LT</b>	3321	89	0	3410
	<b>Total</b>	<b>11401</b>	<b>145</b>	<b>79</b>	<b>11467</b>

Sl. No.	Particulars	FY 2021-22			
		At year beginning	Additions made	With-drawn services	At the end of year
2	Number of 33/11 kV substations	65	2	0	67
3	No. of Power Transformers (33/11 kV)	84	11	0	95
4	Total MVA capacity of Power Transformers	255	25	0	280
5	No. of Distribution Transformers	2837	0	497	2340
6	Total MVA capacity of Distribution Transformers	325	--	43	282
7	Number of consumer meters		-		
	LT (less than 0.5 accuracy class)	263343	11,279		274,622
	LT (better than 0.5 accuracy class)		-		
	HT (less than 0.5 accuracy class)	543	129		672
	HT (0.2 accuracy class)		-		
	HT (better than 0.2 accuracy class)		-		
	<b>Total</b>	<b>263886</b>	<b>11,408</b>	<b>0</b>	<b>275294</b>
5	Number of Interface meters				
	0.5 accuracy class	0	0	0	0
	0.2 accuracy class	0	0	0	0
6	Metered Sales (in MU)				
	a. Low Tension sale (LT)	305.465	30.158		335.623
	b. High Tension sale (HT)	133.010	0	7.867	125.143
	c. Extra High-Tension sale (EHT)	--			--
	<b>Total</b>	<b>438.475</b>	<b>30.158</b>	<b>7.867</b>	<b>460.766</b>
7	Metered Consumers (in Nos.)		-		
	a. Low Tension (LT)	263343	11279	0	274622
	b. High Tension (HT)	543	129	0	672
	c. Extra High Tension (EHT)		-		
	<b>Total</b>	<b>263,886</b>	<b>11,408</b>	<b>-</b>	<b>275,294</b>

### 3.4. Distribution losses

The distribution losses of P&ED system as filed were 29.45% during the year 2021-22 as against the approved Tariff Order Losses of 18.16% resulting in a deviation of 11.29%. The segregation of details between technical and commercial losses were not made available by P&ED anywhere in their ARR filing submission to examine.

### 3.5. Consumer profile and Energy sales

The consumers profile and corresponding energy sales during the year FY2020-21 are given in Table below:

**Table 3.5: Consumer Profile and Energy Sales for FY 2021-22 (Audited actuals)**

Sl. No.	Category	No. of Consumers	Connected Load (MW)	Sales (MU)
1(a)	Kutir Jyoti - LT	21,834	5.375	5.63
1(b)	Domestic - LT	2,31,040	303.815	276.95
1(c)	Domestic - HT	22	4.513	3.29

Sl. No.	Category	No. of Consumers	Connected Load (MW)	Sales (MU)
2(a)	Non-Domestic - LT	7,742	17.104	8.68
2(b)	Non-Domestic - HT	17	2.807	12.84
3(a)	Commercial - LT	12,646	42.471	35.10
3(b)	Commercial - HT	339	17.230	12.79
4	Public Lighting - LT	1,316	1.287	2.35
5(a)	Irrigation & Agriculture - LT	37	0.080	0.05
5(b)	Irrigation & Agriculture - HT	3	0.207	0.09
6(a)	Public Water Works - LT	11	0.959	6.20
6(b)	Public Water Works - HT	70	55.148	74.34
7(a)	Industrial - LT	1,023	11.676	2.54
7(b)	Industrial - HT	16	5.892	7.04
8	Bulk Supply - HT	176	17.466	15.97
9	Temporary Connection & Theft -	36	0.915	0.40
10	Outside State Sale - UI / Trading			90.15
	<b>GRAND TOTAL</b>	<b>276,328</b>	<b>486.945</b>	<b>554.43</b>

(Source: Form No: R1 of petition)

### 3.6. Demand

The allocation of power (firm and infirm) from various central generating stations, NEC funded Baramura Gas Based Thermal Power Plant and all others is 243.14 MW during FY 2021-22. The peak load demand of Mizoram state during the FY 2021-22 of P&ED department is 155.58MWs on 7.02.2022 and off-peak load is 30.9MWs occurred on 17.08.2021. Similarly, during FY2022-23 (provisional) the peak load was 159.12MWs on 19.01.2023 and Off-peak load was 31.57Mws happened on 3<sup>rd</sup> August 2022.

The energy procured by P&ED during the year **2021-22** was 777.98 MU including own net generation of 25.89MU. Within that Amazon Engineering supply of 14.09MU and 2.05MU of UI quantum deviations but excluding RPO obligation related energy purchases.



## 4. Public Hearing Process

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### 4.1. Introduction:

On admitting the MYT based ARR for FY2023-24 to 2027-28 and retail Tariff Petition for FY 2023-24, the Commission directed the P&ED to make available the copies of the petition to the general public, post the petition on their website and also publish the same in newspapers in abridged form and invite comments/objections/suggestions from them. Two (2) written objections were received from various consumers from general public.

### 4.2. Public Hearing:

In order to ensure transparency in the process of determination of tariff as envisaged in the Electricity Act, 2003, Public Hearing was held at Aizawl on 22.03.2023 as scheduled in the Aijal Club, Tennis Court, Tennis Court, Aizawl from 11:00 A.M. to 1:00 P.M. During the Public Hearing the participants from general public were given an opportunity to offer their views in respect of the ARR and Tariff Petition for FY 2023-24 of P&ED.

The list of stakeholders & general public who attended the Public Hearing is given in **Annexure-II**.

The Officers of P&ED who attended the Public Hearing have responded on the issues raised by the objectors during the hearing process.

### 4.3. Proceedings of Public Hearing:

The Commission received **two (2) written objections** within the stipulated time from the general public of P&ED consumers. The objector wise, response of the P & ED, Mizoram against each objection are furnished below.

**Objector-1:** Vanlalruata, B-13/1, Tuikual South, Aizawl

#### **Objections & Replies from P&ED:**

1. Employee cost of Rs.160.54 crore since on higher side as actual numbers of employees for transmission, distribution and generation cannot be segregated by P&E Department. Considering the maximum power demand and small

geographical area of the state it may be requested that employee cost may not be increased.

**Reply:** Power & Electricity Department is still functioning as a single integrated utility and hence the employee cost of Rs 160.54crores in Distribution ARR in the Tariff Petition for FY 2023-24 is the projection based on the actual data in the FY 2022-23 (April to September) and projected in accordance with the Regulation-89.6 of the JERC for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014 and same percentage had been adopted for Distribution, Transmission and Generation function as approved in the Tariff Order for FY 2014-15 issued by the Hon'ble JERC for Manipur & Mizoram. As we all know, power supply is being given uniformly to each and every place even the spread and remotest rural areas within the state of Mizoram through long power supply lines. The hardship of maintenance of such lines do not depend on maximum power demand of that area. Further, due to difference in nature of terrain, maintenance of power supply system in hilly areas and plain areas of same geographical area cannot be compared. Hence, maximum power demand and geographical cannot be considered as a major deciding factor affecting the strength of the employee.

Besides, the regular employees of P&ED being engaged under the state Government are entitled to enjoy annual increment of salary as per the Government norms that necessitate increase of employee cost projection every year.

2. Interest charge of Rs.0.14 crore may not be accepted as P&E Department is not company/corporation and it is purely Governmental Department.

**Reply:** The methodology for calculation of the Interest & Finance charges as provided in the Regulation-27 read with Regulations-22 of the JERC for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014 seems to be not applicable for State Government Department. That is why P&ED being purely Government Department has only considered the actual Loan availed through the State Government which are repayable for calculation of Interest & Finance charges. As such, inclusion of Rs 0.14crores projected as Interest charges in the Tariff petition for FY 2023-24 for the annual interest payable in respect of the Loans availed through State Government is considered justified.

3. Interest on working capital of Rs.8.74 crore cannot be accepted as P&E Department is purely Government Department and not company/corporation. They do not depend on working capital like those of company/corporation and is supported by government budget.

**Reply:** Interest on Working Capital of Rs 8.74 crores is the projection made in accordance with Regulation-29.4 of the JERC for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014. After the promulgation of Electricity (Late payment surcharge & related matters) Rules, 2022, the DISCOM is under constraint to release power purchase payment within 45 days and heavy penalty after 75 days of bill date including regulation of power. So, for immediate payment of power purchase bill, quick loans from Financial Institutions are earmarked.

4. Retail supply tariff proposed-Kutir Jyoti, Domestic, Non -Profit Public Purpose, Commercial, Irrigation & Agriculture, Public Water Works (PWW), Industrial Tariffs are proposed to be increase cannot be accepted as the cost of power purchase remain un-changed (PPA signed with Power Supplying Companies/Agents remained the same).

**Reply:** Under the existing Power Purchase Agreement (PPA) signed with the Power supplying companies/Agents, the quantum of energy purchased in reality under the allocated entitlement (firm and infirm allocation) from the Generating station with the corresponding cost of purchase varies from year to year depending upon actual generation of power. In addition, payment towards power purchase related supplementary arrear bills on account of truing up of tariff, FERV etc. as approved by the Hon'ble CERC and other payments like payment for UI/DSM etc. needs to be made sometimes as per the prevailing CERC Regulations in force. Hike of natural gas price by Ministry of Petroleum & Natural Gas for April – Sept 2022 and Sept 22 to March 23 drastically increased the energy cost rate of gas-based plant. Further, the Renewable Purchase Obligation (RPO) trajectory fixed by the Ministry of Power, Govt of India that increases from year to year is required to be complied with.

Hence projection for the cost of power purchase in the Tariff Petition have been made accordingly as mentioned above and on the basis of actual data in the past years.

5. Fixed Charges- The proposed increased in fixed charges Rs.25 to Rs.30/CL/KW for Kutir Jyothi, Rs.50 to Rs.60/CL/KW for domestic, Rs.60 to Rs.75/CL/KW for Non-Profit Purpose are difficult to accept. There is no

acceptable reasons and logics to increase as no further increase in expenditure on fixed charges by P&E Department.

**Reply:** The type of Electricity tariff adopted in Mizoram is Two part tariff comprising of Fixed Charge and Variable Charge. Fixed charge is generally meant for recovering basic cost of electric service and infrastructure used by consumer or it may be said as indirect rent for using lines and pole of electricity supplier. Further, fixed charge also takes part in the calculation of retail tariff and less fixed charge will results in higher energy charge (variable charge).

Hence P&ED takes a fixed charge on account of keeping the connection with the Department and proposal for increase of fixed charge for each category of consumer in the Tariff petition seems to be quite reasonable and justified.

**Objector-2:** Prof. CHAWNGSALOVA, President, **Mizoram Consumer Union**

#### **Objections & Replies by P&ED**

1. Format of Public Notice: The Public Notice relating to Multi Year Tariff for FY 2023-24 to FY 2027-28 is more detail than the Public Notice for Tariff Petition of FY 2022-23. If possible, the time for making objection may be made at least 25 days from the date of issue for advertisement.

**Reply:** Public Notice of Tariff Petition issued by P&ED is as directed by the Hon'ble JERC for Manipur & Mizoram and timeline for submission of objections is as per the directions of JERC (M&M)

2. Distribution Loss: The actual value of distribution loss in the True-up is 18.16%, effort is to be given to reduce distribution loss. It is mentioned that the loss is calculated based on transformer input and output. In the Tariff Petition for FY 2023-24 the distribution losses are projected for FY 2023-24- 17.73% , FY 2024-25 -17.63%, FY 2025-26 – 17.53%, FY 2026-27 – 17.43% and FY 2027-28- 17.33%. Is it possible to make planning to achieve all India AT&C loss of 15% within 3 years? What is the amount of the distribution loss in Rupees? As the losses are included in Tariff fixation, it is suggested to take effort to reduce it lower than 17%. The distribution loss of 110.07 MU for FY 2023-24 as shown in the advertisement may please be given in term of Rupees.

**Reply:** Distribution Loss is not only the difference between transformer input



and output, but is the difference in the amount of electricity available in the power distribution area of the State and the actual amount of energy received at the consumers door / meter reading etc expected to be sold to the consumers. Distribution Loss and AT&C Loss are not the same; however, with the implementation of Revamped Distribution Sector Scheme (RDSS) target plan for reducing AT&C Loss is under process. The Distribution loss 18.16% (104.10 MU) shown if by calculating with the same year average tariff the amount is Rs.69.85 crores.

As per the Tariff Petition, the amount of gap in required Aggregate Revenue Requirement (ARR) is expected from the Government. In case if the Government had not filled the revenue gap and full cost tariff is to be introduced, then the consumers would have suffered distribution loss. However, subsidized tariff is calculated after deducting distribution loss and based on the expected amount of electricity sold to consumers, and since the revenue gap to meet the ARR is filled by the Government as subsidy, the distribution loss is not borne by the consumers.

The projected amount of Distribution Loss for Tariff Petition for FY 2023-24 (110.07MU) is Rs.88.94 crores when converted to average tariff.

3. Employee Cost/Expenses: P&ED is among the three States in India not functioning as corporation. Whereas Distribution, Transmission and Generation are to function as separate entity and having accounts respectively. The Employee Cost are randomly distributed as 70% for distribution, 20% for transmission and 10% for generation. Is it more accurate to take 60% to 65% in the Tariff and ARR determination in respect of distribution? MCU opines that the employee cost shall be more accurate if 60% to 65% is considered for distribution.

The number of consumers in FY 2022-23 shown at Part II Table 1.1 of the Petition is 276,328. The employee strength for FY 2023-24 is 3766, and the employee cost is Rs.160.54 crore and Net Revenue Gap is Rs.184.08 crore which is view very high. MCU opines that employee strength can be brought down compare with other North Eastern States like Manipur and other hilly states. The employee strength at Form No, F6 of Part III(B) may be segregated into regular, work charges, contract and MR/PE will it be possible to present Technical Staff, non-technical staff, administrative officer and staff, account and finance officer staff in the public hearing like Manipur State at Form No.19(a)? In the transmission function at Part-IV(A), the employee expense for FY 2023-24 is shown as Rs.45.87 crore. We request P&ED the details, besides Application Format Form No.F19. Employee Cost/Expense for

FY 2023-24 is not shown in Part-V of Generation Function. It is requested to fill up the form in category wise as stated above.

As the employee cost effects tariff hike the above detail information may be given in the public hearing keeping in mind transparency & accountability as per Electricity Act, 2003 and JERC Regulations.

**Reply:** Power & Electricity Department has not yet been segregated into Distribution, Transmission and Generation Functions and as per the Hon'ble JERC M&M Tariff Order for FY 2014-15 it is segregated as 70% for Distribution Function, 20% for Transmission function and 10% for generation function. Projection for Employee cost is as per clause 89.6 of JERC (M&M (Multiyear Tariff) Regulations 2014 and for calculating the employee cost, actual data of FY 2022-32 (April – September) is used.

There is a huge need for technical staff to monitor power supply and related activities not only in cities and towns but also in rural areas. P&ED is facing difficulties with the non-filling up vacant post that exist due to superannuation pension and demise of employee every year. In addition, 24hrs duty is required under P&ED, which has increased the staff shortage.

As mentioned above, P&ED is not yet separated into Distribution, Transmission and Generation. Therefore, the staff of the Department has to work in every of these functions (Distribution, Transmission & Generation). Therefore, category-wise staff separation for Distribution, Transmission and Generation functions is not yet possible. However, the current number of staff in various categories under the Department and the projection for 2023-24 are as follows:

**Cadre wise employee & staff strength**

SI No	Level of Pay in the Pay Matrix	FY 2022-23 (upto January)	FY 2023-24 (Projection)
1	Level 14	1	1
2	Level 13 A	3	3
3	Level 13	17	17
4	Level 12	18	18
5	Level 11	30	30
6	Level 10	72	77
7	Level 7	239	239
8	Level 6	67	67
9	Level 5	29	29
10	Level 4	380	380
11	Level 2	50	50

**Cadre wise employee & staff strength**

SI No	Level of Pay in the Pay Matrix	FY 2022-23 (upto January)	FY 2023-24 (Projection)
12	Level 1 A	227	227
13	Level 1	181	181
<b>Total (Regular)</b>		<b>1,314</b>	<b>1,319</b>
14	Contract	21	21
15	Work charged	384	384
16	Provisional Employee	1512	1512
17	Muster Roll/Casual labour	515	530
<b>Grand Total</b>		<b>3,746</b>	<b>3,766</b>

4. Power/Energy Purchase & Sales: The Power purchase quantum for FY 2023-24 is shown as 918.35MU and its cost to be Rs.479.70 crore, etc. At Page 19 of Part III(A). However, energy sale during FY 2024-25 is shown as 510.59MU which difference is 407.76MU. Is it possible to reduce outside trading which has been shown at lower rate?

**Reply:** Mizoram's power purchase from the Central Sector is based on the percentage basis of the Ministry of Power (MoP) allocation and since the amount of power generated by the generating stations is calculated every 15 minutes the amount of energy can't be increase or decrease as desired. Hydel power stations in particular have a huge difference in the amount of share for Mizoram (in MW) during the rainy season and low rainfall. Hydel power station requisition cannot be reduced, thermal station requisition can be reduced daily, but if this is below the technical minimum, it is not possible to reduce the amount of energy. Energy charge can be reduced by reducing power requisition, while capacity charge is paid in full amount. P&ED is reducing requisition from thermal stations as much as possible.

Since the amount of share allocated can be lost during high frequency, trading of power through power exchange is much needed. The rate of power exchange is not always low, even this year the rate of selling is higher than that of purchasing rate in some hours.

5. Own Generation: 57.77 MW is generated from 14 nos Own Generating Stations. The cost of generation during FY 2023-24 is Rs.12.68 crore, etc. These generations are reported in the last year public hearing as out sourced. What is the cost of energy per unit from these own generation? By how much own generation cost are lower than power purchase from outside the state?

**Reply:** The O&M of the state-owned generating stations Kau Tlabung SHP,

Teirei SHP, Khawiva SHP and Tuipui SHP are outsourced. O&M charge is calculated per unit of electricity generated and the current O&M rate is as follows.

Sl. No.	Name of Outsourced Station	O&M Rate applicable
1	Kau Tlabung SHP	Rs. 1,534 /Unit
2	Teirei SHP	Rs. 1.18 /Unit
3	Khawiva SHP	Rs. 1.10 /Unit
4	Tuipui SHP	Rs. 1.50 /Unit

P&ED does not buy electricity generated from own generating stations. However, based on the projected generation cost (12.68cr) and projected net generation (31.07MU) of the tariff petition for FY 2023-24, the average cost of generation per unit is Rs 4.08/unit, slightly lower than the average rate of purchase of power from outside the state.

6. Tariff Proposal for FY 2023-24: The reason why MCU make objection of P&ED tariff proposal for FY 2023-24 is that it is not possible to absorb the employee cost in the tariff calculation. We feel that employee cost is to be lower in reality. We feel that distribution loss is too high resulting in tariff hike and sufficient effort is not given to reduce distribution loss although Central Government has been providing fund under revamp and restructuring, etc. to reduce losses.

**Reply:** Tariff petition for FY 2023-24 Employee Cost for Distribution function is 70% is projected based on Clause-89.6 of JERC for Manipur & Mizoram in Tariff Order FY 2014-15 and JERC for Manipur & Mizoram (Multi Year Tariff). Regulations, 2014 and the projection is based on FY 2022-23 (April to September) actual data. In addition, the full cost tariff has never been introduced and the bill is made using the subsidized tariff, so assuming high subsidized tariff due distribution loss might be misleading to some extent.

Central Government funds are being utilized for improvement and expansion of distribution infrastructure, however one of the main reason of high loss is due to the increase in distribution network and shortage of staffs.

7. (a) Difficulty to accept the proposal to hike Fixed Charges: It is not acceptable to hike fixed charges by 20%. No fixed charges is levied in some North Eastern States like Arunachal Pradesh and the fixed charges is less even in Tripura State. We request not to hike fixed charges for domestic from Rs.50 to Rs.60 which payment is necessary even during non-utilizing electricity. The

fixed charges in respect of KJ consumers is also too hike and it is felt necessary to reduce it from the existing Rs.25 to Rs.10. It is suggested not to hike domestic KJ fixed charges also. Fixed charges in respect of public lighting may also not to hike from Rs.80 to Rs.90. And it is proposed not to raise fixed charges in other categories also. Monthly fixed charges for service connection does not effect conservation of electricity whereas the consumers are paying Rs.5000-10000 to get electric service connection. Monthly fixed charges does not have impact in conservation of electricity. It is good the more we consume electricity the higher bill we pay. We object to increase fixed charges.

**Reply:** Electricity tariff is of many parts, and the tariff used in Mizoram is of two parts i.e fixed charge and variable charge. Fixed charge in retail electricity tariff is to cover the cost of maintenance and repair of service connections. it means that even though the consumers did not consume the energy, service connection has to be made available. Variable charge is calculated at the rate per unit based on the number of units of electricity consumed. Fixed charge and Variable charge/Energy charge are included in the projection of tariff revenue. If there is no fixed charge or it is low, the variable charge should be increased.

Arunachal Pradesh State Regulatory Commission has not filed tariff petitions for several years and has used flat rates for domestic category as it can be assumed that they have more free power from Central Sector Power station within the state. Also, the tariff design practices by the state of Manipur is not actually same as the one in Mizoram. As can be seen from the Tripura State Electricity Regulatory Commission's tariff order the fixed charge in higher slab of domestic category is not always low.

In addition, Public lighting and PWW are managed by government departments and the cost of electricity is paid by the government and with this high cost the other categories can be cross subsidized. The electricity bill received from these categories are directly transferred to the Government and the high fixed charge of public lighting and PWW electricity bill is not a burden on other consumers.

The monthly fixed charge might not be enough to educate the public. However, as consumers should never expect to get free electricity, the operation and maintenance cost of service connection/lines cannot be expected to be free.

7(b) Contracted load and Connected load: P&ED is showing the growth of

consumers/connected load only, they should also have shown contracted load based on which fixed charges is being paid. Connected load and contracted load are not well taken care in Mizoram in general and rural areas in particular by the P&ED. We feel that hiking fixed charges may result in negligence and it can become exploitation of consumer. Therefore, existing fixed charges shall be continued.

Lastly, we request the Hon'ble Commission not to hike tariff until function wise Unbundling is done as desired by the Electricity Act, 2003 and JERC Regulations. And in particular, domestic over all tariffs shall not be increased more than 2%. MCU request the Hon'ble Commission not to hike tariff until working system is restructured in line with the Act.

**Reply:** Connected Load in some formats of Tariff Petition submitted to Hon'ble JERC(M&M) should be read as Contracted Load. If the Hon'ble JERC for Manipur & Mizoram permits, the Connected load in some standard formats should be replaced with Contracted load.

In 2018, P&ED distributed notices to all consumers to clarify connected load and contracted load. Many consumers in urban and rural areas have updated their contracted load in their bills fixed charge. There it might be a bit misleading to say that P&ED has not taken any action in this regard.

Connected load and Contracted load are now available in the service connection application form and are now usually filled up. Consumer who wishes to update the contracted load can apply to the concerned SDO and can be updated as desired.

Even though restructuring of P&ED is being currently carried out, however with the segregation of the current existing staff, it will not be possible for one function to work on another function, will we be able to reach the way we are now in case of emergency? It is possible to imagine that it might be more of a burden than a blessing for the consumers.

Since 90% (approx) of consumers in Mizoram are under domestic category with the highest consumption of power 65% (approx), domestic category plays a huge part in the total consumption, it is deemed inconvenient to lower the tariff hike.

## 5. True-up of ARR for 2021-22

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### 5.1. Back ground

Multi Year Tariff Order for the control period of 5 years from FY 2018-19 to FY 2022-23 was issued by the Hon'ble Commission vide Order dated 12.03.2018 under the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

The Hon'ble Commission determined the Aggregate Revenue Requirement for the FY 2018-19 to FY 2022-23 & Tariff for the FY 2018-19 vide Order dated 12.03.2018. Further, Tariff Order for the FY 2020-21 was issued vide Order dated 20.03.2020.

Regulation 10(1) & (2) of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides as follows: "10.1 Where the Aggregate Revenue Requirement and expected revenue from tariff and charges of a Generating Company or Transmission Licensee or Distribution Licensee is covered under a Multi-Year Tariff framework, then such Generating Company or Transmission Licensee or Distribution Licensee, as the case may be, shall be subject to truing up of expenses and revenue during the Control Period in accordance with these Regulations.

10.2 The Generating Company or Transmission Licensee or Distribution Licensee shall file an Application for Truing up of the previous year and determination of tariff for the ensuing year, within the time limit specified in these Regulations"

Further, the Hon'ble Commission notified the First Amendment Regulations, 2019 is as follows:

"5.2 The filing of the Control Period under these Regulations shall be as under.

- (i). .....
- (ii). From the second year of the Control Period onwards and upto the last year of the Control Period, the petition in each year shall comprise of:
  - a. Truing Up for the previous year with audited accounts, and Annual Performance Review (APR) with revision of ARR approved in MYT

Order for current year and revised projection of ARR approved in MYT Order for the ensuing year in accordance with these Regulations;

- b. Revenue from the sale of power at existing tariffs and changes for the current year;
- c. Revenue gap for the ensuing year calculated based on the revised projection of ARR and truing up of the previous year;
- d. Application for determination of tariff for the ensuing year.”

The Hon’ble Commission carried out the review of the FY 2021-22 vide order dated 23.03.2022. The actual figures for the FY 2021-22 are now available. As required by the Regulations, P&ED is submitting the Audited Annual Accounts for the FY 2021-22 and Asset & Depreciation Register.

Further, in accordance with the Regulation 10(1) & (2) of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 & Regulation 5.2 (ii) of First Amendment Regulations, 2019 as given above, the P&ED is submitting the present true-up petition for the FY 2020-21 on the basis of the audited Annual Accounts.

P&ED requests the Hon’ble Commission to carry out the true-up of expenses in accordance with the Regulation 10 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 read with First Amendment Regulations, 2019.

Data given in this chapter is for the entire year i.e. FY 2021-22.

## **5.2. Energy sales**

The actual sales vis-à-vis the sales approved by the Hon’ble Commission in its Tariff Order review dated 23.03.2022 for the FY 2021-22 is as summarized below:



**Table 5.1: Energy Sales approved by the Commission for FY 2021-22 after true-up (MU)**

Sl. No.	Category	Approved In T.O. dt 23.03.22	As per Accounts	Deviation
	<b>LT Consumers</b>			
1	Kutir Jyoti	7.55	5.63	-1.92
2	Domestic	287.50	276.95	-10.55
3	Non-Domestic	8.61	8.68	0.07
4	Commercial	35.91	35.10	-0.81
5	Public Lighting	2.22	2.35	0.13
6	Public Water Works	0.83	6.20	5.37
7	Agriculture	0.07	0.05	-0.02
8	LT Industrial	4.26	2.54	-1.72
	<b>Total LT</b>	<b>346.94</b>	<b>337.51</b>	<b>-9.44</b>
	<b>HT Consumers</b>			
9	Domestic	4.56	3.29	-1.27
10	Non-Domestic	0.27	12.84	12.57
11	Commercial	10.57	12.79	2.22
12	Public Water Works	85.74	74.34	-11.40
13	Agriculture	0.11	0.09	-0.02
14	Industrial - HT	5.82	7.04	1.22
15	Bulk Supply	15.28	16.37	1.09
	<b>Total HT</b>	<b>122.34</b>	<b>126.76</b>	<b>4.41</b>
16	Outside State - Trading	<b>133.28</b>	<b>90.15</b>	<b>-43.13</b>
	<b>Total</b>	<b>602.56</b>	<b>554.43</b>	<b>-48.15</b>

**Commission analysis:**

The Commission approves energy sales of LT & HT category within the State at 554.43 MU based on the actuals for FY 2021-22 for true-up purpose as they are matching with the statutory auditor approved audited financial accounts.

**5.3. Distribution Loss & Energy Balance**

The actual values of the distribution loss for the FY 2020-21 arrived at in accordance with the actual energy sales & energy purchase by P&ED in its filings.

**Table 5.2: Distribution Loss for FY 2021-22 by P&ED**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Distribution Loss	18.16%	29.45%	11.29%

### Commission's analysis

The Commission in its Tariff Order dt:26.03.2021 had approved Distribution Loss at 18.16% for FY2021-22 based on the available data then submitted through ARR filings petition. Right now, the P&ED is claiming actual distribution losses at 29.45% with a abnormally steep hike of 11.29% (i.e.,29.45%-18.16%) distribution losses over approved losses value. While, it is a fact that for FY2019-20, the distribution losses then claimed in true-up was only 20.663% against 27.29% approved losses and where as in FY 2020-21 the actual losses were at 29.05% as against 19.64% approved Losses. Now, it is beyond convincing as to how losses shot-up to further to 29.45% in the following year (2021-22) in which Outside State sales too have decreased drastically to 90.15MU from approved figure of 133.28MU. This is a very serious matter needs at most attention & concern to sort-out the reasons and to plug the loop-hole from its recurrence. The abstract of all comparative details for **both years** are tabulated for a glance:

Year	Retail Sales (MU)	IEX sales (MU)	Purchases (MU)	T&D Loss (MU)	Dist. Loss (MU)	Dist. Loss (%)
2020-21	444.92	69.72	723.96	209.32	182.14	29.05%
2021-22	464.27	90.15	777.98	223.56	193.80	29.45%
Variance	+19.35	+20.43	+54.02	+14.24	+11.66	+0.40%

As seen from the above, despite increased power purchase, retail sales and IEX sales, the losses (T&D) too are higher than FY2020-21 significantly by 14.24MU. There was no convincing explanation ever attempted to provide in the ARR filing submission for this abnormal hike in T&D loss so sustained. Therefore, Commission strongly infer it to lack of diligent vigilance from P&ED staff which resulted into steep shot-up of commercial losses within the state such as **theft, pilferage and raise of billing demand improperly leaving some sale of energy unaccounted.** It can never be imputed to Technical related losses because their losses were lower in FY2020-21 even during Covid pandemic. All this shall be attributed to the P&ED's in-action resulted in squandering of excess energy

procured in the form of commercial losses and loosing additional revenue simultaneously. This kind of situation shall not be allowed to be repeated anymore for having warned earlier and hence, Commission wants to Off-load the burden on consumers by recovering an amount equivalent to Rs.22.108Crs (i.e.,39.04MU x Rs.5.663/Unit) in the form of efficiency gain improvement as one-time settlement in the true-up of FY 2021-22 to properly justify the consumers financially and also to alert the Licensee to swing into action with due diligence here on to curtail such eventuality. The above recovery is based upon considering only 25% Distribution loss and the remaining excess is captured for recovery.

**Table 5.3: T&D loss calculation Approved by the Commission for FY 2021-22 after true-up**

Sl.No.	Details of Energy Balance for FY 2021-22	Approved
<b>A</b>	<b>State Grid Energy requirement for Distribution activity</b>	<b>(MU)</b>
1	<b>Retail Sale of energy (LT &amp; HT) - (Input data)</b>	<b>464.27</b>
2	Distribution Loss (%) - (Adopted)	25.00%
3	Distribution Loss (MU) - <b>(4-1)</b>	154.76
4	<b>Energy at Distribution Periphery -- (ARR filed actuals)</b>	<b>619.03</b>
5	a) State Transmission Loss (%) - (ARR filed)	<b>2.00%</b>
	b) State Transmission Loss (MU) - <b>(6 - 4)</b>	12.63
6	<b>Total Grid Energy needed at State periphery</b>	<b>631.66</b>
<b>B</b>	<b>Sources of Energy Availability (Energy Balance 2021-22)</b>	<b>(MU)</b>
7	Purchases from Eastern Region (ER) - Input)	33.12
8	a) Inter-State Losses on ER Energy (%)	1.95%
	b) Inter-State Losses on ER Energy (MU)	0.65
9	<b>Net ER Energy after Losses (7 - 8b)</b>	<b>32.47</b>
10	<b>Purchases from North Eastern Region (Excl. Tuirial HEP energy)</b>	<b>581.45</b>
11	UI Energy Purchase (Net) & UI Deviations	3.59
12	RPO obligation met from Outside the State	Nil
13	<b>Energy handled at NER grid (9 to 12)</b>	<b>617.51</b>
14	a) Inter-State Trans. loss in NER (%) <b>(Refer Annexure-VI)</b>	2.36%
	b) Inter-State Trans. loss in NER (MU)	14.57
15	<b>Net energy available at NERLDC for Mizoram (13-14b)</b>	<b>602.94</b>
16	Energy purchases from Tuirial HEP	115.75
17	Free Power from Tuirial HEP	15.78
18	State Owned Small HEPs Generation exported to Grid	13.32
19	Supply of power by Amazon Engineering from 4 HEPs	12.57

<b>B</b>	<b>Sources of Energy Availability (Energy Balance 2021-22)</b>	<b>(MU)</b>
20	Gross Solar Plants & RTS Metering System energy from Grid	2.39
21	<b>Gross energy available at Mizoram from all sources (15 to 20)</b>	<b>762.75</b>
22	Sale of Energy through Banking	-
23	Sale of energy at IEX (Input data)	-90.15
24	UI Under Drawls	-26.607
25	<b>Available energy at State Periphery - [21-(22 to 24)]</b>	<b>645.99</b>
26	Total Grid Energy needed at State periphery (Row-6)	631.66
27	Excess Loss of Energy in the System (26-25)	<b>-14.33</b>
28	<b>Monetary value of Excess Losses sustained</b>	<b>₹ 16.10</b>

The above figures of energy balance for FY2021-22 are approved based on actual values furnished in the audited accounts and the filing submissions. **But the cost adjustment would be made for the higher loss as stated above (row-28).**

#### 5.4. Energy Requirement

The energy requirement approved by the Commission for FY 2021-22 in its order dated 23.03.2021, actuals furnished by P&ED in its true-up petition of FY 2021-22 and now approved by the Commission are detailed in table below:

**Table 5.4: Energy for Distribution activity in FY 2021-22 approved for True-Up**

Sl. No.	Energy Balance (FY 2021-22)	Approved in T.O. dated 23.03.2021	As per Accounts	Commission approved
<b>A</b>	<b>Distribution activity requirement</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
1	Energy Sales (MU)	469.29	464.27	<b>464.27</b>
2	Distribution Loss (%)	18.16%	29.45%	<b>25.00%</b>
3	Distribution Loss (MUs)	104.10	193.80	<b>154.76</b>
4	<b>Distribution Input required (MU)</b>			<b>619.03</b>
5	<b>Excessive Losses linked to Efficiency Improvement (MU)</b>			<b>14.33</b>
6	<b>Distribution Energy Input total (MU)</b>	<b>573.29</b>	<b>658.07</b>	<b>631.66</b>

#### 5.5. P&ED's Own Generation

The P&ED's own generation approved for the FY 2021-22 and actual value of own generation made by the P&ED for the FY 2021-22 is provided in the table below:

Sl. No.	Particulars	Approved in T.O. dated 23.03.2021	As per Accounts	Deviation
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

1	Total Generation (Net)	6.27	25.89	+19.62
	<b>Total</b>	<b>6.27</b>	<b>25.89</b>	<b>+19.62</b>

It is submitted that P&ED is not operating the **Khawiva SHP, Tuipui SHP, Teirei SHP & Kau Tlabung SHP** and the **SHPs have been operated and managed by Amazon Engineering**. Hence, the Installed Capacity & energy generation included in Own Generation.

**Commission Analysis:**

The gross energy generated by M/s. Amazon Engineering on behalf of P&ED intimated through additional information as 12.57MU during FY 2021-22 and hence it can be inferred that out of the total 25.89MU, the Own generation by P&ED from the remaining SHPs is only 13.32 MU. Each Station wise energy generated by these four plants managed by M/s. Amazon Engineering during FY 2021-22 is tabulated below for a glance.

Sl. No.	Name of SHP Station	Installed Capacity (MW)	Generation in FY 2021-22 (units)
1	Khawiva	1.05	1227611
2	Tuipui	0.50	464067
3	Teirei	3.00	4122013
4	Kau-Tlabung	3.00	6758189
	Gr. Total	7.55	12571880

The Filing is silent about the O&M charges being paid to M/s. Amazon Engineering for running the four (4) SHP plants as no one would extend the services freely to P&ED in maintaining the SHPs not in use earlier. Hence, the cost to be attributed would be considered at Rs.1.67Cr towards O&M Charges as approved in the Tariff Order for FY 2022-23 in the absence of reluctance shown by P&ED to provide the needed additional information when called for. Accordingly, these plants would not be given any Generation related ARR amount during the MYT period of 5 years not submitted.

**5.6. Purchase of Power**

The power purchase approved for the FY 2021-22 and actual units of power purchase made by the P&ED for the FY 2021-22 is provided in the table below:

**Table 5.5: Power Purchase from all sources for FY 2021-22 filed by P&ED**

Sl. No	Source	Approved in T.O Dt. 26.03.2021	Actuals furnished by P&ED	Approved by the Commission
<b>A</b>	<b>Central Generating stations</b>	MU	MU	MU
I	<b>NTPC- NER</b>			
1	Farakka STPS	15.35	14.85	14.85
2	Kahalgaon STPS	7.44	8.37	8.37
3	Talcher STPS	9.85	9.90	9.90
	<b>NTPC-Total</b>	<b>32.64</b>	<b>33.13</b>	<b>33.13</b>
II	<b>NTPC - ER</b>			
4	Bongaigaon TPS	118.68	136.91	136.91
	<b>Sub-Total Bongaigaon</b>	<b>118.68</b>	<b>136.91</b>	<b>136.91</b>
III	<b>NHPC</b>			
5	Loktak HEP	21.46	19.55	19.55
	<b>Sub-Total</b>	<b>21.46</b>	<b>19.55</b>	<b>19.55</b>
IV	<b>NEEPCO - Hydro</b>			
6	Kopili HEP	15.91	0.00	0.00
7	Kopili - II HEP	3.15	0.67	0.67
8	Khandong HEP	3.03	10.52	10.52
9	Ranganadi HEP	77.68	65.09	65.09
10	Doyang HEP	10.85	4.97	4.97
11	Pare HEP	25.90	24.34	24.34
12	Tuirial HEP	141.41	115.75	115.75
	<b>Free Power of Tuirial</b>	<b>18.42</b>	<b>15.78</b>	<b>15.78</b>
	<b>Sub Total –NEEPCO Hydro</b>	<b>296.34</b>	<b>237.12</b>	<b>237.12</b>
	<b>NEEPCO – Gas Based</b>			
13	AGBPP	65.64	82.32	82.32
14	AGTPP	43.68	46.05	46.05
	<b>Sub-Total</b>	<b>109.32</b>	<b>128.37</b>	<b>128.37</b>
V	<b>TSECL</b>			
15	B'mura - IV	45.37	57.44	57.44
16	B'mura - V			
	<b>Sub-Total</b>	<b>45.37</b>	<b>57.44</b>	<b>57.44</b>
VI	<b>OTPC</b>			
17	Palatana	100.27	133.59	133.59
	<b>Sub-Total</b>	<b>100.27</b>	<b>133.59</b>	<b>133.59</b>
VII	<b>Purchases thro IEX</b>		<b>1.54</b>	<b>1.54</b>
VIII	<b>UI Deviation</b>	--	<b>2.05</b>	<b>2.05</b>
IX	<b>State Own Generation</b>	<b>50.78</b>	<b>13.32</b>	<b>13.32</b>
X	<b>Other Sources of power</b>			
	1) Amazon Engineering		<b>12.57</b>	<b>12.57</b>
	2) Rooftop solar & Other		<b>2.39</b>	<b>2.39</b>
	<b>Grand Total ( I to VIII)</b>	<b>774.87</b>	<b>777.98</b>	<b>777.98</b>
XI	<b>Over all energy purchased</b>	<b>774.87</b>	<b>777.98</b>	<b>777.98</b>

### Commission's Analysis

The Commission approves of power purchase quantum is already indicated above in the last column and the cost approval aspects are dealt in the para relating to Power Purchase cost.

## 5.7. Energy Balance

The actual energy balance for the FY 2021-22 and the approvals accorded are compared in the table provided below:

**Table 5.6: Energy Balance for FY 2021-22 filed by the P&ED**

Sl. No.	Energy Balance	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
<b>A</b>	<b>Energy Requirement</b>			
1	Energy Sales	469.29	464.27	-5.02
2	Distribution Loss (%)	18.16%	29.45%	11.29%
3	Distribution Loss (MUs)	104.10	193.80	89.70
<b>4</b>	<b>Total Energy Requirement</b>	<b>573.39</b>	<b>658.07</b>	<b>84.68</b>
<b>B</b>	<b>Energy Availability</b>			
5	Own Generation	6.27	25.89	19.62
6	Energy Purchase from ER	31.71	33.13	1.42
7	Less: ER Pool Loss (%)	1.95%	1.95%	0.00
8	Less: ER Pool Loss (Mus)	0.62	0.65	0.03
9	Net Energy for ER	31.09	32.48	1.39
10	Energy Purchase from NER (Exl. Tuirial HEP)	546.03	581.45	35.42
11	UI / Deviation / IEX through exchange	2.12	3.59	1.47
12	Sub Total	579.24	617.52	38.28
13	Less: NER Pool Loss (%)	2.54%	2.54%	0.00
14	Less: NER Pool Loss (MUs)	14.71	15.69	0.97
15	Net Energy at NERLDC	564.53	601.84	37.31
16	Energy purchases from Tuirial HEP	115.42	115.75	0.33
17	Free Energy from Tuirial HEP	15.74	15.78	0.04
18	Amazon Engineering	14.09	0.00	-14.09
19	Rooftop Solar Generation	0.09	0.07	-0.02
20	Solar Generation	2.22	2.32	0.10
21	Energy Available	718.37	761.65	43.28
22	Less: Outside State - Trading	133.28	90.15	-43.13
23	Total Energy Available	585.09	671.50	86.41
24	Less: Intra State Tr. Loss (%)	2.00%	2.00%	0.00
25	Less: Intra State Tr. Loss (MUs)	11.70	13.43	1.73
26	Net Energy Available	573.39	658.07	84.68
<b>27</b>	<b>Less: Energy requirement at State Periphery</b>	<b>573.39</b>	<b>658.07</b>	<b>84.68</b>
<b>28</b>	<b>ENERGY SURPLUS/(DEFICIT)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### Commission's Analysis

Actual distribution losses adopted were to be **25.00%** as calculated vide **Table 5.3 Supra** but what was submitted by P&ED is 29.45%, besides adopting NERLDC losses at 2.36% based on its website data instead of 2.54% filed. **The extract of the NER Losses published in their compendium is attached as an annexure-VI at the end of the Tariff Order for reference.** Considering the

above Surplus power for Outside state sales considered at 90.15MU matching with the P&ED ARR filing figures as well as that indicated in the audited accounts report.

However, the Distribution Losses as considered by the Commission (in view of the increasing losses trend) is at 25% for FY 2021-22 as shown in Table 5.4 above, treating the excess losses linked to efficiency gain improvement by assigning a value for that loss to be deducted in the Overall ARR before admitting the final True-up for 2021-22.

### 5.7.1. Fuel Cost

The values of fuel cost are compared with the same approved by the Hon'ble Commission in the Tariff Order dated 23.03.2021 for the FY 2021-22. The actual fuel cost based on the audited annual accounts are NIL as compared to the approved figure is provided in the table below for fuel costs incurred in 2021-22:

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Cost of Fuel	0.01	0.00	0.00
	<b>Total</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>

The Commission thereby prefers to approve NIL fuel cost for FY 2021-22 for true-up purposes.

### 5.7.2. Power Purchase Costs

#### Petitioner's submission

The Hon'ble Commission in the Tariff Order dated 23.03.2022 for the FY 2021-22 had approved a power purchase quantum of 733.71 MUs at a total cost of  $\text{Rs. } 437.27$  Crores. P&ED has actually procured 752.09 MUs during the FY 2021-22 at a total cost of  $\text{Rs. } 396.76$  Crores. The actual power purchase cost based on the audited annual accounts as compared to the approved figure is provided in the table below.

**Table 5.7: Power purchase claimed by P&ED in brief for FY 2021-22 (Rs.Crs)**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
---------	-------------	-----------------------------------	-----------------	-----------



<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Power Purchase Cost	437.27	396.76	-40.51
	<b>Total</b>	<b>437.27</b>	<b>396.76</b>	<b>-40.51</b>

Table 5.8: Actual Power Purchase Cost details by P &amp; ED for FY 2021-22

Sl. No.	Energy Generation Sources	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Cr)	Charge per unit (Rs/kWh)
<b>A</b>	<b>Central Generating Stations</b>						
<b>I</b>	<b>NTPC</b>						
1	Bongaigaon TPS	750.00	5.415	40.61	136.91	110.29	8.06
2	Farakka STPS	1600.00	0.142	2.27	15.42	5.97	3.87
3	Kahalgaon STPS	840.00	0.142	1.19	7.30	3.03	4.15
4	Talcher STPS	1000.00	0.142	1.42	10.40	2.76	2.65
	<b>NTPC-Total</b>	<b>4190.00</b>		<b>45.49</b>	<b>170.03</b>	<b>122.05</b>	<b>7.18</b>
<b>II</b>	<b>NHPC</b>						
1	Loktak HEP	105.00	5.02	5.27	19.55	8.53	4.36
	<b>NHPC-Total</b>	<b>105.00</b>		<b>5.27</b>	<b>19.55</b>	<b>8.53</b>	<b>4.36</b>
<b>III</b>	<b>NEEPCO</b>						
1	Kopili HEP	200.00	4.61	9.22	0.00	0.00	0.00
2	Kopili - II HEP	25.00	6.04	1.51	0.67	0.15	2.24
3	Khandong HEP	50.00	3.94	1.97	10.52	1.84	1.75
4	Ranganadi HEP	405.00	5.7	23.09	65.09	16.91	2.60
5	Doyang HEP	75.00	5.41	4.06	4.97	4.19	8.43
6	Pare HEP	110.00	5.765	6.34	24.34	12.17	5.00
7	a) Tuirial HEP	60.00	100	60.00	115.75	78.01	6.74
	b) Free Power share				15.78		
8	AGBPP	291.00	5.41	15.74	82.32	31.00	3.77
9	AGTPP	135.00	6.00	8.10	46.05	18.13	3.94
	<b>NEEPCO-Total</b>	<b>1351.00</b>		<b>130.03</b>	<b>365.49</b>	<b>162.40</b>	<b>4.44</b>
<b>IV</b>	<b>TSECL</b>						
1	B'mura - IV	21.00	25	5.25	57.44	25.67	4.47
2	B'mura - V	21.00	25	5.25			
	<b>TSECL-Total</b>	<b>42.00</b>		<b>10.50</b>	<b>57.44</b>	<b>25.67</b>	<b>4.47</b>
<b>V</b>	<b>OTPC</b>						
1	Palatana	726	3.03	22.00	133.59	43.70	3.27
	<b>OTPC-Total</b>	<b>726</b>		<b>22.00</b>	<b>133.59</b>	<b>43.70</b>	<b>3.27</b>
<b>VI</b>	<b>Amazon Engineering</b>						
	1.Khawiva HEP	1.05	100	1.05	1.23	0.00	0.00
	2.Tuipui HEP	0.50	100	0.50	0.46	0.00	0.00
	3.Teirei HEP	3.00	100	3.00	4.12	0.00	0.00
	4.Kau Tlabung HEP	3.00	100	3.00	6.76	0.00	0.00
	<b>Others-Total</b>	<b>7.55</b>		<b>7.55</b>	<b>12.57</b>	<b>0.00</b>	<b>0.00</b>
<b>B</b>	<b>State generating Stations</b>						
	All Units (incl. Lengpui set)	22.30	100	22.30	13.32	0.00	0.00
	<b>Owned Generation Total</b>	<b>22.30</b>		<b>22.30</b>	<b>13.32</b>	<b>0.00</b>	<b>0.00</b>
<b>C</b>	<b>IEX Power Exchange purchase</b>				<b>1.54</b>	<b>0.40</b>	<b>2.60</b>
<b>D</b>	<b>UI / Deviation</b>				2.05	1.07	5.22
	<b>UI / Deviation-Total</b>				<b>2.05</b>	<b>1.07</b>	<b>5.22</b>
<b>E</b>	<b>Other RE Energy</b>						
	1.Rooftop solar Generation				<b>0.07</b>	<b>0.02</b>	<b>2.86</b>
	2.Solar Generation				<b>2.32</b>	<b>0.00</b>	<b>0.00</b>
<b>F</b>	<b>RPO Obligation /REC Certificate</b>					<b>10.52</b>	
<b>G</b>	<b>LC Enhance/Renew charges</b>					<b>4.05</b>	
<b>H</b>	<b>Reactive Energy Charges</b>					<b>0.02</b>	

Sl. No.	Energy Generation Sources	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Cr)	Charge per unit (Rs/kWh)
I	Supplementary Bills (Addl.)					18.33	
J	Bilateral Power Purchase						
	1. Utility ...						
	<b>GRAND TOTAL</b>	<b>6443.85</b>		<b>243.14</b>	<b>777.97</b>	<b>396.76</b>	<b>5.10</b>

### Commission's analysis

The power purchase cost approved for FY 2021-22 by the commission is detailed in the table below.

**Table 5.9: Actual Power Purchase Cost for FY 2021-22 approved by Commission**

Sl. No.	Generation Sources	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Cr)	Charge per unit (Rs/kWh)
<b>A</b>	<b>Central Generating Stations</b>						
<b>I</b>	<b>NTPC</b>						
1	Bongaigaon TPS	750	5.415	40.61	136.911	110.299	8.06
2	Farakka STPS	1600	0.142	2.27	14.85	5.97	3.87
3	Kahalgaoon STPS	840	0.142	1.19	8.37	3.03	4.15
4	Talcher STPS	1000	0.142	1.42	9.90	2.76	2.65
	<b>NTPC-Total</b>	<b>4190</b>		<b>45.49</b>	<b>170.03</b>	<b>122.05</b>	<b>7.18</b>
<b>II</b>	<b>NHPC</b>						
1	Loktak HEP	105	5.02	5.27	19.55	8.53	4.36
	<b>NHPC-Total</b>	<b>105</b>		<b>5.27</b>	<b>19.55</b>	<b>8.53</b>	<b>4.36</b>
<b>III</b>	<b>NEEPCO</b>						
1	Kopili HEP	200	4.61	9.22	0.00	0.00	0.00
2	Kopili - II HEP	25	6.04	1.51	0.67	0.15	2.24
3	Khandong HEP	50	3.94	1.97	10.52	1.84	1.75
4	Ranganadi HEP	405	5.70	23.09	65.09	16.91	2.60
5	Doyang HEP	75	5.41	4.06	4.97	4.19	8.43
6	Pare HEP	110	5.765	6.34	24.34	12.17	5.00
7	Tuirial HEP	60	100	60	115.75	78.01	6.74
	Free Power share				15.78	0.00	
8	AGBPP	291	5.41	15.74	82.32	31.00	3.77
9	AGTPP	135	6.00	8.1	46.05	18.13	3.94
	<b>NEEPCO-Total</b>	<b>1351</b>		<b>130.03</b>	<b>365.49</b>	<b>162.40</b>	<b>4.44</b>
<b>IV</b>	<b>TSECL</b>						
1	B'mura - IV	21	25	5.25	57.44	25.67	4.47
2	B'mura - V	21	25	5.25			
	<b>TSECL-Total</b>	<b>42</b>		<b>10.50</b>	<b>57.44</b>	<b>25.67</b>	<b>4.47</b>
<b>V</b>	<b>OTPC</b>						
1	Palatana	726	3.03	22.00	133.59	43.70	3.27
	<b>OTPC-Total</b>	<b>726</b>		<b>22.00</b>	<b>133.59</b>	<b>43.70</b>	<b>3.27</b>
<b>VI</b>	<b>Amazon Engineering</b>						
	1.Khawiva HEP	1.05	100	1.05	1.23	0.00	0.00
	2.Tuipui HEP	0.5	100	0.50	0.46	0.00	0.00
	3.Teirei HEP	3	100	3.00	4.12	0.00	0.00
	4.Kau Tlabung HEP	3	100	3.00	6.76	0.00	0.00
	<b>Others-Total</b>	<b>7.55</b>		<b>7.55</b>	<b>12.57</b>	<b>0.00</b>	<b>0.00</b>
<b>B</b>	<b>State Own generation</b>						

Sl. No.	Generation Sources	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Crs)	Charge per unit (Rs/kWh)
1	All Units (incl. Lengpui set)	22.30	100	22.30	13.32	0.00	0.00
	<b>Owned Generation Total</b>	<b>22.30</b>		<b>22.30</b>	<b>13.32</b>	<b>0.00</b>	<b>0.00</b>
C	IEX Exchange purchase				1.54	0.40	2.60
D	a) UI Over drawl				2.05	1.07	5.22
	b) UI Under drawl				-26.607	-10.11	3.80
	UI / Deviation-Total				-24.557	-9.04	3.68
E	Other RE Energy						
	1.Rooftop solar Generation				0.07	0.02	2.86
	2.Solar Generation				2.32	0.00	0.00
F	RPO Obligation /REC Certificate					10.52	
G	LC Enhance/Renew charges					4.05	
H	Reactive Energy Charges					0.02	
I	Supplementary Bills (Addl.)					18.15	
J	Bilateral Power Purchase						
	1. Utility ...						
	<b>GRAND TOTAL</b>	<b>6443.85</b>		<b>243.14</b>	<b>751.37</b>	<b>386.48</b>	<b>5.14</b>

The Commission approves power purchase of 777.98MU including UI deviation (Overdraw) of 2.05 MU considering the free power from Tuirial of 15.78 MU received during FY 2021-22 for true-up purpose based on actuals. With free power from Tuirial the gross actual power purchase quantum would be at 777.98MU in FY 2021-22. Out of 777.98MU, the under-drawl quantity of 26.607MU is excluded and the balance energy is treated as purchased is from all source's figures to 751.37MU. Similarly, the compensation of Rs.10.11Crs towards under drawl from power purchase cost and the NTPC rebate amount of Rs.0.17551Crs not considered is reduced from power purchase cost under supplementary bills amount.

### 5.7.3. Inter State Transmission Charges

#### Petitioner's Submission

The Hon'ble Commission in the Tariff Order dated 23.03.2022 for the FY 2021-22 had approved transmission charges of Rs.53.71 Crores. The actual transmission charges for the FY 2021-22 is Rs.51.62 Crores. The actual

transmission charges based on the audited annual accounts as compared to the approved figure is provided in the table below.

**Table 5.10: Inter-State Transmission Charges by P&ED for FY 2021-22**

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Transmission Charges	53.71	51.62	-2.09
	<b>Total</b>	<b>53.71</b>	<b>51.62</b>	<b>-2.09</b>

### Commission's Analysis

Normally, the true-up petition needs to be compared with the figures approved by the Commission in relevant Tariff Order. Now, in view of the considered Power Purchase Cost of Rs.386.47Cr at Para 5.7.2 above and the interstate (PGCIL) transmission charges are now considered at Rs.51.62 Crores.

**The Commission approves Inter State Transmission Charges (PGCIL Charges) at Rs.51.62 Cr for FY 2021-22 as per the audited accounts furnished by P&ED for this True up purpose.**

#### 5.7.4. Intra -State Transmission Charges (State Transmission Charge)

##### Commission Analysis:

The Commission in its order dated 26.03.2021 had approved Intra-State Transmission Charges (STC) at **Rs.6.47 Cr** for FY 2021-22. The P&ED in its True up Petition **had not provided any specific expenses amount as incurred towards Intra-State Transmission costs. It could be due to not availability of each functional wise cost segregation mechanism are not there else no such cost incurred separately in reality.**

Therefore, it is construed that the audited power purchase costs are inclusive of generation costs and associated transmission expenses if any. It is clear that the **Licensee has no identifiable specific transmission related cost to indicate in audited accounts is a stark reality and the same situation is prevalent and glaringly noted by the Commission for earlier bygone years also.** Adopting the same analogy, their ARR related figures indicated for State Transmission charges of FY 2021-22 has no significance even if anything has been stated for

the sake of **Transmission ARR filing purpose because it is done as a rituality by P&ED with no specific usefulness except to enhance the ARR amount.** This issue is perfectly corroborated with the audited accounts figures finalized every year in the past. **Same is the case even with Generation Cost related estimates now submitted.**

**Therefore, the Commission approves Rs.Nil amount against Intra-State Transmission Charges in FY 2021-22 for True-up purpose in reality.**

#### 5.7.5. O & M Expenses

##### a). Employee Cost

##### Petitioner's submission

The Hon'ble Commission had approved employee cost of **Rs. 128.20 Crores** for the FY 2021-22 vide Tariff Order dated 23.03.2022. The audited accounts for department are not function wise, hence, segregated actual employee expenses for distribution function is not available. The actual employee cost provided below is total for the department as a whole.

It is submitted that in view of the fact that the function wise segregated costs are not available and the audited costs are inclusive of the cost of generation & transmission function, P&ED is not claiming the cost of generation & intra-state transmission charges separately.

The Hon'ble Commission may kindly consider the above submission and true-up the employee cost for the FY 2021-22.

The approved employee cost and actual value of employee cost for FY 2021-22 is provided in the table below:

**Table 5.11: Employee Cost furnished by P&ED for FY 2021-22**

(Rs. Crs)

Sl. No	Particulars	Approved in T.O. dtd. 23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Employee Cost	128.20	188.37	60.17
	<b>Total</b>	<b>128.20</b>	<b>188.37</b>	<b>60.17</b>

**Commissions Analysis:**

As per the earlier APR filed figures by the P&ED for 2021-22, it was for Rs.144.40Crs quoting various reasons for the claim made giving an impression that it is for entire P&ED. The Commission after careful consideration approved only Rs.144.40crs as the probable employee cost for FY2021-22. While in reality the employee cost incurred as per audited accounts is at Rs.188.37 Crs which is abnormally higher than what was projected in APR filings and actuals incurred were at Rs.188.37Crs for the indicated strength of 3894 number of employees now indicated as existing even in FY2021-22. It is apparently clear that the expenditure level is hovering around this figure even in the past also but licensee has not made any attempt to discuss & reason out anywhere in their ARR submission for the incurred higher cost. Since P&ED had received an additional revenue subsidy of Rs . 284.35Crs as per Balance Sheet **Schedule-33** in addition to the Tariff subsidy of Rs . 82.96Crs (shown in **schedule-4**), hence the additional employee expenditure amount is fully considered for true-up due to additional subsidy cushion now available for adjustment in FY2021-22 and more so **it would not burden the consumer in any way**. Accordingly, the Commission too approves the same amount of Rs.188.37Crs for true-up relating to FY 2021-22 **towards employee cost of entire P&ED utility as a whole.**

**b). Repairs & Maintenance****Petitioner's submission:**

The Hon'ble Commission had approved repair & maintenance expenses of Rs .9.63 Crores for the FY 2021-22 vide Tariff Order dated 23.03.2022. Repair & Maintenance expenses approved as above only relates to the distribution function. However, the audited accounts for department are not function wise hence, segregated actual repair & maintenance expenses for distribution function is not available. The actual repair & maintenance expenses provided below are total for the department as a whole.

It is submitted that in view of the fact that the function wise segregated costs are not available and the audited costs are inclusive of the cost of generation & transmission function, P&ED is not claiming the cost of generation & intra-state

transmission charges separately.

The Hon'ble Commission may kindly consider the above submission and true-up the repair & maintenance expenses for the FY 2021-22.

The approved repair & maintenance expenses and actual value of repair & maintenance expenses for FY 2021-22 is provided in the table below:

**Table 5.12: Repair and Maintenance Expenses furnished by P&ED for FY 2021-22**  
(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Repair & Maintenance expenses	9.63	23.49	13.86
	<b>Total</b>	<b>9.63</b>	<b>23.49</b>	<b>13.86</b>

Further, it is submitted that Rs.1.66 Crores out of Rs.23.49 Crores is paid to M/s. Amazon Engineering for operating & managing the Khawiva SHP, Tuipui SHP, Teirei SHP & Kau Tlabung SHP the for the FY 2021-22.

#### **Commission Analysis:**

Earlier, in the APR filing submission the Licensee (P&ED) had submitted for revision of R&M expenses amount from Rs.11.03 Crs to Rs.9.63Crs and the same was allowed to by the Commission in the APR figure for FY 2021-22. But, now licensee has come out with strange explanation that, since they have no functional wise cost segregation available, requests for allowing the entire cost of Rs.23.49Crs claimed towards R&M cost for the reason they are not preferring any claim towards Generation & transmission function separately. What explanation expected from P&ED are the reasons and causes for incurring higher expenditure more than approved in 2021-22 Tariff Order. But explanation has not answered with the reasons as to why such excess costs were incurred and the circumstances beyond the control of licensee in preventing to reduce. Unless the appropriate reasonable explanation is given for the additional R&M amount of Rs.13.86crs incurred towards R&M Expenses shall not be allowed.

However, the Commission had taken a lenient view due to the observance additional financial revenue subsidy it received to the tune of Rs . 284.35crs as



the reason for full admission of employee cost incurred during this year and allowing this extra R&M cost may not really burdens the consumers. **Accordingly, Commission approves the entire R&M expenses of Rs.23.49 Crore for the FY 2021-22 for True-up purpose. Moreover, this amount includes the O&M expenses paid to M/s. Amazon Engineering to the tune of Rs.1.66Crs.**

### c). Administration & General Expenses

#### Petitioner's submission

The Hon'ble Commission had approved Administration & General Expenses of Rs.4.88 Crores for the FY 2021-22 vide Tariff Order dated 23.03.2022. Administration & General Expenses approved as above only relates to the distribution function. However, the audited accounts for department are not function wise hence, segregated actual Administration & General Expenses for distribution function is not available. The actual Administration & General Expenses provided below is total for the department as a whole.

It is submitted that in view of the fact that the function wise segregated costs are not available and the audited costs are inclusive of the cost of generation & transmission function, P&ED is not claiming the cost of generation & intra-state transmission charges separately.

The Hon'ble Commission may kindly consider the above submission and true-up the Administration & General Expenses for the FY 2021-22.

The approved Administration & General Expenses and actual value of Administration & General Expenses for the FY 2021-22 is provided in the table below:

**Table 5.13: Administrative & General Expenses furnished by P&ED for FY 2021-22**

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Administration & General Expenses	4.88	2.73	-2.15
	<b>Total</b>	<b>4.88</b>	<b>2.73</b>	<b>-2.15</b>

#### Commission's Analysis

The Commission observes that P&ED has incurred lesser Administrative cost towards Travelling & Conveyance and Miscellaneous expenses than approved for in the Tariff Order APR approved figures for FY2021-22. Since, the claim in expenditure is lesser than the APR approved figure, **the Commission now approves actual claim of Administrative and General Expenses of Rs.2.73 Crores for entire department as a whole for the FY 2021-22 for True-up purpose.**

**d). O&M Expenses**

Abstract of actual O&M Expenses approved by Commission are as detailed in the Table below.

**Table 5.14: O&M Expenses approved by the Commission for FY 2021-22 after true-up (Rs. Cr)**

Sl. No	Particulars (FY 2021-22)	Amount
1	Employee Cost	188.37
2	R&M Expenses	23.49
3	Administration and General expenses	2.73
4	<b>Total O&amp;M Expenses approved</b>	<b>214.59</b>

**5.7.6. Depreciation**

The Hon'ble Commission had not approved any amount for Depreciation for the FY 2021-22 vide Tariff Order dated 23.03.2022. The approved Depreciation and actual value of Depreciation as per the Fixed Asset & Depreciation Register for the FY 2021-22 is provided in the table below:

**Table 5.15: Depreciation furnished by P&ED for FY 2021-22**

Sl. No.	Particulars	Approved in T.O. dt:23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Depreciation	0.00	4.38	4.38
	<b>Total</b>	0.00	4.38	4.38

**Commissions Analysis**

As seen from the audited accounts of FY 2021-22 the total depreciation during FY 2021-22 is Rs.43.83 Crores and 10% of the depreciation is Rs.4.38 Crore is preferred by P&ED with an argument that 90% of its expenditure is funded with grants received from Government is the intention behind P&ED claiming for the above depreciation.

But, considering the assets capitalisation made for an amount of Rs.42.95Cr in 2021-22 was also spent from the grants by State Government. It now appears Own funds invested amount share is 0.361% of the Total OCFA as per the table indicated below. In fact, of all the new additions to assets with grants and subsidy don't be considered under Regulatory accounting basis for depreciation. It is also well known that the depreciation is a **non-cash** item and any reduction in this amount will no way affects the P&ED financially in any way but it benefits the Consumers in Tariff reduction.

**Table 5.16: Capital Asset Grants used for Assets Creation**

Item details	2021-22	2020-21
	Rs.Lakhs	Rs.Lakhs
Capital Subsidy balance	256003.46	249175.56
Add: subsidy Additions	0.00	6827.9
<b>Capital Subsidy (A)</b>	<b>256003.46</b>	<b>256003.46</b>
Original Cost of Fixed Assets (B)	142211.30	137916.10
Excess of Capital Subsidy over OCFA	<b>113792.16</b>	<b>118087.36</b>
OCFA upon Capital subsidy (%)	<b>55.55%</b>	<b>53.87%</b>

Accordingly, the Commission accords approves Nil depreciation allowable for the FY 2021-22 for truing-up purpose.

#### 5.7.7. Interest & Finance Charges

The interest & finance charges approved for the FY 2021-22 and actual value of interest & finance charges made by the P&ED for the FY 2021-22 is provided in the table below:

**Table 5.17: Interest and Finance Charges furnished by P&ED for FY 2021-22**

(Rs. Cr)				
Sl. No	Particulars	Approved in T.O. dt. 23.03.2022	As per Accounts	Deviation
1	2	3	4	5 = (3-4)
1	Interest & Finance Charges	0.82	0.82	0.00
	<b>Total</b>	<b>0.82</b>	<b>0.82</b>	<b>0.00</b>

#### Commissions Analysis:

The Interest and Finance charges of P&ED during FY 2021-22 are payable to the following State Government Loan lenders and the interest charged to P&L

*A/c is not actually paid but only created an Outstanding Liability provision for the accrued interest as a book-entry adjustment and getting reimbursement from consumers.* The Interest being claimed in the annual accounts is not being paid and shown as outstanding liability even relating to past years also. Since the liability is not discharged, the entire amount shall not be allowed even in the True-up exercise and the same will only be considered for reimbursement when actually paid in future with proof of payment.

If these dues found to be uncleared even after 31<sup>st</sup> march 2023, the entire interest portion left unpaid will be clawed back at one go while truing-up for FY 2022-23 finally as these were already passed on to the consumers in the past but left unpaid till date and this is only an extra leeway given to take suitable action as a last resort else the same will be recovered fully for certainty.

#### 5.7.8. Interest on Working Capital

##### Petitioner's submission

The Interest on Working Capital as approved for the FY 2021-22 and actual value of Interest on Working Capital for the FY 2021-22 is provided in the table below:

**Table 5.18: Interest on working capital furnished by P&ED for FY 2021-22**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
1	2	3	4	5= (3-4)
1	Interest on Working Capital	0.00	7.70	7.70
	<b>Total</b>	<b>0.00</b>	<b>7.70</b>	<b>7.70</b>

##### Commissions Analysis

As per the MYT Regulation 2014, the interest on working capital is a permissible element of ARR expenditure as per the following relevant provision:

- (i). As per regulation 29(4) of JERC for Manipur and Mizoram (MYT) Regulations 2014 the distribution licensee shall be allowed on estimated level of working capital computed as follows:
  - a). O&M Expenses for one month; plus

- b). Maintenance of spares at 1% of historical cost escalated at 6%;  
plus
- c). Receivables equivalent to one month from sale of electricity at prevailing tariff minus.
- d). **Amount hold as Security deposit under clause (a) and (b) of sub-section (1) of 47 of the Act**, from consumers except security deposit held in the form of Bank guarantee.
- e). Interest shall be allowed at a rate equal to the State Bank Advance Rate (SBAR) as on 1st April of this financial year in which the petition is filed.

It is thoroughly observed that so far P&ED had not drawn any kind of working capital loan during the entire financial year of 2021-22 or was there any history of such loans being drawn in the past. Moreover, the P&ED while arriving at the working Capital requirement (form-F4, page 179 of Formats) is ignoring the Consumer security deposit (CSD) possessed by them to the tune of Rs.29.9265Cr in FY 2021-22 (Schedule-27 of Audited Balance sheet), though the regulation had provided for it but still it prefers to claim higher amount in the form of interest on working capital ignoring CSD. It appears, P&ED is under mis-conception that Interest on Working Capital can be claimed irrespective of actual availment of short-term loan and same provision is not covered in the clause 29.3 & 29.4 of the MYT regulation 2014.

Therefore, Commission feels that admitting of interest on Working Capital will only be an additional burden on retail consumers as there is no need noted for allowing such cost element as they are fully dependent upon and was availing required funding from the State government itself for their day to day routine operations. Hence, no calculation needs to be made afresh for this purpose in FY 2021-22 and no amount is allowed for true-up under this head now and even in future if the same status quo prevails.

#### **5.7.9. Provision for Bad Debts**

##### **Petitioner's submission:**

The Hon'ble Commission did not approve Provision for Bad & Doubtful Debt for the FY 2020-21 and actual provisions made in the Accounts for the FY 2020-21 is also nil.

##### **Commission's Analysis:**

The Commission also approves NIL bad debts provision for FY 2021-22, besides it was also noted that the dues from Consumers have come down by 36.253Cr during 2020-21. This outstanding amount as a percentage of total sales in FY 2021-22 is 37.895% (i.e., 140.227/370.0 and the outstanding amount is equivalent to more than 4½ months sales revenue while the desirable dues is only allowed for 2 months sales quantum. From this, it can be inferred that P&ED department is exhibiting a very poor performance on revenue collections of current year demand leave aside the pending old accumulated arrears. Therefore, it is apparent that the licensee is not making any serious Special Intensive drive efforts for revenue collections from its defaulting consumers, instead it is allowing dues accumulation to grow unabated. The Commission feels, that the action of imposing of penalties/late payment surcharges is not appears to be occurring at the level expected and unless penalties are strictly imposed the revenue collections will bound to be poor and the Organisation will have to face financial crunch on account of its own inaction. This is not a healthy practice and P&ED shall take serious note of the situation and order for intensive special drive collections and see that these huge dues from sale of power comes down very soon by drawing an action plan and inform the Commission. **This is a very bad precedence to their performance. It is an alarming situation the Mizoram Electricity sector is presently sailing through.**

#### 5.7.10. Return on Equity

The Hon'ble Commission did not approve return on equity for FY 2021-22. No provision for the return on equity was also made in the Accounts by the P&ED for FY2021-22.

**The Commission also approves NIL provision for bad debts for FY 2021-22.**

#### 5.7.11. Non-Tariff Income/Other Incomes

##### **Petitioner submission:**

The Other Income approved for the FY 2021-22 and actual value of other income made by the P&ED for the FY 2021-22 is provided in the table below:

**Table 5.19: Non-Tariff Income for 2021-22 furnished by P&ED**

				(Rs. Crs)
		Approved in	As per	

Sl. No.	Particulars	T.O. dated 23.03.2022	Accounts	Deviation
1	2	3	4	5
1	Non-Tariff Income	10.60	7.58	-3.02
	<b>Total</b>	<b>10.60</b>	<b>7.58</b>	<b>-3.02</b>

#### Commission Analysis:

The Commission in its Order dated 26.03.2021 had approved Rs.3.70 Crore as Non-tariff Income for the FY 2021-22. But the P&ED has reported that their Non-tariff Income would be at Rs.10.60Cr in FY 2021-22 in their APR filing and now as per their audited accounts it is only Rs.7.58Cr.

The Commission accords approval for Rs.7.58 Crore towards Non-tariff Income for the FY 2021-22, as per audited actuals while these charges should have been even at higher level in the prevailing condition of higher arrears and also four SHPs were leased to M/s. Amazon Engineering to maintain the plants. The Lease rents if any received from them should have been accounts for into this head of Income, but no mention was ever made by the Licensee.

Efficiency gains improvement already shown in Tariff Order Rs.7.995Cr for dues collection is retained and additionally the 22.108Cr towards higher losses is imposed by Commission for observing the poor performance by Licensee, thereby the overall efficiency gains are Rs.30.103Cr for FY 2021-22 by the Commission.

Contribution to contingency reserve fund: The amount allowed in the Tariff Order of FY 2021-22 was Rs.3.23Cr but not Rs.2.41Cr (APR Order) as presented in the True-up petition. Since this amount was not spent by the Licensee, the same is taken back by disallowing in True-up expenses now.

#### 5.7.12. Revenue from approved tariffs

##### Petitioner Submission:

The revenue from sale of power approved for the FY 2021-22 vide Tariff Order dated 23.03.2022 and actual value of revenue from sale of power for the FY 2020-21 is provided in the table below:

**Table 5.20: Revenue from energy Sales in FY 2021-22 furnished by P&ED (Rs. Crores)**

Sl. No.	Category	Approved in T.O. dated 23.03.2022	As per Accounts	Deviation
	<b>LT Consumers</b>			
1	Kutir Jyoti	343.62	1.96	-36.47
2	Domestic		152.18	
3	Non-Domestic		6.01	
4	Commercial		25.87	
5	Public Lighting		2.18	
6	Public Water Works		6.23	
7	Agriculture		0.03	
8	Industrial		1.72	
	<b>Total LT</b>		<b>196.18</b>	
	<b>HT Consumers</b>			
9	Domestic		1.94	
10	Non-Domestic		0.50	
11	Commercial		11.80	
12	Public Water Works		77.69	
13	Agriculture		0.04	
14	Industrial	5.35		
15	Bulk Supply	13.65		
	<b>Total HT</b>	<b>110.97</b>		
	<b>Total of LT &amp; HT category</b>		<b>307.15</b>	<b>-36.47</b>
16	Outside State	50.54	62.90	12.36
	<b>Total</b>	<b>394.16</b>	<b>370.05</b>	<b>-24.11</b>

#### Commission's Analysis:

The average revenue realisation from sale of surplus power is Rs.5.856/KWh [(Rs.62.90crs-Rs.10.11crs for under drawl compensation)/90.15MU] while net average purchase cost from all CGS stations is derived at as Rs.5.663/KWh in FY2021-22 which include the Transmission charge of Rs.51.62Crs and supplementary bills amount of Rs.18.33Crs. On account of surplus sales transaction, the licensee has not incurred any loss.

The revenue should have been realised by P&ED during the Financial year 2021-22 considering the retail energy sales as indicated should have been Rs.336.06Crs. But the reported audited revenue amount is only Rs.307.15Crs, there by the billing demand shortfall was to the tune of **Rs.28.91Crs**. This aspect needs to be examined thoroughly by the P&ED to find out the underlying reasons for revenue under realisation. If note sorted out, the revenue derived by Commission would always be at higher level than actual



realisation resulting in deficit every year. The conversion of Power factor for H.T consumers shall be at 0.90 for KVAh and kVA conversion in the billing software. **As per the Supply Code with latest revisions the contracted Demand of 55.56KVA shall be equated with 50kW to derived the Power factor.** There will be a directive on this aspect this year to sort out and plug the revenue under estimation occurrence in future.

Detailed category wise revenue comparison table is placed below for reference.

Sl. No.	Consumer Category (FY 2021-22)	As per Accounts	As per Commission
	<b>LT Consumers</b>	Rs.Crs	Rs.Crs
1	Kutir Jyoti	1.96	2.146
2	Domestic	152.18	154.99
3	Non-Domestic	6.01	6.560
4	Commercial	25.87	28.260
5	Public Lighting	2.18	2.472
6	Public Water Works	6.23	6.244
7	Agriculture	0.03	0.023
8	Industrial	1.72	2.609
	<b>Total LT</b>	<b>196.18</b>	<b>203.31</b>
	<b>HT Consumers</b>		
9	Domestic	1.94	2.662
10	Non-Domestic	0.5	9.212
11	Commercial	11.8	11.93
12	Public Water Works	77.69	87.569
13	Agriculture	0.04	0.05
14	Industrial	5.35	6.143
15	Bulk Supply	13.65	14.694
16	Theft & Pilferage		0.49
	<b>Total HT</b>	<b>110.97</b>	<b>132.75</b>
	<b>Total</b>	<b>307.15</b>	<b>336.06</b>

*However, the Commission approves the same revenue amount from sale of energy from all sources at Rs.307.15 Crores during FY 2021-22 based on the details made available for Commission scrutiny for true-up purpose.*

#### 5.8. Summary of actuals filed by P&ED for true up & approved by Commission Petitioner's submission:

It is submitted that in view of the fact the function wise segregated costs are not available and the audited costs are inclusive of the cost of generation &

transmission function, P&ED is not claiming the cost of generation & intra-state transmission charges separately.

The Annual Revenue Requirement approved for the FY 2021-22 and actual value of Annual Revenue Requirement for the FY 2021-22 is provided in the table below:

**Table 5.21: True-Up of ARR for FY 2021-22 as per P&ED**

Sl. No.	Item of Expense	Approved in T.O. dt. 23.03.2022	As per Accounts	Deviation
1	2	3	4	5
1	Cost of Fuel	0.00	0.00	0.00
2	Cost of Generation	0.00	0.00	0.00
3	Cost of Power Purchase	437.27	396.76	-40.51
4	Transmission Charges	53.71	51.62	-2.09
2	Intra-State Transmission Charges	0.00	0.00	0.00
3	Employee Costs	128.20	188.37	60.17
4	R&M Expenses	9.63	23.49	13.86
5	Administration and General Expenses	4.88	2.73	-2.15
6	Depreciation	0.00	4.38	4.38
7	Interest charges	0.82	0.82	0.00
8	Interest on Working Capital	0.00	7.70	7.70
9	Provision for bad debts	0.00	0.00	0.00
10	Return on NFA /Equity	0.00	0.00	0.00
11	Contribution to Contingency Reserve Fund	2.41	0.00	-2.41
<b>12</b>	<b>Total Revenue Requirement</b>	<b>636.92</b>	<b>675.87</b>	<b>38.95</b>
13	Less: Non-Tariff Income	10.60	7.58	-3.02
14	Less: Net surplus in true-up	59.36	59.36	0.00
15	Less: Efficiency Gains (O/s dues for collection)	8.00	0.00	-8.00
<b>16</b>	<b>Net Revenue Requirement</b>	<b>558.96</b>	<b>608.92</b>	<b>49.96</b>
17	Less: Revenue from Sale of Power	394.16	370.05	-24.11
<b>18</b>	<b>Gross Revenue Deficit</b>	<b>164.80</b>	<b>238.88</b>	<b>74.08</b>
19	Less: Revenue Subsidy from Govt.		82.96	82.96
<b>20</b>	<b>Net Revenue Deficit/Gap</b>	<b>164.80</b>	<b>155.92</b>	<b>-8.88</b>

It is prayed that the Hon'ble Commission may kindly consider the above submission and approve the Aggregate Revenue Requirement and Gap for the FY 2021-22.

Commission Analysis:

**Table 5.22: Aggregate Revenue Requirement of FY 2021-22 approved for true-up (Rs. Cr)**

Sl. No.	Item of Expense	Approved in T.O dt 26.03.21	As per Accounts	Commission Approved
1	Cost of Fuel	0.01	0	0
2	Cost of Generation	3.369	0	0
3	Cost of Power Purchase	337.52	396.76	386.48
4	Transmission Charges (CTU)	37.73	51.62	51.62
2	Intra-State Transmission Charges	6.47	0	0
3	Employee Costs	141.00	188.37	188.37
4	R&M Expenses	11.03	23.49	23.49
5	Admin& General Expenses	4.83	2.73	2.73
6	Depreciation	2.08	4.38	0
7	Interest charges	0.82	0.82	0
8	Interest on Working Capital	1.07	7.7	0
9	Provision for bad debts	0.00	0	0
10	Return on NFA /Equity	0.00	0	0
11	Contingency Reserve Contribution.	3.23	0	0
12	<b>Total Revenue Requirement</b>	<b>549.16</b>	<b>675.87</b>	<b>652.69</b>
13	Less: Non-Tariff Income	3.70	7.58	7.58
14	Less: FY19-20 true-up surplus	59.36	59.36	59.36
15	Less: Efficiency Gains (dues collection of 2019-20)	7.995	0	(#) 16.11
16	<b>Net Revenue Requirement</b>	<b>478.11</b>	<b>608.92</b>	<b>569.65</b>
17	Less: Revenue from revised Tariff	366.87	307.15	307.15
	Less: Revenue from Outside sale	28.28	62.90	52.79
18	<b>Gross Revenue Deficit</b>	<b>82.96</b>	<b>238.88</b>	<b>209.71</b>
19	Less: Revenue Subsidy from Govt.	82.96	82.96	367.31
20	<b>Net Revenue Deficit/Gap</b>	<b>Nil</b>	<b>-155.92</b>	<b>157.60</b>

(#) – Includes additionally Rs.16.105CrS imposed by the Commission for the poor performance due to steep spike in distribution loss level by 4.45% (i.e.,29.45%-25% considered now) for FY2021-22 and overall distribution losses increased by 0.40% over FY 2020-21 (last Year) exhibiting a very poor performance in energy handling with in State periphery.

Note: - For the purpose of True-up the audited actuals are to be compared with the Tariff Order figures of FY 2021-22 considered for Tariff determination and not with the APR figures which were not considered in Tariff fixation. The APR figures will be useful to observe the functional efficiency of the entity only.

#### 5.9. Revenue gap/surplus after true up

As seen from the above the P&ED has omitted the Government revenue subsidy of Rs.284.35 Crs received by it as per Schedule-33 of Audited Annual Accounts for FY 2021-22. The above amount is so arrived at by taking the difference between 2021-22 (current year) figure and that of 2020-21(Previous year) figure of schedule-33 of 2021-22 audited

balance sheet. It is interesting to note that the P&ED had only considered the subsidy amount of Rs.82.96 Crore that was shown under schedule-4 of the Audited Balances Sheet. This approach of misrepresentation of the factual is very much unfair may be to show an uncovered Gap of Rs.155.92Crs by not disclosing in the filing about additional subsidy amount that was already reflected as received in the audited Balance sheet at schedule-33. But in reality, the organisation has attained a fat surplus financial status to the tune of Rs.157.60Crs which was not duly reflected in their ARR filings. Same was the kind of display exhibited in the FY2019-20 & 2020-21 ARR true-up submissions made earlier.

After setting-off net gap with that of Government subsidy during FY 2021-22, the P&ED achieved revenue surplus of Rs.157.60Crs. As per regulation 13.1(i) of the JERC for M&M (MYT) Regulations, 2014, one-third ( $\frac{1}{3}^{\text{rd}}$ ) of the gain amount Rs.52.53Crs shall be passed on as a rebate to all the consumers in the tariff fixation for FY 2023-24.

Eventually, Rs.52.53 Crs being one third (1/3rd) of surplus amount of Rs.157.60Crs is now passed on as a rebate in the ARR mount for FY 2023-24 as per the above cited Regulation. The balance surplus is kept at the exclusive disposal of the P&ED to the tune of Rs.105.07Crs to utilise for any useful purpose by retaining it with them instead of remitting it back to Government Treasury by doing so it may loses its identity to trace back.

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## 6. Annual Performance Review for FY2022-23

### 6.1. Back ground

#### **Petitioners Submission:**

Multi Year Tariff Order for the control period of 5 years from FY 2018-19 to FY 2022-23 was issued by the Hon'ble Commission vide order dated 12.03.2018 under the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

The Hon'ble Commission determined the Aggregate Revenue Requirement for the

FY 2018-19 to FY 2022-23 & Tariff for the FY 2018-19 vide Order dated 12.03.2018.

Regulation 5.2 (iii) of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides as follows:

“In case of Mid-term Review of Business Plan under Regulation 4.2 (i), the Petition shall comprise of:

- a). Truing Up for previous year;
- b). Modification of the ARR for the remaining year of the Control Period, if any, with adequate justification for the same;
- c). Revenue from the sale of power at existing tariffs and charges for the ensuing year;
- d). Revenue gap for the ensuing year calculated based on ARR approved in the MYT Order and truing up for the previous year;
- e). Application for determination of tariff for the ensuing year.”

Further, the Hon'ble Commission notified the First Amendment Regulations, 2019 is as follows:

“5.2 The filing of the Control Period under these Regulations shall be as under.

(i).....

(ii) From the second year of the Control Period onwards and upto the last year of the Control Period, the petition in each year shall comprise of:

- a. Truing Up for the previous year with audited accounts, and Annual Performance Review (APR) with revision of ARR approved in MYT Order for

- current year and revised projection of ARR approved in MYT Order for the ensuing year in accordance with these Regulations;
- b. Revenue from the sale of power at existing tariffs and changes for the current year;
  - c. Revenue gap for the ensuing year calculated based on the revised projection of ARR and truing up of the previous year;
  - d. Application for determination of tariff for the ensuing year.”

Further, the Hon’ble Commission had directed the P&ED to file APR for the current FY along with the Tariff Petition for the next FY.

In compliance with the above directive of the Hon’ble Commission, P&ED is submitting the present petition for Review of FY 2022-23.

P&ED requests the Hon’ble Commission to carry out the Review for the FY 2022-23 in accordance with the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 read with First Amendment Regulations, 2019.

Data given in this chapter is for the entire year i.e. FY 2022-23.

## **6.2. Energy Sales**

It is submitted that the P&ED has revised the projection of number of consumers, connected load & energy sales for the FY 2022-23 based on the audited actual figures of the FY 2021-22 and the actuals for the FY 2022-23 H1 (1st Half Year). The CAGR for the 3 years, 2 years and 1 year has been computed and appropriately applied to arrive at the revised number of consumers, connected load & energy sales for the FY 2022-23. This has been done as there was variation between the approved figure and the revised estimates of sales for the FY 2022-23. The details of projections are provided in the subsequent sections.

### **Commission Analysis:**

The Commission in its Order dated 26.03.2021 had approved the ARR & energy sales for FY 2022-23 based on the data projections submitted by the P&ED. Now, the P& ED in its annual review petition for FY 2022-23 has submitted data

as per Revised Estimates to FY 2022-23. There are differences in certain sales quantum, expenditure items as well as revenue between the approvals granted by the Commission in 2022-23 tariff Order and revised estimates now furnished by P&ED. In the revised sales projection, the LT sales were decreased and HT sales were increased by smaller quantum. As per the revised sales composition, LT constitute 72.63% and balance is 27.37% for HT sales. It is always preferable to encourage more of HT sales in the State and provide lots of privileges to attract more HT based consumption to develop the state industrially and it also help the Electricity sector to flourish financially with the HT sales enhancement. The Commission considers it appropriate and fair to revisit and review the approvals granted earlier through the tariff order issued for FY 2022-23 dt 23.03.2022 based on the revised estimates now being submitted in their APR filings by the P&ED but without altering/deviating the Principles and norms adopted earlier. These matters are discussed in the succeeding paragraphs.

### 6.3. Number of Consumers

The estimates of category wise number of consumers have been revised based on the audited actual figures of the FY 2021-22 and the actuals for the FY 2022-23 (H1). The CAGR for the 3 years, 2 years and 1 year has been computed and appropriately applied to arrive at the revised number of consumers. Based on the audited actuals of FY 2018-19 to FY 2021-22, the growth rate of number of consumers and the revised number of consumers is detailed in the table below.

**Table 6.1: Consumer Category-wise Growth in Number of Consumers of FY 2022-23**

Sl. No.	Category	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Year	Conside-red (%)	FY 2022-23
1	<b>KI(Domestic)</b>	20925	21266	19790	21834	1.43	1.33	10.33	5.00	22926
2	Domestic LT	196192	211718	223673	231040	5.60	4.46	3.29	4.46	241353
3	Domestic HT	34	25	25	22	-13.51	-6.19	-12.00	5.00	23
	<b>Total Domestic</b>	<b>217151</b>	<b>233009</b>	<b>243488</b>	<b>252896</b>					<b>264301</b>
4	Non-Domestic LT		5791	6914	7742		15.62	11.98	5.00	8129
5	Non-Domestic HT		77	11	17		-53.01	54.55	5.00	18
	<b>Total Non-Domestic</b>	<b>0</b>	<b>5868</b>	<b>6925</b>	<b>7759</b>					<b>8147</b>
6	Commercial LT	15705	11888	11784	12646	-6.97	3.14	7.32	3.14	13043
7	Commercial HT	168	143	280	339	26.37	53.97	21.07	5.00	356
	<b>Total Commercial</b>	<b>15873</b>	<b>12031</b>	<b>12064</b>	<b>12985</b>					<b>13399</b>
8	Public Lighting	1283	1192	1244	1316	0.85	5.07	5.79	5.07	1383
9	PublicWaterSupplyLT	10	17	9	11	3.23	-19.56	22.22	3.23	11
10	PublicWaterSuppl.HT	54	53	70	70	9.04	14.92	-	5.00	74
11	Agriculture LT	23	37	35	37	17.17	-	5.71	5.71	39
12	Agriculture HT	0	2	2	3		22.47	50.00	5.00	3



Sl. No.	Category	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Year	Conside-red (%)	FY 2022-23
13	Industrial LT	1151	1032	1034	1023	-3.85	-0.44	-1.06	5.00	1074
14	Industrial HT	15	18	23	16	2.17	-5.72	-30.43	2.17	16
15	Bulk Supply-HT (Incl.Temp.)	195	235	228	212	2.83	-5.02	-7.02	2.83	218
		<b>235755</b>	<b>253494</b>	<b>265122</b>	<b>276328</b>					<b>288666</b>

**Commission analysis:**

The Commission has carefully observed the trend of the number of consumers growth and accordingly, estimated the consumers for FY 2022-23 accordingly and the growth rate considered is also indicated in the Table below:

**Table 6.2: Category-wise Growth in Number of Consumers of FY 2022-23 approved**

Sl. No.	Category	Financial Years				Compound Growth Rate			Conside-red (%)	FY 2022-23
		2018-19	2019-20	2020-21	2021-22	for 3Yrs	for 2Yrs	for 1Yr		
1	<b>Kutir Jyoti – (Domestic)</b>	20925	21266	19790	21834	1.43	1.33	10.33	9.43%	23894
2	Domestic LT	2E+05	211718	223673	231040	5.6	4.46	3.29	5.60%	243980
3	Domestic HT	34	25	25	22	-	-6.19	-12	4.55%	23
	<b>Total Domestic</b>	<b>2E+05</b>	<b>233009</b>	<b>243488</b>	<b>252896</b>					<b>244004</b>
4	Non-Domestic LT	<del>20925</del>	5791	6914	7742		15.62	11.98	11.97%	8669
5	Non-Domestic HT	<del>34</del>	77	11	17		-	54.55	52.94%	26
	<b>Total Non-Domestic</b>	<b>0</b>	<b>5868</b>	<b>6925</b>	<b>7759</b>					<b>8695</b>
6	Commercial LT	15705	11888	11784	12646	-6.97	3.14	7.32	7.31%	13571
7	Commercial HT	168	143	280	339	26.37	53.97	21.07	20.94%	410
	<b>Total Commercial</b>	<b>15873</b>	<b>12031</b>	<b>12064</b>	<b>12985</b>					<b>13981</b>
8	Public Lighting	1283	1192	1244	1316	0.85	5.07	5.79	5.78%	1392
9	Public Supply-LT Water	10	17	9	11	3.23	-	22.22	18.18%	13
10	Public Supply-HT Water	54	53	70	70	9.04	14.92	-	5.71%	74
11	Agriculture LT	23	37	35	37	17.17	-	5.71	5.41%	39
12	Agriculture HT	0	2	2	3		22.47	50	0.00%	3
13	Industrial LT	1151	1032	1034	1023	-3.85	-0.44	-1.06	4.99%	1074
14	Industrial HT	15	18	23	16	2.17	-5.72	-30.4	0.00%	16
15	Bulk Supply-HT (Incl.Temp)	195	235	228	212	2.83	-5.02	-7.02	2.36%	217
	<b>Grand Total</b>	<b>235755</b>	<b>253494</b>	<b>265122</b>	<b>276328</b>					<b>293406</b>

**6.4. Connected Load.**

The estimates of category wise connected load have been revised based on the audited actual figures of the FY 2021-22 and the actuals for the FY 2022-23 (H1). The CAGR for the 3 years, 2 years and 1 year has been computed and appropriately applied to arrive at the revised connected load. Based on the audited actuals of FY 2018-19 to FY 2021-22, the growth rate of connected load and the revised connected load is detailed in the table below

**Table 6.3: Consumer Category-wise Growth in Connected Load FY 2022-23**

Sl. No.	Category	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Years	Considered	FY 2022-23
1	KJ(Domestic)	4.25	4.24	3.87	5.38	8.18	12.55	39.07	5.00	5.64
2	Domestic LT	257.54	278.50	281.72	303.82	5.66	4.45	7.84	4.45	317.32
3	Domestic HT	5.42	4.97	5.70	4.51	-5.89	-4.70	-20.85	5.00	4.74
	<b>Total Domestic</b>	<b>267.20</b>	<b>287.71</b>	<b>291.29</b>	<b>313.70</b>					<b>327.71</b>
4	Non-Domestic LT		12.05	14.71	17.10		19.16	16.26	5.00	17.96
5	Non-Domestic HT		0.47	0.44	2.81		144.12	543.81	5.00	2.95
	<b>Total Non-Domestic</b>	<b>0.00</b>	<b>12.52</b>	<b>15.15</b>	<b>19.91</b>					<b>20.91</b>
6	Commercial LT	44.08	37.89	34.66	42.47	-1.23	5.88	22.54	5.88	44.97
7	Commercial HT	18.53	8.99	9.94	17.23	-2.39	38.42	73.41	5.00	18.09
	<b>Total Commercial</b>	<b>62.61</b>	<b>46.88</b>	<b>44.59</b>	<b>59.70</b>					<b>63.06</b>
8	Public Lighting	0.92	0.89	0.91	1.29	11.80	20.12	41.12	5.00	1.35
9	PWS LT	4.05	3.26	0.27	0.96	-38.12	-45.78	260.53	5.00	1.01
10	PWS HT	43.46	43.13	79.29	55.15	8.26	13.07	-30.45	5.00	57.91
11	Agl LT	0.04	0.07	0.11	0.08	28.16	10.94	-25.23	5.00	0.08
12	Agl HT	0.00	0.17	0.17	0.21		10.35	21.76	5.00	0.22
13	Industrial LT	10.45	5.32	5.00	11.68	3.78	48.16	133.66	3.78	12.12
14	Industrial HT	8.96	6.73	5.43	5.89	-13.03	-6.44	8.61	5.00	6.19
15	Bulk Supply HT (Incl. Temp.)	16.69	14.29	54.84	18.38	3.27	13.41	-66.48	3.27	18.98
	<b>Grand Total</b>	<b>414.37</b>	<b>420.97</b>	<b>497.03</b>	<b>486.95</b>					<b>509.52</b>

**Commission Analysis:**

The Commission has carefully observed the trend of the number of connected Load growth and accordingly, estimated the Connected Load for FY 2022-23 accordingly and the growth rate considered is also indicated in the Table below:

**Table 6.4: Consumer Category-wise Growth in Connected Load FY 2022-23 approved**

Sl. No.	Category	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Years	Considered	FY 2022-23
1	KJ(Domestic)	3.36	7.41	7.19	5.63	18.81	-12.80	-21.62	5.00	5.91
2	Domestic LT	214.96	279.54	271.90	276.95	8.81	-0.46	1.86	5.00	290.8
3	Domestic HT	9.65	9.38	4.35	3.29	-30.17	-40.79	-24.37	5.00	3.45
	<b>Total Domestic</b>	<b>227.97</b>	<b>296.32</b>	<b>283.43</b>	<b>285.87</b>					<b>300.1</b>
4	Non-Domestic LT	0.00	9.03	8.20	8.68		-1.95	5.92	5.92	9.20
5	Non-Domestic HT		0.53	0.25	12.84		390.54	4,960.71	5.00	13.48
	<b>Total Non-Domestic</b>	<b>0.00</b>	<b>9.57</b>	<b>8.45</b>	<b>21.52</b>					<b>22.68</b>
6	Commercial LT	51.03	34.49	34.20	35.10	-11.73	0.88	2.63	2.63	36.02
7	Commercial HT	10.01	13.81	10.07	12.79	8.54	-3.76	27.08	5.00	13.43
	<b>Total Commercial</b>	<b>61.04</b>	<b>48.30</b>	<b>44.26</b>	<b>47.89</b>					<b>49.45</b>
8	Public Lighting	2.67	2.11	2.11	2.35	-4.25	5.38	11.10	5.38	2.47
9	PWS LT	4.67	0.91	0.79	6.20	9.90	161.62	681.77	5.00	6.51
10	PWS HT	63.90	63.38	81.66	74.34	5.17	8.30	-8.96	5.17	78.19
11	Agl LT	0.22	0.08	0.06	0.05	-39.05	-23.12	-20.04	5.00	0.05
12	Agl HT	0.00	0.06	0.10	0.09	#DIV/0!	24.77	-10.59	5.00	0.09
13	Industrial LT	3.41	2.96	4.06	2.54	-9.33	-7.31	-37.41	5.00	2.67
14	Industrial HT	10.94	7.96	5.54	7.04	-13.66	-5.91	27.15	5.00	7.40
15	Bulk Supply HT (Incl. Temp.)	12.93	54.77	14.45	16.37	8.19	-45.33	13.25	5.00	17.19
	<b>Grand Total</b>	<b>387.76</b>	<b>486.41</b>	<b>444.92</b>	<b>464.27</b>					<b>486.87</b>

## 6.5. Category wise sales

The estimates of category wise sales have been revised based on the audited actual figures of the FY 2021-22, the actuals for the FY 2022-23 (H1) and the revised number of consumers & connected load as detailed above. Further, CAGR for the 3 years, 2 years and 1 year has been computed and appropriately applied to arrive at the revised sales. Based on the audited actuals of FY 2018-19 to FY 2021-22, the growth rate of sales and the revised sales is detailed in the table below:

**Table 6.5 : Consumer Category-wise Growth in Energy Sales FY 2022-23**

Sl. No.	Category	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Year	Considered	FY 2022-23
1	KJ(Domestic)	3.36	7.41	7.19	5.63	18.81	-12.80	-21.62	5.00	5.9
2	Domestic LT	214.96	279.54	271.90	276.95	8.81	-0.46	1.86	5.00	290.80
3	Domestic HT	9.65	9.38	4.35	3.29	-30.17	-40.79	-24.37	5.00	3.4
	<b>Total Domestic</b>	<b>227.97</b>	<b>296.32</b>	<b>283.43</b>	<b>285.87</b>					<b>300.16</b>
4	Non-Domestic LT	0.00	9.03	8.20	8.68		-1.95	5.92	5.92	9.2
5	Non-Domestic HT		0.53	0.25	12.84		390.54	4,960.71	5.00	13.48
	<b>Total Non-Domestic</b>	<b>0.00</b>	<b>9.57</b>	<b>8.45</b>	<b>21.52</b>					<b>22.68</b>
6	Commercial LT	51.03	34.49	34.20	35.10	-11.73	0.88	2.63	2.63	36.02
7	Commercial HT	10.01	13.81	10.07	12.79	8.54	-3.76	27.08	5.00	13.43
	<b>Total Commercial</b>	<b>61.04</b>	<b>48.30</b>	<b>44.26</b>	<b>47.89</b>					<b>49.45</b>
8	Public Lighting	2.67	2.11	2.11	2.35	-4.25	5.38	11.10	5.38	2.4
9	PWS LT	4.67	0.91	0.79	6.20	9.90	161.62	681.77	5.00	6.5
10	PWS HT	63.90	63.38	81.66	74.34	5.17	8.30	-8.96	5.17	78.19
11	Agl LT	0.22	0.08	0.06	0.05	-39.05	-23.12	-20.04	5.00	0.0
12	Agl HT	0.00	0.06	0.10	0.09	#DIV/0!	24.77	-10.59	5.00	0.0
13	Industrial LT	3.41	2.96	4.06	2.54	-9.33	-7.31	-37.41	5.00	2.6
14	Industrial HT	10.94	7.96	5.54	7.04	-13.66	-5.91	27.15	5.00	7.4
15	Bulk Supply HT (Incl. Temp.)	12.93	54.77	14.45	16.37	8.19	-45.33	13.25	5.00	17.19
	<b>Grand Total</b>	<b>387.76</b>	<b>486.41</b>	<b>444.92</b>	<b>464.27</b>					<b>486.87</b>

The above table reflects the category wise CAGR for three years, two years and one year. Depending on the trend of the growth in individual categories over the period of three years, two years and one year, CAGR has been applied and the same is reflected in the column 10 of the above table. Accordingly, category wise revised sales estimate for the FY 2022-23 has been arrived.

Further, there has been substantial variations have been observed in the energy sales for other categories as well in the H1 of the FY 2022-23 which shall have substantial impact on the revenue & gap for the FY 2022-23.

In view of the above, category wise revised sales estimate is proposed for the consideration and approval of the Hon'ble Commission. The comparison of

category wise revised sales estimate and the sales approved by the Hon'ble Commission for the FY 2022-23 is provided in the table below.

### Commission's Analysis

Energy sales approved by the Commission in its Order for FY 2022-23 and those estimated by P&ED as per RE figures with the method explained and now approved by the Commission are furnished in the table below.

**Table 6.6 : Consumer Category-wise Growth in Energy Sales FY 2022-23**

Sl. No.	Category (Energy Sales)	Financial Years				Compound Growth Rate			Considered (%)	FY 2022-23
		2018-19	2019-20	2020-21	2021-22	for 3Yrs	for 2Yrs	for 1Yr		
1	Kutir Jyothi (Domes)	3.36	7.41	7.19	5.63	18.81	-12.80	-21.62	5.01%	5.91
2	Domestic LT	214.96	279.54	271.9	276.95	8.81	-0.46	1.86	8.81%	301.35
3	Domestic HT	9.65	9.38	4.35	3.29	-30.17	-40.79	-24.37	4.86%	3.45
	<b>Total Domestic</b>	<b>227.97</b>	<b>296.33</b>	<b>283.44</b>	<b>285.87</b>					<b>310.71</b>
4	Non-Domestic LT	0	9.03	8.2	8.68		-1.95	5.92	5.85%	9.18
5	Non-Domestic HT		0.53	0.25	12.84		390.54	4960.71	5.00%	13.48
	<b>Total Non-</b>	<b>0.00</b>	<b>9.56</b>	<b>8.45</b>	<b>21.52</b>					<b>22.66</b>
6	Commercial LT	51.03	34.49	34.2	35.1	-11.73	0.88	2.63	2.71%	36.05
7	Commercial HT	10.01	13.81	10.07	12.79	8.54	-3.76	27.08	7.00%	13.68
	<b>Total Commercial</b>	<b>61.04</b>	<b>48.3</b>	<b>44.27</b>	<b>47.89</b>					<b>49.73</b>
8	Public Lighting	2.67	2.11	2.11	2.35	-4.25	5.38	11.10	5.05%	2.46
9	PWS LT	4.67	0.91	0.79	6.2	9.90	161.62	681.77	5.00%	6.51
10	PWS HT	63.9	63.38	81.66	74.34	5.17	8.30	-8.96	13.00%	84.00
11	Agl LT	0.22	0.08	0.06	0.05	-39.05	-23.12	-20.04	4.50%	0.05
12	Agl HT	0	0.06	0.1	0.09	#DIV/0!	24.77	-10.59	4.50%	0.09
13	Industrial LT	3.41	2.96	4.06	2.54	-9.33	-7.31	-37.41	9.12%	2.77
14	Industrial HT	10.94	7.96	5.54	7.04	-13.66	-5.91	27.15	5.00%	7.39
15	Bulk Supply HT (Incl. Temp.)	12.93	54.77	14.45	16.37	8.19	-45.33	13.25	5.74%	17.30
	<b>Grand Total</b>	<b>387.75</b>	<b>486.42</b>	<b>444.93</b>	<b>464.26</b>					<b>503.67</b>

**Table 6.7: Energy Sales Filed Vs Commission approved for FY 2022-23 after review (MU)**

Sl. No.	Category Sales (FY 2022-23)	Approved in T.O. dt: 23.03.2022	As per Revised Estimate	Approved Energy Sales
	<b>LT Consumers</b>			
1	KJ (Domestic)	7.92	5.91	5.91
2	Domestic	304.01	290.80	301.35
3	Non-Domestic	9.04	9.20	9.18
4	Commercial	37.70	36.02	36.05
5	Public Lighting	2.33	2.47	2.46
6	Agriculture	0.07	0.05	0.05
7	Public Water Works	0.87	6.51	6.51
8	Industrial	4.47	2.67	2.77
	<b>Total LT</b>	<b>366.42</b>	<b>353.64</b>	<b>364.28</b>
	<b>HT Consumers</b>			
9	Domestic	4.79	3.45	3.45
10	Non- Domestic	0.28	13.48	13.48

Sl. No.	Category Sales (FY 2022-23)	Approved in T.O. dt: 23.03.2022	As per Revised Estimate	Approved Energy Sales
11	Commercial	11.10	13.43	13.68
12	Agriculture	0.11	0.09	0.09
13	Public Water Works	90.03	78.19	84.00
14	Industrial	6.11	7.40	7.39
15	Bulk Supply	16.16	17.19	17.30
	<b>Total HT</b>	<b>128.58</b>	<b>133.23</b>	<b>139.39</b>
	<b>Total (LT &amp; HT)</b>	<b>495.00</b>	<b>486.87</b>	<b>503.67</b>
16	Outside State Sales	101.10	268.80	201.88
	<b>Grand Total</b>	<b>596.10</b>	<b>755.67</b>	<b>705.55</b>

The Commission now approves Retail energy sales of 503.67MU & Outside State Sales of 201.88MU for FY2022-23 after review so as to enable the distribution Losses to come down to 24%. Review/revision is made to the sales submitted, keeping in view each category trend into consideration and modified the projection made by P&ED to make then achievable.

#### 6.6. Distribution Loss for FY 2022-23

The distribution loss trajectory approved by the Hon'ble Commission for the FY 2022-23 & the estimated distribution loss considered by the P&ED for the FY 2022-23 is provided in the table below. However, actual distribution loss shall be submitted for consideration of the Hon'ble Commission for Truing-up after the end of the financial year when the accounts are audited.

**Table 6.8 : Distribution Losses for 2022-23 projected**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Distribution Loss	17.83%	17.83%	0.00%

#### Commissions Analysis:

For FY2022-23, the P & ED had furnished distribution loss level at 17.83%, but the Commission feels that it is not achievable considering its performance in FY 2021-22. With the ill-effects of FY 2020-21 distribution losses were at 29.05% is purely attributed to the commercial losses related issues but not a Technical related issue after seeing the better performance in the losses during 2019-20 hence any

plausible reasons attributable to the Covid Pandemic deleterious impact. But, Commission wishes that P&ED losses have risen once again during FY 2021-22 to 29.45% for which no reasons were ever attempted to assign or explained. It is also observed that P&ED is projecting for lesser losses apparently and projecting for abnormal quantum of Outside sales so that in future the higher losses can be shrouded and go for higher power purchase quantum for its convenience. This kind of diverting trend in energy handling is conspicuously notice by the Commission. Eventually, the efficiency improvement was imposed in FY2021-22 true-up. If the same kind of higher losses if any notice once again by the end of FY 2022-23, the Commission would not hesitate to impose higher level of penalty on this aspect certainly.

**Thus, Commission after having *assumed transmission losses to be at 2% as projected by the Licensee*, now accords approval for distribution losses to be at 24% for FY 2022-23 with suitable changes to the projected Energy procurement and distribution losses by the Licensee through their ARR submission for FY 2022-23 to reflect the reality existing in the System.**

#### 6.7. Energy Requirement

The summary details of energy requirement that was approved by the Commission in its Tariff Order dated 23.03.2022 for FY 2022-23, revised estimates submitted by P&ED in this review petition and the Commission approved figures after review are tabulated below:

**Table 6.9 Energy Requirement for FY 2022-23 ARR filed Vs Commission approved**

Sl. No.	Energy Balance	Approved In T.O. dtd 23.03.2022	As per Revised Estimate	Approved Now by Commission
	<b>Energy Requirement</b>			
1	Retail Energy Sales (MU)	494.99	486.87	503.67
2	Distribution Loss (%)	17.83%	17.83%	24.00%
3	Distribution Loss (MUs)	107.39	105.65	159.04
4	<b>Total Energy Requirement</b>	<b>602.38</b>	<b>592.52</b>	<b>662.71</b>

#### 6.8. P&ED's Own Generation

The P&ED's own generation approved by the Hon'ble Commission for the FY

2022-23 & the estimated own generation considered by the P&ED for the FY 2022-23 is provided in the table below:

**Table 6.10: Own Generation filed by P&ED for FY 2022-23 (MU)**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Total Generation (Net)	26.73	34.85	8.13
	<b>Total</b>	<b>26.73</b>	<b>34.85</b>	<b>8.13</b>

It is submitted that Amazon Engineering have been operated and managed the Khawiva SHP, Tuipui SHP, Teirei SHP & Kau Tlabung SHP on behalf of P&ED. Further, the Installed Capacity & energy generation is included in the books of P&ED.

#### **Commission's Analysis**

The Commission in its order dated 23.03.2022 had approved own generation at 26.725 MU for FY 2022-23, basing on the data now furnished then by P&ED for 2022-23 and the actuals indicated even for FY 2021-22 was at 25.89MU. Since the P&ED is already procuring the energy from M/s. Amazon Engineering even from 2020-21 onwards on lease basis but the same factual was not reflected in FY2020-21 APR submitted by them last year. This is sometime really surprising the Commission for not having disclosing the factual events in the ARR petition.

As seen from the above table the actual APR figure was indicated as 34.85MW instead of quoting the 31.07MU by oversight in the petition. Though the four (4) plants are being maintained by M/s. Amazon Engineering was included in the own generation in this year (FY2022-23), but in reality, these plants are still leased with M/s. Amazon Engineering only and P&ED have been paying the O&M charges to them to the tune of Rs.1.66Cr as reported for FY2021-22 towards operating and maintaining the plants. Hence, these plants are technically not at all part of Own Generation by P&ED since they are managed by an outsider but not by P&ED. Not claimed any charges for 2022-23 by P&ED for Amazon handled plants.

The Commission therefore, ascertained the energy generation made for six (6) months ending Sept 2022 by M/s/ Amazon and extrapolated it to full year possible generation to be **17.39735MU**, as the same data was not made

available by Licensee either in petition or in additional information with a view to avoid the role of M/s. Amazon Engineering in power generation Accordingly, the balance generation of **13.67MU** is construed to be contributed by Tuirivang SHP, Maicham-II SHP, Tlawva SHP and by Serlui-B SHP during FY 2022-23 to make the total energy to be **31.07MU**.

#### 6.9. Purchase of Energy from various Stations:

The power purchase units approved for the FY 2022-23 is 674.87 MUs. The revised estimate for power purchase units for the FY 2022-23 has been arrived at on the basis of actual power purchase for the H1 (1st half year) of the FY 2022-23 and actual purchase for H2 (2nd half year) of the FY 2021-22. Accordingly, the power purchase units estimate for the FY 2022-23 is revised at 859.82 MUs. The approved & estimated power purchase units for FY 2022-23 are provided in the table below:

**Table 6.11: Power share allocation & Energy purchases by P&ED for FY 2022-23**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Power Purchase Units	674.87	859.82	184.95
	<b>Total</b>	<b>674.87</b>	<b>859.82</b>	<b>184.95</b>

#### Commission Analysis:

Based on the estimations made by the P&ED in its review petition for 2022-23 on the power share allocation and purchase of energy in Central generating stations capacity, the commission now considers in detail below by indicating their share of allocations and quantity of energy for FY 2022-23 in the following table:

**Table 6.12: Power Purchase quantum Approved by Commission for FY 2022-23**

(Figures in MWs & MU)

Sl No	Energy Generation Source (2022-23)	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW	MU Purchased/generated (ex-bus)
<b>A</b>	<b>Central Generating Stations</b>	(MW)	(MW)	(MW)	(MU)
<b>I</b>	<b>NTPC</b>				
1	Bongaigaon TPS	750.00	5.415	40.61	98.78
2	Farakka STPS	1600.00	0.142	2.27	15.90
3	Kahalgaoon STPS	840.00	0.142	1.19	8.20



SI No	Energy Generation Source (2022-23)	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW	MU Purchased/generated (ex-bus)
4	Talcher STPS	1000.00	0.142	1.42	9.30
	<b>NTPC-Total</b>	<b>4190.00</b>		<b>45.49</b>	<b>132.18</b>
<b>II</b>	<b>NHPC</b>				
1	Loktak HEP	105.00	5.020	5.27	23.98
	<b>NHPC-Total</b>	<b>105.00</b>		<b>5.27</b>	<b>23.98</b>
<b>III</b>	<b>NEEPCO</b>				
1	Kopili HEP	200.00	4.610	9.22	0.00
2	Kopili - II HEP	25.00	6.040	1.51	0.00
3	Khandong HEP	50.00	3.940	1.97	0.00
4	Ranganadi HEP	405.00	5.700	23.09	70.35
5	Doyang HEP	75.00	5.410	4.06	8.12
6	Pare HEP	110.00	5.765	6.34	26.84
7	a) Tuirial HEP	60.00	100.000	60.00	170.93
	b) Free Power share				23.31
8	AGBPP	291.00	5.410	15.74	81.48
9	AGTPP	135.00	6.000	8.10	45.30
	<b>NEEPCO-Total</b>	<b>1351.00</b>		<b>130.03</b>	<b>426.33</b>
<b>IV</b>	<b>TSECL</b>				
1	B'mura - IV	21.00	25.000	5.25	70.45
2	B'mura - V	21.00	25.000	5.25	
	<b>TSECL-Total</b>	<b>42.00</b>		<b>10.50</b>	<b>70.45</b>
<b>V</b>	<b>OTPC</b>				
1	Palatana	726.00	3.030	22.00	204.52
	<b>OTPC-Total</b>	<b>726.00</b>		<b>22.00</b>	<b>204.52</b>
<b>VI</b>	<b>Amazon Engineering</b>				
	1. Khawiva HEP (on Lease)	1.05	100	1.05	1.830
	2. Tuipui HEP (on Lease)	0.50	100	0.50	0.0
	3. Teirei HEP (On Lease)	3.00	100	3.00	7.261
	4. Kau Tlabung HEP (On Lease)	3.00	100	3.00	8.306
	<b>Amazon-Total</b>	<b>7.55</b>		<b>7.55</b>	<b>17.397</b>
<b>B</b>	<b>State generating Stations</b>				
	All Units (incl. Lengui set)	27.30	100	27.30	13.67
	<b>Owned Generation Total</b>	<b>27.30</b>		<b>27.30</b>	<b>13.67</b>
<b>C</b>	<b>UI / Deviation &amp; IEX Purchase</b>				3.59
	<b>UI / Deviation-Total</b>				<b>3.59</b>
<b>D</b>	<b>Other RE Energy</b>				
	1. Roof-top solar Generation				<b>0.07</b>
	2. Solar Generation				<b>2.30</b>
<b>E</b>	<b>RPO Obligation / REC Certificate</b>				0
<b>F</b>	<b>LC Enhancement/Renewal charges</b>				0
<b>G</b>	<b>Bilateral Power Purchase</b>				
1	Utility 1				
2	Utility 2				
	<b>Bilateral-Total</b>				<b>0.00</b>
<b>H</b>	<b>GRAND TOTAL</b>	<b>6443.85</b>		<b>248.14</b>	<b>894.49</b>

The Commission in its Order dated 23.03.2022 had approved power purchase of 674.87MU which resulted in a surplus energy of 101.10MU after meeting energy sales requirement of LT & HT within the state at 494.99MU.

While now the P&ED has estimated power purchase of 890.89MU at an average cost of Rs. 4.96/kWh (before adopting any losses) for meeting the energy sales requirement of 486.87 MU, this results in surplus of Power of 268.80MU which the P&ED had proposed to sell at an average of Rs.6.676/kWh yielding a revenue of Rs.179.46Crs as per their estimates.

As such, the Commission has considered power purchase from all those now projected by P&ED (along with 3.59MU towards other than UI deviations and IEX purchases) with the power purchase quantity requirement keeping in view in respect of all the stations average cost of supply and thus the total power purchase quantity approved during FY 2022-23 is limited to **894.49 MU** which is little more than what was filed by the P&ED.

#### 6.10. Energy Balance

The revised estimate of energy balance based on the energy requirement and energy availability for the FY 2022-23 is provided in the table below:

**Table 6.13: Energy Balance for FY 2022-23 as per P&ED in its MYT Submission**

(Figures in MU)

Sl. No.	Energy Balance	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
<b>A</b>	<b>Energy Requirement</b>			
1	Energy Sales	494.99	486.87	-8.12
2	Distribution Loss (%)	17.83%	17.83%	0.00%
3	Distribution Loss (MUs)	107.39	105.65	-1.74
<b>4</b>	<b>Total Energy Requirement</b>	<b>602.38</b>	<b>592.52</b>	<b>-9.86</b>
<b>B</b>	<b>Energy Availability</b>			
5	Own Generation	26.73	31.07	4.35
6	Energy Purchase from ER	31.72	33.40	1.69
7	Less: ER Pool Loss (%)	1.95%	1.95%	0.00
8	Less: ER Pool Loss (Mus)	0.62	0.65	0.03
9	Net Energy for ER	31.10	32.75	1.65
10	Energy Purchase from NER (Exl. Tural HEP)	468.86	629.82	160.96

11	UI / Deviation	0.00	0.00	0.00
12	Sub Total	499.96	662.57	162.61
13	Less: NER Pool Loss (%)	2.54%	2.54%	0.00
14	Less: NER Pool Loss (MUs)	12.70	16.83	4.13
15	Net Energy at NERLDC	487.26	645.74	158.48
16	Energy purchases from Tuirial HEP	115.42	170.93	55.51
17	Free Energy from Tuirial HEP	15.74	23.31	7.57
18	Amazon Engineering	14.09	0.00	-14.09
19	Rooftop Solar Generation	0.00	0.07	0.07
20	Solar Generation	2.31	2.30	-0.01
21	Energy Available	661.54	873.41	211.87
22	Less: Outside State - Trading	46.87	268.80	221.93
23	Total Energy Available	614.67	604.61	-10.06
24	Less: Intra State Tr. Loss (%)	2.00%	2.00%	0.00
25	Less: Intra State Tr. Loss (MUs)	12.29	12.09	-0.20
26	Net Energy Available	602.38	592.52	-9.86
27	<b>Less: Energy requirement at State Periphery</b>	<b>602.38</b>	<b>592.52</b>	<b>-9.86</b>
28	<b>ENERGY SURPLUS/(DEFICIT)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### Commission's Analysis

In this process, the Commission had adopted a step by step procedure that is presently in vogue in transmission to reflect the real time energy handling and the realistic situation closer to reality in arriving at losses sustained practically in the energy procurement process and to deduce probable Outside State Sales quantum availability. In this process, Commission had to assume transmission losses at 2% (as per ARR filing) level of energy injection at State periphery, as the Licensee repeatedly expressed its inability to accurately record all transmission network incoming and outgoing energy at State periphery level.

**Table 6.14: Energy Balance for FY 2022-23 as approved by the Commission**

Sl. No.	Energy Balance details - FY 2022-23	Approved
<b>A</b>	<b>State Grid energy requirement (Distribution activity)</b>	<b>(MU)</b>
1	<b>Retail Sale of energy (LT &amp; HT) - (Input data)</b>	<b>503.67</b>
2	Distribution Loss (%) - (Derived)	24.00%
3	Distribution Loss (MU) - (4-1)	159.04
4	<b>Energy at Distribution Periphery -- (ARR filed actuals)</b>	<b>662.71</b>
5	State Transmission Loss (%) - (ARR filed)	<b>2.00%</b>
	State Transmission Loss (MU) - (6 - 4)	13.52
6	<b>Total Grid Energy requirement at State periphery (from Row-25)</b>	<b>676.24</b>
<b>B</b>	<b>Sources of Energy Availability</b>	<b>(MU)</b>
7	Purchases from Eastern Region (ER) - (Gross)	33.40
8	a) Inter-State Losses on ER Energy (%)	1.95%
	b) Inter-State Losses on ER Energy (MU)	0.65
9	<b>Net ER Energy after Losses (7 - 8b)</b>	<b>32.75</b>

Sl. No.	Energy Balance details - FY 2022-23	Approved
10	<b>Purchases from North Eastern Region (Excl. Tuirial HEP energy)</b>	<b>629.82</b>
11	UI Energy Purchase (Net) & UI Deviations	3.59
12	RPO obligation met from Outside the State	Nil
13	<b>Energy handled at NER grid (9 to 12)</b>	<b>666.16</b>
14	Inter-State Trans. loss in NER (%) – adopted from web site	2.36%
	Inter-State Trans. loss in NER (MU)	15.72
15	<b>Net energy available at NERLDC for Mizoram (13-14b)</b>	<b>650.44</b>
16	Energy purchases from Tuirial HEP	170.93
17	Free Power from Tuirial HEP	23.31
18	State Owned Small HEPs Gross Generation exported to Grid	13.672
19	Gross Solar Plants & RTS Metering System energy export to Grid	2.37
20	Amazon Engineering supply from 4 HEPs (gross)	17.397
21	<b>Gross energy available at Mizoram from all sources (15 to 20)</b>	<b>878.12</b>
22	Sale of Energy through Trading/Banking	-
23	Sale of energy at IEX (Input data) - Recommended	201.88
24	Net Metered gross generation from RTS	-
25	<b>Available energy at State Periphery - [21-(22 to 24)]</b>	<b>676.24</b>

Thus, the energy balance resulted in surplus of power at 201.88 MU as against 268.80MU projected which the P&ED wishes to sell through traders or IEX and to realise maximum revenue by proper planning in tandem with SLDC. However, the Commission has already made a directive in this matter relating to FY 2019-20 Outside state sales to follow. The Licensee shall endeavour to comply with the said directive in this matter also strictly.

### 6.11. Fuel Cost

#### Petitioner's submission

The values of fuel cost approved for the FY 2022-23 are not proposed to be revised at this stage. However, the actuals shall be submitted at the time truing- up.

**Table 6.15: Fuel Cost projected by P&ED for FY 2022-23**

(In Rs . Crores)

Sl. No.	Particulars	Approved T.O. dt:23.03.2022	Revised Estimate	Deviation
1	2	3	4	5
1	Cost of Fuel	0.00	0.00	0.00
	<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

#### Commission's Analysis

The above fuel cost pertains to DG Set used at Lengpui Airport

which is being used on a standby based equipment but never seems to have been under use. Thus, the Commission now approves Nil Fuel Cost for FY 2022-23 after review and it will be linked to the actual costs if any at the time of truing-up.

## 6.12. Cost of Generation

### Petitioner's submission

The values of cost of generation approved for the FY 2022-23 are not proposed to be revised at this stage. However, the actuals shall be submitted at the time truing-up.

**Table 6.16: Cost of Generation FY 2022-23 (Rs. Crs)**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	Revise Estimate	Deviation
1	2	3	4	5
1	Cost of Generation	3.34	3.34	0.00
	<b>Total</b>	<b>3.34</b>	<b>3.34</b>	<b>0.00</b>

### Commission Analysis:

The Commission after consideration of the factual, now approves NIL generation cost for FY 2022-23 as there were no such expenditure appears to have been incurred in the past watching upon previous years audited. In case of any amount appears incurred as per Audited actuals for FY 2022-23 will be considered.

## 6.13. Power Purchase Cost

### Petitioner's submission

The Hon'ble Commission in the Tariff Order for the FY 2022-23 had approved a power purchase quantum of 674.87 MUs at a total cost of Rs. 358.72 Crores. As submitted above the estimate of power purchase quantum for the FY 2022-23 is proposed to be revised to 859.82 MUs. Accordingly, the power purchase cost is also proposed to be revised. The detail calculation is provided in the Format No. F1(i) & F1a(i). Further, Power purchase cost for the FY 2022-23 has been arrived at in following manner: -

- i. Actual power purchase cost for the H1 of the FY 2022-23 has been considered.

- ii. For estimating the power purchase cost of H2, the estimated quantum of power purchase units for H2 has been taken from actual power purchase unit of FY 2021-22 and source wise average cost of FY 2021-22 escalated at 5.72% has been applied.
- iii. The cost towards RPO has been arrived at in accordance with the RPO targets prescribed in the RPO regulations. The target for solar & non-solar for the FY 2021-22 is 24.61% (0.81% for wind RPO, 0.35% for HPO RPO & 23.44% for Other RPO). The RPO for Wind, HPO & Other RPO has been calculated based on the actual consumption (excluding outside the state sale but including T&D loss).
- iv. For the Wind RPO category, the prescribed target of 0.81% has been applied on the base figure of 592.52 MUs. Further, P&ED has not been procured any power in this category. Accordingly, 4,799.40 MWh (4.80 MUs) is computed as the Wind RPO for the FY 2022-23. The rate as prescribed by CERC has been considered to arrive at the cost of RPO of Rs . 0.48 Crores.
- v. For the HPO category, the prescribed target of 0.35% has been applied on the base figure of 592.52 MUs. Further, P&ED has not been procured any power in this category. Accordingly, 20,73,814 kWh (2.07 MUs) is computed as the HPO for the FY 2022-23. The rate as prescribed by CERC has been considered to arrive at the cost of HPO of Rs . 1.26 Crores.
- vi. For the Other RPO category, the prescribed target of 23.44% has been applied on the base figure of 592.52 MUs. Further, 356.96 MUs has been deducted as procured from Other RPO category. Accordingly, there is excess power procured in this category for the FY 2022-23.

The comparison of the approved power purchase cost and the revised estimate as arrived above is given in the table below.

**Table 6.17 : Station wise Power Purchase MU & Costs for FY 2022-23 by P&ED**

Sl. No.	Energy Generation Sources (FY 2022-23)	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Crs)	Charge per unit (Rs/kWh)
A	Central Generating Stations						
I	NTPC						
1	Bongaigaon TPS	750.00	5.415	40.61	98.78	88.69	8.98
2	Farakka STPS	1600.00	0.142	2.27	15.9	6.99	4.40

Sl. No.	Energy Generation Sources (FY 2022-23)	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Crs)	Charge per unit (Rs./kWh)
3	Kahalgaon STPS	840.00	0.142	1.19	8.20	3.75	4.57
4	Talcher STPS	1000.00	0.142	1.42	9.30	2.82	3.03
	<b>NTPC-Total</b>	<b>4190.00</b>		<b>45.49</b>	<b>132.18</b>	<b>102.25</b>	<b>7.74</b>
<b>II</b>	<b>NHPC</b>						
1	Loktak HEP	105.00	5.02	5.27	23.98	9.55	3.98
	<b>NHPC-Total</b>	<b>105.00</b>		<b>5.27</b>	<b>23.98</b>	<b>9.55</b>	<b>3.98</b>
<b>III</b>	<b>NEEPCO</b>						
1	Kopili HEP	200.00	4.61	9.22	0.00	0.00	0.00
2	Kopili - II HEP	25.00	6.04	1.51	0.00	0.16	#DIV/0!
3	Khandong HEP	50.00	3.94	1.97	0.00	0.58	#DIV/0!
4	Ranganadi HEP	405.00	5.7	23.09	70.35	18.03	2.56
5	Doyang HEP	75.00	5.41	4.06	8.12	6.04	7.44
6	Pare HEP	110.00	5.765	6.34	26.84	13.61	5.07
7	a) Tuirial HEP	60.00	100	60.00	170.93	97.76	5.72
	b) Free Power share				23.31		
8	AGBPP	291.00	5.41	15.74	81.48	43.85	5.38
9	AGTPP	135.00	6.00	8.10	45.3	23.96	5.29
	<b>NEEPCO-Total</b>	<b>1351.00</b>		<b>130.03</b>	<b>426.33</b>	<b>203.99</b>	<b>4.78</b>
<b>IV</b>	<b>TSECL</b>						
1	B'mura - IV	21.00	25	5.25	70.45	33.15	4.71
2	B'mura - V	21.00	25	5.25			
	<b>TSECL-Total</b>	<b>42.00</b>		<b>10.50</b>	<b>70.45</b>	<b>33.15</b>	<b>4.71</b>
<b>V</b>	<b>OTPC</b>						
1	Palatana	726	3.03	22.00	204.52	68.95	3.37
	<b>OTPC-Total</b>	<b>726</b>		<b>22.00</b>	<b>204.52</b>	<b>68.95</b>	<b>3.37</b>
<b>B</b>	<b>State generating Stations</b>						
	All Units (incl. Lengpui set)	34.85	100	34.85	31.07	0.00	0.00
	<b>Owned Generation Total</b>	<b>34.85</b>		<b>34.85</b>	<b>31.07</b>	<b>0.00</b>	<b>0.00</b>
<b>C</b>	<b>IEX Power Exchange purchase</b>				<b>0.00</b>	<b>0.00</b>	<b>#DIV/0!</b>
<b>D</b>	<b>UI / Deviation</b>				0.00	0.00	#DIV/0!
	<b>UI / Deviation-Total</b>				<b>0.00</b>	<b>0.00</b>	<b>#DIV/0!</b>
<b>E</b>	<b>Other RE Energy</b>						
	1.Rooftop solar Generation				0.07	0.02	2.86
	2.Solar Generation				2.30	0.00	0.00
<b>F</b>	<b>RPO Obligation /REC Certificate</b>					1.74	
<b>G</b>	<b>LC Enhance/Renew charges</b>					2.13	
<b>H</b>	<b>Reactive Energy Charges</b>					0.02	
<b>I</b>	<b>Supplementary Bills (Addl.)</b>					19.86	
<b>J</b>	<b>Bilateral Power Purchase</b>						
	1. Utility ...						
	<b>GRAND TOTAL</b>	<b>6448.85</b>		<b>248.14</b>	<b>890.90</b>	<b>441.66</b>	<b>4.96</b>

### Commissions Analysis

The power purchase cost of Rs.443.14 Crores including RPO Obligation of Rs.1.74 Crs (for 2.30MU) is now not altered after review based on their purchase quantum by the Commission as detailed in the table below.

**Table 6.18 Power Purchase Cost approved by the Commission for the FY 2022-23**

Sl. No.	Energy Generation Sources (FY 2022-23)	Plant Capacity (MW)	P&ED Share (%)	P&ED Share (MW)	Energy Purchased (MU)	Total Charges (Rs./Crs)	Charge per unit (Rs/kWh)
<b>A</b>	<b>Central Generating Stations</b>						
<b>I</b>	<b>NTPC</b>						
1	Bongaigaon TPS	750.00	5.415	40.61	98.78	88.69	8.98
2	Farakka STPS	1600.00	0.142	2.27	15.90	6.99	4.40
3	Kahalgaoon STPS	840.00	0.142	1.19	8.20	3.75	4.58
4	Talcher STPS	1000.00	0.142	1.42	9.30	2.82	3.04
	<b>NTPC-Total</b>	<b>4190.00</b>		<b>45.49</b>	<b>132.18</b>	<b>102.26</b>	<b>7.74</b>
<b>II</b>	<b>NHPC</b>						
1	Loktak HEP	105.00	5.02	5.27	23.98	9.55	3.98
	<b>NHPC-Total</b>	<b>105.00</b>		<b>5.27</b>	<b>23.98</b>	<b>9.55</b>	<b>3.98</b>
<b>III</b>	<b>NEEPCO</b>						
1	Kopili HEP	200.00	4.61	9.22	0.00	0.00	0.00
2	Kopili - II HEP	25.00	6.04	1.51	0.00	0.16	#DIV/0!
3	Khandong HEP	50.00	3.94	1.97	0.00	0.58	#DIV/0!
4	Ranganadi HEP	405.00	5.7	23.09	70.35	18.03	2.56
5	Doyang HEP	75.00	5.41	4.06	8.12	6.04	7.44
6	Pare HEP	110.00	5.765	6.34	26.84	13.61	5.07
7	a) Tuirial HEP	60.00	100	60.00	170.93	97.76	5.72
	b) Free Power share				23.31		
8	AGBPP	291.00	5.41	15.74	81.48	43.85	5.38
9	AGTTP	135.00	6.00	8.10	45.3	23.96	5.29
	<b>NEEPCO-Total</b>	<b>1351.00</b>		<b>130.03</b>	<b>426.33</b>	<b>203.99</b>	<b>4.78</b>
<b>IV</b>	<b>TSECL</b>						
1	B'mura - IV	21.00	25	5.25	70.45	33.15	4.71
2	B'mura - V	21.00	25	5.25			
	<b>TSECL-Total</b>	<b>42.00</b>		<b>10.50</b>	<b>70.45</b>	<b>33.15</b>	<b>4.71</b>
<b>V</b>	<b>OTPC</b>						
1	Palatana	726	3.03	22.00	204.52	68.95	3.37
	<b>OTPC-Total</b>	<b>726</b>		<b>22.00</b>	<b>204.52</b>	<b>68.95</b>	<b>3.37</b>
<b>VI</b>	<b>Amazon Engineering</b>						
	1.Khawiva HEP	1.05	100	1.05	1.83	0.00	0.00
	2.Tuipui HEP	0.5	100	0.50	0.00		0.00
	3.Teirei HEP	3	100	3.00	7.26		0.00
	4.Kau Tlabung HEP	3	100	3.00	8.31		0.00
	<b>Others-Total</b>	<b>7.55</b>		<b>7.55</b>	<b>17.40</b>	<b>0.00</b>	<b>0.00</b>
<b>B</b>	<b>State generating Stations</b>						
	All Units (incl. Lengpui set)	34.85	100	34.85	13.67	0.00	0.00
	<b>Owned Generation Total</b>	<b>34.85</b>		<b>34.85</b>	<b>13.67</b>	<b>0.00</b>	<b>0.00</b>
<b>C</b>	<b>IEX Power Exchange purchase</b>				<b>1.54</b>	<b>0.40</b>	<b>2.60</b>
<b>D</b>	<b>UI / Deviation</b>				2.05	1.07	5.22
	<b>UI / Deviation-Total</b>				<b>2.05</b>	<b>1.07</b>	<b>5.22</b>
<b>E</b>	<b>Other RE Energy</b>						
	1.Rooftop solar Generation				<b>0.07</b>	<b>0.02</b>	<b>2.86</b>
	2.Solar Generation				<b>2.30</b>	<b>0.00</b>	<b>0.00</b>
<b>F</b>	<b>RPO Obligation /REC Certificate</b>					<b>1.74</b>	
<b>G</b>	<b>LC Enhance/Renew charges</b>					<b>2.13</b>	
<b>H</b>	<b>Reactive Energy Charges</b>					<b>0.02</b>	
<b>I</b>	<b>Supplementary Bills (Addl.)</b>					<b>19.86</b>	
<b>J</b>	<b>Bilateral Power Purchase</b>						
	1. Utility ...						
	<b>GRAND TOTAL</b>	<b>6448.85</b>		<b>248.14</b>	<b>894.49</b>	<b>443.14</b>	<b>4.954</b>



**Note: The above amount of Power Purchase cost now approved is exclusive of Amazon Engineering Lease cost of Rs.1.66Cr.**

The Commission accordingly approves power purchase cost of Rs.443.14 Crores for FY 2022-23 to purchase of 894.49 MU including all state generation of 31.07MU and RPO Obligation of Rs.1.74Cr after review, at an overall average cost of **Rs. 4.954/ kWh**. RPO obligation is adopted as has been projected by the licensee as there is no point indicating a new value now since the financial year will be ending soon by the time this order is issued for FY2022-23. The O&M charges if any paid to M/s. Amazon Engineering will be added to R&M expenses by P&ED in actuals like it reported in FY 2021-22.but It is not appropriate to show in power purchase cost to reflect realistic transaction nature.

The Licensee shall follow the merit order despatch principles judiciously and limit to their minimum off-take of energy which is costly in each month so as to minimise the power purchase cost and to pass on any such benefit of gains to the consumers and at the same time they are directed to keep the Outside State sales quantity to the least possible level at all times.

#### **6.14. Inter-state Transmission Charges for 2022-23 by P&ED**

The estimate of transmission charges for the FY 2022-23 is proposed to be revised based on the actuals for the FY 2021-22 and H1 of FY 2022-23. The comparison of the approved transmission charges and the revised estimate is given in the table below.

**Table 6.19: Inter-State Transmission Charges**

Sl. No.	Particulars	Approved T.O. dt:23.03.22 Crs	Revised Estimate Crs	Deviation Crs
1	2	3	4	5
1	Transmission Charges	56.78	60.31	3.53
	<b>Total</b>	<b>56.78</b>	<b>60.31</b>	<b>3.53</b>

#### **Commission analysis:**

The Commission also approves Inter-state transmission charges (PGCIL charges) at Rs. 60.31 Crores for FY 2022-23 as submitted by P&ED after the review.

### 6.15. Intra-state Transmission Charges

The values of intra-state transmission charges approved for the FY 2022-23 are not proposed to be revised at this stage. However, the actuals shall be submitted at the time truing-up.

**Table 6.20 Intra-state Transmission Charges FY 2022-23 (Rs . Crores)**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Intra-state Transmission Charges	7.25	7.25	0.00
	<b>Total</b>	<b>7.25</b>	<b>7.25</b>	<b>0.00</b>

The Commission approves intra-state transmission charges to be at Rs. Nil Crores for FY 2022-23 based on the review of this cost element behaviour with reference to earlier years Audited statements and found to be Nil charges in final actuals when True-up claimed is made.

### 6.16. O & M Expenses

#### i. Employee Cost:

##### Petitioner's submission

The value of employee cost approved for the FY 2022-23 is Rs. 135.97 Crores. The revised estimate of employee cost for the FY 2022-23 has been arrived at on the basis of actual employee cost for the H1 (1st half year) of the FY 2022-23 of Rs.108.46 Crores for P&ED. Accordingly, the employee cost estimate for the FY 2022-23 is revised at Rs. 151.85 Crores for **only relates to the distribution function**. The approved & estimated employee cost for the FY 2022-23 is provided in the table below:

**Table 6.21: Employee Cost for FY 2022-23 estimated by P&ED**

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	Revised Estimate	Deviation
1	2	3	4	5
1	Employee Cost	135.97	151.85	15.88
	<b>Total</b>	<b>135.97</b>	<b>151.85</b>	<b>15.88</b>

### Commissions Analysis

The break-up of employees as furnished by P&ED in their ARR filing submission are considered as follows to arrive at the 2022-23 cost:

Accordingly, keeping in view the drastic reduction in number of employees in the projection of employee strength, the Commission feels appropriate to Rs.151.85 Crore estimated by P&ED after review subject to verification with actuals at the time of true up. Since the year is on verge of completion and the employee cost is not adjusted against capitalisation of assets and the actuals will be considered upon submission of audited accounts for true-up. The Employees strength indicated for previous year data appears realistic.

## ii. Repairs & Maintenance

### Petitioner's submission

The value of Repair & Maintenance Expenses approved for the FY 2022-23 is Rs .10.18 Crores. The revised estimate of Repair & Maintenance Expenses for the FY 2022-23 has been arrived at on the basis of actual Repair & Maintenance Expenses for the H1 (1st half year) of the FY 2022-23 of Rs . 13.60 Crores for P&ED.

Accordingly, the Repair & Maintenance Expenses estimate for the FY 2022-23 is revised at Rs .11.31 Crores for only relates to the distribution function. The approved & estimated Repair & Maintenance Expenses for the FY 2022-23 is provided in the table below:

**Table 6.22: Repair & Maintenance Expenses FY 2022-23 estimated by P&ED**

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Repair & Maintenance Expenses	10.18	11.31	1.13
	<b>Total</b>	<b>10.18</b>	<b>11.31</b>	<b>1.13</b>

### Commission analysis:

The Commission accordingly approves the R&M expenses at Rs.10.18 Crores in the Tariff Order for FY 2022-23 though revised by P&ED to Rs.11.31Crs. Though, the P&ED is now preferring to claim only 11.31Crs in APR figure and it will be verified later with actuals at the time of true up

without any change.

### iii. Administration & General Expenses

The value of Administration & General Expenses approved for the FY 2022-23 is Rs.5.16 Crores. The revised estimate of Administration & General Expenses for the FY 2022-23 has been arrived at on the basis of actual Administration & General Expenses for the H1 (1st half year) of the FY 2022-23 of Rs.3.45 Crores for P&ED. Accordingly, the Administration & General Expenses estimate for the FY 2022-23 is revised at Rs.4.83 Crores for only relates to the distribution function. The approved & estimated Administration & General Expenses for the FY 2022-23 is provided in the table below:

**Table 6.23: Administration & General Expenses FY 2022-23 estimated by P&ED** (Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Admn & Genrl Expenses	5.16	4.83	-0.33
	<b>Total</b>	<b>5.16</b>	<b>4.83</b>	<b>-0.33</b>

The Commission accordingly approves Administration and General Expenses at Rs. 4.83 Crore for the FY 2022-23 as estimated by P&ED and these values will be verified with actuals at the time of true up.

### iv. Abstract of O&M Expenses Filed Vs. Approved for 2022-23:

**Table 6.24: O&M Expenses approved by the Commission for FY 2022-23 after Review**

Sl. No.	Expenses details	As per ARR by P&ED (Rs.Crs)	Commission approved (Rs.Crs)
1	Employee Cost	151.85	151.85
2	Repair & Maintenance Expenses	11.31	10.18
3	Administration & General Expenses	4.83	4.83
	<b>Total O&amp;M Expenses</b>	<b>167.99</b>	<b>166.86</b>

## 6.17. Depreciation

### Petitioner's submission

The Hon'ble Commission has approved the Depreciation for the FY 2022-23. In this regard it is submitted that the GFA for the FY 2021-22 has got revised in

accordance with the audited annual accounts for which true-up proposal is being submitted. The Fixed Asset & Depreciation Register for the FY 2021-22 is also being submitted. Therefore, the GFA & corresponding depreciation for the FY 2022-23 also stands revised. The Depreciation is estimated for the FY 2022-23 at Rs.1.88 Crores for only relates to the distribution function.

In view of the above it is requested that the Hon'ble Commission may kindly consider & approve the revised depreciation for the FY 2022-23. The depreciation approved by the Hon'ble Commission and revised depreciation for the FY 2022-23 is provided in the table below.

**Table 6.25: Depreciation FY 2022-23 estimated by P&ED**

Sl.No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Depreciation	0.00	1.88	1.88
	<b>Total</b>	<b>0.00</b>	<b>1.88</b>	<b>1.88</b>

#### Commission Analysis

*Hence, the licensee claimed the depreciation at Rs.1.88 Crores after review, cannot be approved by the Commission as they are not eligible to claim depreciation under Regulatory Accounting System and nil amount is considered from FY2022-23. What has been so far allowed will not be chosen to disturb at this juncture.*

#### 6.18. Interest & Finance Charges

The interest & finance charges approved for the FY 2022-23 was on the basis of the schedule of loan & repayment and there has been no change in the same as of now. However, the actuals shall be submitted at the time truing-up. The interest & finance charges as approved for the FY 2022-23 are provided in the table below:

**Table 6.26: Interest & Finance charges for FY 2022-23 estimated by P&ED (Rs.Crs)**

Sl.No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Interest & Finance Charges	0.00	0.46	0.46
	<b>Total</b>	<b>0.00</b>	<b>0.46</b>	<b>0.46</b>

**Commission's Analysis**

The Commission observed that the Interest & Finance charges at Rs. 0.82 Crore for the FY 2021-22 and the charges now considered for 2022-23 are not being paying to lenders/borrowers despite recovering from consumers through tariff pedantically every year. This is only a book entry in annual accounts but actual liability is not getting discharges for since past. **Therefore, these charges will not be allowed for the reason stated above to avoid unnecessary burden on consumers. It will be considered upon producing the verifiable proof of payment made to Lender in future ARR finalisation.**

**6.19. Interest on Working Capital****Petitioner's Submission**

The interest & finance charges approved for the FY 2022-23 was on the basis of the schedule of loan & repayment and there has been no change in the same as of now. However, the actuals shall be submitted at the time truing-up. The interest & finance charges as approved for the FY 2022-23 are provided in the table below::

**Table 6.27: Interest on working capital for FY 2022-23 estimated by P&ED (Rs.Crs)**

Sl. No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Deviation
1	2	3	4	5
1	Interest on Working Capital	0.00	8.24	8.24
	<b>Total</b>	<b>0.00</b>	<b>8.24</b>	<b>8.24</b>

**Commission's Analysis**

As per the MYT Regulation 2014, the interest on working capital is a permissible element of ARR expenditure. However, it is observed that P&ED had not obtained any working capital loan during the entire financial year 2021-22 or was there any history of such loans being drawn. The admitting of Interest on working capital is only an additional burden on the consumers and there is no need for allowing this cost element as they are fully dependent/availing funding only from the State government and no other source drawn for day to day routine operations. Hence, no calculation is made afresh for this purpose in FY 2022-23 and **NIL amount of IWC is considered.**

**But these charges will be considered for allowing if short-term loans are availed practically during the period adopting the same analogy as that in the case of Return on Equity to off-load the unnecessary burden on Consumers.**

**6.20. Interest on Consumer Security Deposit**

The Hon'ble Commission did not approve interest on Consumer Security Deposit for the FY 2022-23 and the P&ED is not proposing any provisions for the same.

**The Commission has withdrawn this cost element for the reasons already stated in the previous year Tariff order itself.**

**6.21. Provision for Bad Debts**

The Commission had not considered any Provision for Bad Debts for the FY 2022-23, since P&ED has not preferred any amount to write off during FY 2022-23.

**The Commission has withdrawn this cost element for the reasons already stated in the previous order itself.**

**6.22. Contributions to Contingency Reserve fund**

Regulation 76.6 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides that the Transmission licensee shall be allowed an annual appropriation of 0.5% of the original cost of fixed assets towards Contingency Reserve. It further provides that the maximum cumulative provision under the Contingency Reserve shall not exceed 5% of original cost of fixed assets. In view of the above, the P&ED has appropriated 0.5% of the cost of fixed assets towards Contingency Reserve for the FY 2022-23.

It is further submitted that P&ED has not made any appropriation towards the Reserve in the previous years, hence, the total balance in the Contingency Reserve does not exceed the maximum cumulative limit of 5% of the original cost of fixed assets as provided in the Regulations. The Contingency Reserve Fund as approved and the revised estimate for the FY 2022-23 are provided in the table below:

**Table 6.28: Contributions to Contingency Reserve Fund FY 2022-23****(In Rs . Crores)**

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Commission Approved
1	2	3	4	5
1	Contribution to Contingency Reserve Fund	2.72	2.96	0.00
	<b>Total</b>	<b>2.72</b>	<b>2.96</b>	<b>0.00</b>

**Commission Analysis:**

It is replied in the additional information that P&ED is not in a position to invest the amount into Contingency Reserve fund as all money is deposited into Government treasury and without consent of GoM, the fund creation in a non-drawl account is not possible in the absence of no financial control independence to P&ED. Hence, the creation of fund proposal is hence forth withdrawn by the Commission and the fund so collect will be clawed back in true-up of FY 2022-23 in the ensuing year.

**6.23. Return on Equity**

The Commission had not considered any Return on Equity Capital for the FY 2022-23 as the P&ED is a Government Department and **hence no equity to claim the RoE.**

**6.24. Non-tariff Income**

The Other Income approved for the FY 2022-23 is Rs. 11.20 Crores. Further, the other income estimate has been reworked based on the changed determinants. The other income approved & estimated is provided in the table below:

**Table 6.29: Other Incomes for FY 2022-23 estimated by P&ED****(Rs.Crs)**

Sl.No.	Particulars	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Commission Approved
1	2	3	4	5
1	Non-Tariff Income	11.20	8.02	-3.18
	<b>Total</b>	<b>11.20</b>	<b>8.02</b>	<b>-3.18</b>

**Commission Analysis:**



The Commission accordingly approves Rs.8.02 Crores towards Non-tariff Income for the FY 2022-23 same as estimated by P&ED.

The P&ED shall endeavour to be vigilant to collect outstanding dues and to bring the amount of outstanding not more than 2 months sales value as an acceptable level. This is possible with proper levying of NTI amount for delays in payments, so that the NTI amount will be used as a tool to recover the pending and doubtful dues at the earliest.

#### 6.25. Revenue from existing tariffs

The P&ED has considered the revised estimate of energy sale as detailed in para1.2 above for calculating the estimated revenue from sale of power. The comparison of approved revenue & revised estimate for the FY 2022-23 is provided in the table below:

**Table 6.30: Revenue from sale of power with existing tariff by P&ED for FY 2022-23**  
(Rs. Crs)

Sl. No.	Category	Approved in T.O. dated 23.03.2022	As per Revised Estimat	Deviation
	<b>LT Consumers</b>			
1	KJ(Domestic)	2.95	2.33	-0.62
2	Domestic	179.24	174.64	-4.60
3	Non- Domestic	8.12	8.44	0.32
4	Commercial	34.91	34.18	-0.73
5	Public Lighting	2.74	2.94	0.20
6	Agriculture	0.03	0.03	0.00
7	Public Water Works	1.00	7.34	6.34
8	Industrial	3.80	3.08	-0.72
	<b>Total LT</b>	<b>232.79</b>	<b>232.97</b>	<b>0.18</b>
	<b>HT Consumers</b>			
9	Domestic	5.01	3.63	-1.38
10	Non- Domestic	0.31	13.34	13.03
11	Commercial	12.14	15.21	3.07
12	Agriculture	0.06	0.01	-0.05
13	Public Water Works	109.02	92.52	-16.50
14	Industrial	6.78	8.10	1.32
15	Bulk Supply	19.55	15.36	-4.19
	<b>Total HT</b>	<b>152.87</b>	<b>148.18</b>	<b>-4.69</b>
16	Outside State	17.77	179.46	161.69
	<b>Grand Total</b>	<b>408.43</b>	<b>560.61</b>	<b>157.18</b>

#### Commission Analysis

The Commission approves probable revenue from existing tariffs at Rs.395.65 Crore from Retail consumers during FY 2022-23 for sale of 503.67MU and the revenue to be realisable from outside State sales revenue is taken as Rs.134.77Cr from the sale of 201.88MU only (instead of 268.80MU) after review in order to revise the revenue to reality for the period. However, the actuals need/requirement be compared based on Audited accounts.

#### 6.26. Review of FY2022-23 ARR filings

The Annual Revenue Requirement approved for FY 2022-23 and revised value of Annual Revenue Requirement for FY 2022-23 is provided in the table below:

**Table 6.31: Aggregate Revenue Requirement P&ED Vs. approved by the Commission for FY 2022-23 after performance review (Rs. Cr)**

Sl. No	Item of Expense	Approved in T.O. dated 23.03.2022	As per Revised Estimate	Commission Approved
1	2	3	4	5
1	Cost of Fuel	0.00	0.00	0.00
2	Cost of Generation	3.34	3.34	3.34
3	Cost of Power Purchase	358.72	441.67	443.14
4	Transmission Charges	56.78	60.31	60.31
5	Intra State Transmission	7.25	7.25	0.00
6	Employee Costs	135.97	151.85	151.85
7	R&M Expenses	10.18	11.31	10.18
8	Administration and General Expenses	5.16	4.83	4.83
9	Depreciation	0.00	1.88	0.00
10	Interest charges	0.00	0.46	0.00
11	Interest on Working Capital	0.00	8.24	0.00
12	Interest on Consumer Security Deposit	0.00	0.00	0.00
13	Provision for bad debts	0.00	0.00	0.00
14	Return on NFA /Equity	0.00	0.00	0.00
15	Contribution to Contingency Reserve Fund	2.72	2.96	0.00
<b>16</b>	<b>Total Revenue Requirement</b>	<b>580.11</b>	<b>694.08</b>	<b>673.65</b>
17	Less: Non-Tariff Income	11.20	8.02	8.02
18	Less: 1/3rd Surplus from FY2020-21	36.13	36.13	36.13
19	Less: Efficiency Gains (for dues collection)	20.13	20.13	20.13
<b>20</b>	<b>Net Revenue Requirement</b>	<b>512.65</b>	<b>629.81</b>	<b>609.37</b>
21	Less: Revenue from Sale of Power	403.43	381.15	395.65
22	Less: Revenue from Surplus energy sale		179.46	<b>134.77</b>
<b>23</b>	<b>Total Revenue from all sources</b>	<b>403.43</b>	<b>560.61</b>	<b>530.42</b>
<b>24</b>	<b>Net Gap/Deficit</b>	<b>-109.22</b>	<b>-69.20</b>	<b>-78.95</b>

As seen from the above, the net ARR for FY 2022-23 as approved by

commission works out to Rs. 609.37Cr with a **revenue gap of Rs.78.95Cr** as against P&ED estimation of Rs.69.20 Cr after review and it is subject to adjustment of Government Revenue Subsidy actually to have received during the financial year will be known at a later date which will be evident from Statutory Audited Accounts Statement of FY2022-23. But it was considered at Rs.109.22Cr in the Tariff Order of 2023-23 when issued.

**6.27. Govt. Subsidy amount for FY 2022-23**

As against the revised gap of Rs.69.21 Crore made the P&ED, the final gap status will be determined after considering the actual subsidy received from Government at the time of truing-up **in due course**.

## **7. Analysis of ARR for FY 2023-24 and its Approval**

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### **7.1. Background**

The P&ED's tariff determination is now governed by "Joint Electricity Regulatory Commission for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014" (referred to as "MYT Regulations, 2014") which came into force from 09.06.2014. Further, the Hon'ble Commission has notified First Amendment Regulations, 2019. The MYT Regulations, 2014 read with First Amendment Regulations, 2019 provide a framework for calculating tariffs on a cost-plus basis and allow the licensee to recover operational expenses including depreciation, interest on working capital, debt and return on equity amongst others.

Multi Year Tariff Order for the 2nd control period of 5 years from FY 2018-19 to FY 2022-23 was issued by the Hon'ble Commission vide order dated 12.03.2018 under the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

The Hon'ble Commission determined the Aggregate Revenue Requirement for the FY 2018-19 to FY 2022-23 & Tariff for the FY 2018-19 in the MYT Order dated 12.03.2018. Further, Tariff Order of the FY 2022-23 was issued vide Order dated 23.03.2022.

Regulation 5.2 (iii) of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides as follows:

"In case of Mid-term Review of Business Plan under Regulation 4.2 (i), the Petition shall comprise of:

- a). Truing Up for previous year;
- b). Modification of the ARR for the remaining year of the Control Period, if any, with adequate justification for the same;
- c). Revenue from the sale of power at existing tariffs and charges for the ensuing year;
- d). Revenue gap for the ensuing year calculated based on ARR approved in the MYT Order and truing up for the previous year;

e). Application for determination of tariff for the ensuing year.”

Further, the Hon’ble Commission notified the First Amendment Regulations, 2019 is as follows:

“5.2 The filing of the Control Period under these Regulations shall be as under.

- (i). .....
- (ii). From the second year of the Control Period onwards and upto the last year of the Control Period, the petition in each year shall comprise of:
  - a). Truing Up for the previous year with audited accounts, and Annual Performance Review (APR) with revision of ARR approved in MYT Order for current year and revised projection of ARR approved in MYT Order for the ensuing year in accordance with these Regulations;
  - b). Revenue from the sale of power at existing tariffs and changes for the current year;
  - c). Revenue gap for the ensuing year calculated based on the revised projection of ARR and truing up of the previous year;
  - d). Application for determination of tariff for the ensuing year.”

After completing the 1st MYT for the control period of FY 2015-16 to FY 2017-18, P&ED completed the submission of 2nd MYT Petition for the control period of FY 2018-19 to FY 2022-23. Now the submission for a period of five years of FY 2023-24 to FY 2027- 28 as per guidance given by the Hon’ble Commission and allow the licensee to recover operational expenses including depreciation, interest on working capital and debt, and return on equity amongst others.

The MYT Regulations, 2014 segregate the items impacting tariffs into controllable and uncontrollable factors. Items that are uncontrollable are passed through to the consumers. P&ED hereby submits its Business Plan & MYT petition for approval of Multi Year Tariff for the 3rd control period i.e., FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY2027-28. It is being submitted in compliance with the provisions of MYT Regulations,2014 read with First Amendment Regulations, 2019.

## 7.2. Number of consumers and Connected Load

### Petitioner's Submission

The forecast of number of consumers is based on the trends observed in the connections pattern of various categories over the past years, new developments on account of Government Policies, Socio economic changes, industrial growth, etc. that would affect consumption across various categories of consumers. **The number of consumers projected for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28 are tabulated below.**

**Table 7.1 : Category wise consumers projected by P&ED**

Category wise Number of Consumers	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
KJ (Domestic) LT	2407	2527	2653	2786	2926
Domestic LT	252125	263379	275135	287416	300245
Domestic HT	2	2	2	2	2
Non-Profit Public Purpose LT	853	896	941	988	1037
Non-Profit Public Purpose HT	1	2	2	2	2
Commercial LT	1345	1387	1431	1475	1522
Commercial HT	37	39	41	43	45
Public Lighting	145	152	160	168	177
PWS LT	1	1	1	1	1
PWS HT	7	8	8	8	9
Agl LT	4	4	4	4	5
Agl HT	3	3	4	4	4
Industrial LT	112	118	124	130	137
Industrial HT	1	1	1	1	1
Bulk Supply HT	22	23	23	24	25
Total	301557	315028	329104	343812	359182

## 7.3. Connected Load

The forecast of connected load is based on the trends observed in the connections pattern of various categories over the past years, new developments on account of Government Policies, Socio economic changes, industrial growth, etc. that would affect consumption across various categories of consumers. The connected load projected for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28 are tabulated below:

**Table 7.2: Category wise Connected Load projected by P&ED**

<b>Category wise Connected Load</b>	<b>FY 2023-24</b>	<b>FY 2024-25</b>	<b>FY 2025-26</b>	<b>FY 2026-27</b>	<b>FY 2027-28</b>
KJ (Domestic) LT	5.93	6.22	6.53	6.86	7.20
Domestic LT	331.43	346.17	361.56	377.64	394.43
Domestic HT	4.98	5.22	5.49	5.76	6.05
Non-Profit Public Purpose LT	18.86	19.80	20.79	21.83	22.92
Non-Profit Public Purpose HT	3.09	3.25	3.41	3.58	3.76
Commercial LT	47.61	50.41	53.38	56.51	59.84
Commercial HT	19.00	19.95	20.94	21.99	23.09
Public Lighting	1.42	1.49	1.56	1.64	1.72
PWS LT	1.06	1.11	1.17	1.22	1.29
PWS HT	60.80	63.84	67.03	70.38	73.90
Agl LT	0.09	0.09	0.10	0.10	0.11
Agl HT	0.23	0.24	0.25	0.26	0.28
Industrial LT	12.57	13.05	13.54	14.05	14.58
Industrial HT	6.50	6.82	7.16	7.52	7.90
Bulk Supply HT	19.60	20.24	20.90	21.58	22.29
Tota	533.16	557.91	583.82	610.95	639.35

### **Commissions Analysis**

The P & ED, Mizoram was directed to arrange for physical verification of the connections and report compliance in next ARR filing FY 2023-24. In Directive-19 to submit quarterly report of the connected load and contracted load of different categories of consumers. But so far, no such quarterly report was complied with by P&ED. It is essential that the contracted load for LT supply should be expressed in kW and in kVA expression for HT supply cases. The Connected loads values and number of consumers category wise so projected indicated above for the entire MYT period by the Licensee is also approved by the Commission for adoption during this MYT period.

## **7.4. Category wise sales Forecast**

### **Petitioner's submission**

#### **Energy sales**

Based on the methodology outlined above in FY 2022-23 APR projection, the projected energy sales of various categories of consumers for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY2027-28 are provided in the below table. The Hon'ble Commission is requested to approve the same as projected by P&ED for the FY 2023-4, FY 2024-25, FY 2025-26, FY2026-27 and FY 2027-28 are provided in the table below:

**Table 7.3: Projected Energy Sales – FY 2023-24 to FY 2027 -28 by P&ED**

(In MUs)

Category	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
KJ (Domestic) LT	6.21	6.52	6.85	7.19	7.55
Domestic LT	305.34	320.61	336.64	353.47	371.14
Domestic HT	3.62	3.80	3.99	4.19	4.40
Non-Profit Public Purpose LT	9.74	10.32	10.93	11.58	12.26
Non-Profit Public Purpose HT	14.15	14.86	15.61	16.39	17.21
Commercial LT	36.97	37.94	38.94	39.97	41.02
Commercial HT	14.10	14.81	15.55	16.33	17.14
Public Lighting	2.61	2.75	2.90	3.05	3.22
PWS LT	6.84	7.18	7.54	7.92	8.31
PWS HT	82.23	86.49	90.96	95.67	100.62
Agl LT	0.06	0.06	0.06	0.06	0.07
Agl HT	0.10	0.10	0.11	0.11	0.12
Industrial LT	2.80	2.94	3.09	3.24	3.40
Industrial HT	7.77	8.16	8.56	8.99	9.44
Bulk Supply HT	18.05	18.95	19.90	20.89	21.94
<b>Total</b>	<b>510.59</b>	<b>535.49</b>	<b>561.62</b>	<b>589.05</b>	<b>617.84</b>

**Commission's Analysis**

The retail energy sales projections made for the MYT period from 2023-24 to 2027-28 as indicated above preferred by the licensee are also approved by the Commission and the break-up details of retail consumers for FY 2023-24 are tabulated below.

**Table 7.4: Energy sales approved by the Commission FY 2023-24**

Sl. No.	Category	Approved by Commission
	<b>LT Consumers</b>	(MU)
1	Kutir Jyoti	6.21
2	Domestic	305.34
3	Non-Domestic	9.74
4	Commercial	36.97
5	Public Lighting	2.61
6	Agriculture	0.06
7	Public Water Works	6.84
8	LT Industrial	2.80
	<b>Total LT</b>	<b>370.57</b>
	<b>HT Consumers</b>	
9	Domestic	3.62
10	Non-Domestic	14.15
11	Commercial	14.10
12	Agriculture	0.10



Sl. No.	Category	Approved by Commission
13	Public Water Works	84.22
14	HT Industrial (Opt- 1&2)	8.27
15	Electric Vehicle Charging - LT	2.00
16	Electric vehicle Charging – HT	0.75
17	Bulk Supply	14.80
	<b>Total HT</b>	<b>142.01</b>
	<b>LT &amp; HT Total</b>	<b>512.58</b>

The Commission approves retail energy sales during FY 2023-24 at 512.58 MU as projected by the P&ED, Mizoram with modification in HT-Public Water works. Outside State sales quantum of 297.13MU projected by P&ED would also be revised as per the energy balance table approved by commission in forth coming relevant para ahead.

#### 7.5. Distribution Loss

##### Petitioner's submission

It is submitted that the P&ED is making all efforts to meet the trajectory of distribution loss given by the Hon'ble Commission in the MYT Order. Accordingly, P&ED is not proposing and deviations in the distribution loss % approved by the Hon'ble Commission for the FY 2022-23 at this stage. However, actuals & deviations if any shall be submitted for consideration & approval at the time of true-up. The Distribution loss for the FY 2022-23 as approved by the Hon'ble Commission is provided in the table below:

**Table 7.5 : Distribution Loss for FY 2023-24 projected by P&ED**

Distribution Loss (MYT filing)	2023-24	2024-25	2025-26	2026-27	2027-28
Distribution Loss (%)	17.73%	17.63%	17.53%	17.43%	17.33%

##### Commissions Analysis

The performance of P&ED as seen in 2019-20 to 2021-22, their distribution Losses are quite high when compared with Tariff Order approved figures. *The distribution losses were showing an increasing trend of 20.663% (FY2019-20), 29.05% (FY 2020-21) and 29.45% (2021-22) but not decreasing year on year but deteriorating and heralding harbinger situation in energy handling in the entire state.* Under these circumstances, the distribution losses percentage so indicated for entire MYT period is practically not achievable & impracticable as they have not stated any strategy or action plan in this matter except quoting the rosy picture of loss reduction. **Probably for the reason to**

**cover-up the impending abnormal losses, they might have projected higher quantum of IEX sales (purporting it as a plausible reason) in order to procure/purchase more energy to cover their inability and the facts are seen being surfaced overtly in True-up submission every time eventually.** The abnormal IEX sales projection is only purchase more energy by them to suit their higher distribution losses else there in need to go for so much of energy purchases if the distribution losses are so lower as was projected.

The details of IEX sales quantum projected by P&ED in MYT filing is tabulated below for a glance. The ill-effects of higher quantum of IEX Sales are deleterious if they don't materialise practically and would result in huge loss financially for each sold in open market at a rate lower than its procurement related attributable cost in one way. In order to cover up the deficit, the Government will have to shoulder huge revenue subsidy. This kind of situation is constantly prevailing in the State despite, being warned by the Commission on this aspect. Hence, there imposed a penalty afresh in FY2021-22.

<b>IEX Sales (as per filing)</b>	<b>2023-24</b>	<b>2024-25</b>	<b>2025-26</b>	<b>2026-27</b>	<b>2027-28</b>
IEX Sales projected (MU)	<b>297.13</b>	<b>267.10</b>	<b>235.58</b>	<b>202.5</b>	<b>167.85</b>

**Thereby, the Commission brushing away the above distribution losses and also the huge IEX Sales quantum and indicates the following figures for the MYT Period now.**

**The approved values are tabulated below:**

<b>Distribution Loss (approved)</b>	<b>2023-24</b>	<b>2024-25</b>	<b>2025-26</b>	<b>2026-27</b>	<b>2027-28</b>
Distribution Loss (%)	22.50%	21.50%	20.55%	19.50%	18.75%
Outside State Sales (MU)	93.798	92.107	90.582	93.591	92.892

**Distribution Loss approved at 22.50% during FY 2023-24 as against 17.73% projected by P&ED Mizoram with an instruction to adhere to the above directive and submit the data promptly and report its compliance in each month in FY 2023-24 to the Commission invariably, else the Efficiency gain cut now imposed from FY2020-21 onwards will be a repetitive feature from Commission end for the under performance if any noticed in future.** On account of higher distribution losses approved by the Commission, there is corresponding reduction in the IEX Sales quantum from the P&ED projected level.

## **7.6. Energy Balance & Sources of Power Purchase**

Accordingly, the energy requirement for P&ED is projected based on the

retail sales projections, grossed up by estimated loss levels. The energy balance expected for the FY2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 is as given below.

**Table 7.5: Energy Balance projected by P&ED**

Sl. No.	Energy Balance	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
<b>A</b>	<b>Energy Requirement</b>					
1	Energy Sales	510.59	535.49	561.62	589.05	617.84
2	Distribution Loss (%)	17.73%	17.63%	17.53%	17.43%	17.33%
3	Distribution Loss (MUs)	110.07	114.60	119.36	124.35	129.51
<b>4</b>	<b>Total Energy Requirement</b>	<b>620.66</b>	<b>650.10</b>	<b>680.98</b>	<b>713.40</b>	<b>747.36</b>
<b>B</b>	<b>Energy Availability</b>					
5	Own Generation	31.07	31.07	31.07	31.07	31.07
6	Energy Purchase from ER	33.40	33.40	33.40	33.40	33.40
7	Less: ER Pool Loss (%)	1.95%	1.95%	1.95%	1.95%	1.95%
8	Less: ER Pool Loss (Mus)	0.65	0.65	0.65	0.65	0.65
9	Net Energy for ER	32.75	32.75	32.75	32.75	32.75
10	Energy Purchase from NER (Exl.Turial HEP)	688.36	688.36	688.36	688.36	688.36
11	UI / Deviation	0.00	0.00	0.00	0.00	0.00
12	Sub Total	721.11	721.11	721.11	721.11	721.11
13	Less: NER Pool Loss (%)	2.54%	2.54%	2.54%	2.54%	2.54%
14	Less: NER Pool Loss (MUs)	18.32	18.32	18.32	18.32	18.32
15	Net Energy at NERLDC	702.79	702.79	702.79	702.79	702.79
16	Energy purchases from Tuirial HEP	170.93	170.93	170.93	170.93	170.93
17	Free Energy from Tuirial HEP	23.31	23.31	23.31	23.31	23.31
18	Roof-top Solar Generation	0.07	0.07	0.07	0.07	0.07
19	Solar Generation	2.30	2.30	2.30	2.30	2.30
20	Energy Available	930.46	930.46	930.46	930.46	930.46
21	<b>Less: Outside State - Trading</b>	<b>297.13</b>	<b>267.10</b>	<b>235.58</b>	<b>202.50</b>	<b>167.85</b>
22	Total Energy Available	633.33	663.36	694.88	727.96	762.61
23	Less: Intra State Tr. Loss (%)	2.00%	2.00%	2.00%	2.00%	2.00%
24	Less: Intra State Tr. Loss (MUs)	12.67	13.27	13.90	14.56	15.25
25	Net Energy Available	620.66	650.09	680.98	713.40	747.36
26	<b>Less: Energy requirement at State Periphery</b>	<b>620.66</b>	<b>650.10</b>	<b>680.98</b>	<b>713.40</b>	<b>747.36</b>
27	<b>ENERGY SURPLUS/(DEFICIT)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

The energy requirement of P&ED is mainly met from power purchase from Central Generating Stations etc.

Details of station wise power procure are provided in the Format – F1 (ii to vi). The summary of expected power purchase/ generation for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 are provided in the table below

#### 7.6.1. Details of Power Procurement Sources – FY 2023-24 to FY 2027-28

##### Petitioner's submission

Energy Balance	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
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Energy Balance	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Power Purchase	918.35	918.35	918.35	918.35	918.35
Own Generation	31.07	31.07	31.07	31.07	31.07
<b>Total</b>	<b>949.43</b>	<b>949.43</b>	<b>949.43</b>	<b>949.43</b>	<b>949.43</b>

### Commissions Analysis

**Table 7.6: Details of Station wise Own generation (for MYT) by Commission**

Small Hydel Stations of P&ED		2023-24	2024-25	2025-26	2026-27	2027-28
MW	Small Hydel Plants	MU	MU	MU	MU	MU
1.00	Serlui-A					
0.30	Tuirivang	0.02	0.02	0.02	0.02	0.02
2.00	Maicham-I					
3.00	Tuipanglui					
0.50	Lamsial					
3.00	Maicham-II	4.58	4.58	4.58	4.58	4.58
5.00	Tlawva	2.59	2.59	2.59	2.59	2.59
1.05	Khawiva	1.83	1.83	1.83	1.83	1.83
0.50	Tuipui					
3.00	Teirei	7.26	7.26	7.26	7.26	7.26
3.00	Kau Tlabung	8.31	8.31	8.31	8.31	8.31
12.00	Serlui-B	6.49	6.49	6.49	6.49	6.49
0.50	Lengpui					
<b>34.85</b>	<b>Total Generation</b>	<b>31.07</b>	<b>31.07</b>	<b>31.07</b>	<b>31.07</b>	<b>31.07</b>

The above SHP stations have been considered by P&ED in the own generation of power from SHPs owned by it and projected the Generation accordingly in the MYT power generation. The above stations include the four (4) stations being maintained by M/s. Amazon Engineering.

Hence, the Commission strongly feels to adopt taking entire 31.07MU as the power purchase from State Own Generation in FY 2023-24 and also in the rest of MYT period up to 2027-28 at the same level in the absence of firm information.

#### 7.6.2. Power Purchase

##### Petitioners Submission:

P&ED has 11 SHP & 1 Thermal power own generating stations which contributes to energy requirement of the state. Balance requirement of power is met from purchase from Central/State Generating Stations or from other sources/ open market/ power exchanges etc. The present power availability of P&ED is as listed below:

**Table 7.7: Allocation of power (in MWs) from Central Sector and other Generating Stations**

SI No	Energy Generation Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
<b>A</b>	<b>Central Generating Stations</b>			
<b>I</b>	<b>NTPC</b>			
1	Bongaigaon TPS	750.00	5.415	40.61
2	Farakka STPS	1600.00	0.142	2.27
3	Kahalgaon STPS	840.00	0.142	1.19
4	Talcher STPS	1000.00	0.142	1.42
	<b>NTPC-Total</b>	<b>4190.00</b>		<b>45.49</b>
<b>II</b>	<b>NHPC</b>			
1	Loktak HEP	105.00	5.020	5.27
	<b>NHPC-Total</b>	<b>105.00</b>		<b>5.27</b>
<b>III</b>	<b>NEEPCO</b>			
1	Kopili HEP	200.00	4.610	9.22
2	Kopili - II HEP	25.00	6.040	1.51
3	Khandong HEP	50.00	3.940	1.97
4	Ranganadi HEP	405.00	5.700	23.09
5	Doyang HEP	75.00	5.410	4.06
6	Pare HEP	110.00	5.765	6.34
7	a) Tuirial HEP	60.00	100.000	60.00
	b) Free Power share			
8	AGBPP	291.00	5.410	15.74
9	AGTPP	135.00	6.000	8.10
	<b>NEEPCO-Total</b>	<b>1351.00</b>		<b>130.03</b>
<b>IV</b>	<b>TSECL</b>			
1	B'mura - IV	21.00	25.000	5.25
2	B'mura - V	21.00	25.000	5.25
	<b>TSECL-Total</b>	<b>42.00</b>		<b>10.50</b>
<b>V</b>	<b>OTPC</b>			
1	Palatana	726.00	3.030	22.00
	<b>OTPC-Total</b>	<b>726.00</b>		<b>22.00</b>
<b>VI</b>	<b>Amazon Engineering</b>			
	1.Khawiva HEP	1.05	100	1.05
	2.Tuipui HEP	0.50	100	0.50
	3.Teirei HEP	3.00	100	3.00
	4.Kau Tlabung HEP	3.00	100	3.00
	<b>Others-Total</b>	<b>7.55</b>		<b>7.55</b>
<b>B</b>	<b>State generating Stations</b>			
	All Units	27.30	100	27.30
	<b>Owned Generation Total</b>	<b>27.30</b>		<b>27.30</b>
<b>C</b>	<b>UI / Deviation</b>			

Sl No	Energy Generation Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
	<b>UI / Deviation-Total</b>			
<b>D</b>	<b>Other RE Energy</b>			
	1.Rooftop solar Generation			
	2.Solar Generation			
<b>E</b>	<b>RPO Obligation / REC Certificate</b>			
<b>F</b>	<b>LC Enhancement/Renewal charges</b>			
<b>G</b>	<b>Bilateral Power Purchase</b>			
1	Utility 1			
2	Utility 2			
	<b>Bilateral-Total</b>			
<b>H</b>	<b>GRAND TOTAL</b>	<b>6448.85</b>		<b>248.14</b>

Commission had now considered State Own Generation Capacity to be at 27.30MWs out of total 34.85MWs and the balance 7.55MW plants are attributed to leasing to M/s. Amazon Engineering in considering the actual generation capacity.

### 7.6.3. Energy draws from all CGS stations and other external sources:

Table 7.8: Power Purchase from CGS excl. Owned generation as per P&ED for FY 2023-24

Sl. No.	Energy Source for FY2023-24	P&ED (MYT Based filing)		
		Units (MU)	Total ost (Rs Cr)	CPU (Rs/ kWh)
<b>A</b>	<b>CGS - NTPC Stations</b>			
1	NTPC Bongaigaon Unit I	98.78	93.76	9.49
2	Farakka STPS	15.90	7.39	4.65
3	Kahalgaon STPS	8.20	3.97	4.84
4	Talcher STPS	9.30	2.99	3.22
	<b>Sub Total - NTPC</b>	<b>132.18</b>	<b>108.11</b>	<b>8.18</b>
<b>B</b>	<b>CGS - NHPC</b>			
1	Loktak HEP	23.98	10.10	4.21
	<b>Sub-Total - NHPC</b>	<b>23.98</b>	<b>10.10</b>	<b>4.21</b>
<b>C</b>	<b>NEEPCO</b>			
1	Kopili - I HE	41.60	10.29	2.47
2	Kopili - II HE	6.05	1.61	2.66
3	Khandong HE	10.88	3.27	3.01
4	Ranganandi HE Project	70.35	19.06	2.71
5	Doyang HE Project	8.12	6.39	7.87
6	Pare HEP	26.84	14.39	5.36
7	Tuirial HEP	170.93	103.35	5.32
8	<b>Tuiria HEP - Free Power</b>	23.31	0.00	
9	Assam GBPP	81.48	46.35	5.69
10	Agartala GTPP	45.30	25.33	5.59
	<b>Sub-total</b>	<b>484.86</b>	<b>230.04</b>	<b>4.74</b>
<b>D</b>	<b>Other Supplies</b>			
1	Baramura GBPP Unit IV & V	70.45	35.05	4.98
2	OTPC - Pallatana	204.52	72.90	3.56
	<b>Sub-total</b>	<b>274.97</b>	<b>107.95</b>	<b>3.93</b>
	<b>Total CGS &amp; Other Purchases</b>	<b>915.99</b>	<b>456.20</b>	<b>4.98</b>

Sl. No.	Energy Source for FY2023-24	P&ED (MYT Based filing)		
		Units (MU)	Total ost (Rs Cr)	CPU (Rs/kWh)
<b>E</b>	<b>Short-term power purchase</b>			
	IEX Purchase	0.00	0.00	0.00
	<b>Sub-total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>F</b>	<b>State Own Generation</b>			
	P&ED maintained Units	31.07	0.00	
	Amazon Generation	0.00		
<b>G</b>	<b>UI Over drawl</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	<b>UI Under draws</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>H</b>	<b>REC Certificate/Obligation</b>		3.60	
<b>I</b>	<b>Roof-top Solar Generation</b>	0.07	0.02	
<b>J</b>	<b>Solar Generation</b>	2.30		
<b>K</b>	<b>Reactive Energy charges</b>		0.02	
<b>L</b>	<b>LC Enhance/Renewal charges.</b>	<b>0.00</b>	<b>0.00</b>	
<b>M</b>	<b>Addl. Supplementary Bills</b>	<b>0.00</b>	<b>19.86</b>	<b>0.00</b>
	<b>TOTAL POWER PURCHASE</b>	<b>949.43</b>	<b>479.70</b>	<b>5.05</b>

P&ED has projected that the quantum of power purchase from CGSs will be based on the firm & infirm allocations. The details of the computation of power purchases from CGS are provided in Format – F1 (ii) to F1 (vi) & F1a (ii) to (vi) of the Format submitted along with the filing. For projecting the net energy availability at P&ED periphery for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28, the external PGCIL losses at ER periphery of 1.95% & NER periphery of 2.54% have been considered.

Based on the Energy balance and trend of energy requirement during peak demand period it is estimated that in addition to the firm as well as infirm allocation of power from various CGS, there will be excess of energy requirement for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. This scenario is likely to continue in the period of FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. For the purpose of estimation of power purchase cost, P&ED has considered the rates at which power was procured through bilateral agreements/other sources during the FY 2022-23 after escalating the same by 5.72% year over year to factor in the rise in the rates. However, in the current high demand-supply gap scenario across the country these rates may further shoot up during the control Period.

#### **Assumption for Power Purchase Projection**

The merit order dispatch principles are typically adopted when determining the

power purchases from various generating stations. However, in a power deficit scenario, these principles do not play a significant role as the utilities will try and purchase all the power that is available at its disposal. Accordingly, P&ED has considered purchase of the entire power available from all the possible sources during the period to meet the demand to the extent possible.

Power Purchase cost is a function of the energy requirement and price of available power from the different sources for meeting the energy requirement. The energy requirement of P&ED for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 is proposed to be met from own generation & power purchase from sources as detailed above.

Power Purchase cost is a function of the energy requirement and price of available power from the different sources for meeting the energy requirement. The energy requirement of P&ED for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 is proposed to be met from central generating stations and external power purchase as discussed below.

Power purchase cost for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28, is determined on the following parameters:

- The quantum of power allocated to P&ED from central generating station is based on the declared allocation;
- Power purchases from the CGS stations & other sources is assumed same as per the FY 2022-23 (estimated);
- Fixed cost, energy charges and other charges for CGSs have been considered with an escalation as per 5.72% over the previous year levels;
- Power purchase from other sources is considered as per the agreement with suppliers after escalating the same at 5.72% year over year to factor in the rise in the rates.

### **Commission's Analysis**

The power purchase for FY 2023-24 approved by the Commission from all sources works out to be **783.44** MU are detailed in the table below.



Table 7.9: Power purchase quantum approved by the Commission for FY 2023-24

Sl. No	Source	Plant Capacity (MW)	Licensee's share (%)	Licensee's Share (MW)	MU Purchased (ex-bus)
<b>A</b>	<b>Central Generating Stations</b>				
<b>I</b>	<b>NTPC</b>				
1	Bongaigaon TPS	750	5.415	40.61	28.78
2	Farakka STPS	1600	0.142	2.27	15.90
3	Kahalgaon STPS	840	0.142	1.19	8.20
4	Talcher STPS	1000	0.142	1.42	9.30
	<b>NTPC-Total</b>	<b>4190</b>		<b>45.49</b>	<b>62.18</b>
<b>II</b>	<b>NHPC</b>				
1	Loktak HEP	105	5.02	5.27	23.98
	<b>NHPC-Total</b>	<b>105</b>		<b>5.27</b>	<b>23.98</b>
<b>III</b>	<b>NEEPCO</b>				
1	Kopili HEP	200	4.610	9.22	41.60
2	Kopili - II HEP	25	6.040	1.51	6.05
3	Khandong HEP	50	3.94	1.97	10.88
4	Ranganadi HEP	405	5.70	23.09	70.35
5	Doyang HEP	75	5.410	4.06	5.12
6	Pare HEP	110	5.765	6.34	14.84
7	Tuirial HEP	60	100	60.00	170.93
	Free Power Units				23.31
8	AGBPP	291	5.41	15.74	31.48
9	AGTPP	135	6.00	8.10	30.30
	<b>NEEPCO-Total</b>	<b>1351</b>		<b>130.03</b>	<b>404.86</b>
<b>IV</b>	<b>TSECL</b>				
1	B'mura - IV	21	25	5.25	54.46
2	B'mura - V	21	25	5.25	
	<b>TSECL-Total</b>	<b>42</b>		<b>10.50</b>	<b>54.46</b>
<b>V</b>	<b>OTPC</b>				
1	Palatana	726	3.03	22.00	204.52
	<b>OTPC-Total</b>	<b>726</b>		<b>22.00</b>	<b>204.52</b>
<b>C</b>	<b>Own Generation</b>	27.30	100	27.30	<b>13.67</b>
<b>D</b>	<b>Amazon Engineering</b>				
	1.Khawiva HEP	1.05	100	1.05	1.83
	2.Tuipui HEP	0.50	100	0.50	0.0
	3.Teirei HEP	3.00	100	3.00	7.26
	4.Kau Tlabung HEP	3.00	100	3.00	8.31
	<b>Amazon -Total</b>	<b>7.55</b>		<b>7.55</b>	<b>17.40</b>
<b>E</b>	<b>UI / Deviation</b>				---
<b>F</b>	<b>Roof-Top Generation</b>				<b>0.07</b>
<b>G</b>	<b>Solar Generation</b>				<b>2.30</b>
<b>E</b>	<b>RPO Obligation</b>				0.00
	<b>GRAND TOTAL</b>	<b>6448.85</b>		<b>248.14</b>	<b>783.44</b>

UI purchase transactions are not considered as P&ED have adequate surplus power. However, the P&ED may resort to UI purchases only to tide over any exigencies in order to meet the short-term power requirement and to

overcome interruption in supply of power within state. However, the RPO obligation requirement was also derived based on Commission approved power purchases quantum. It is suggested to go for procurement of RPO obligation certificates instead of buying the energy quantity and RPO related required quantity and amount needed for investment is arrived at and relevant cost components is added for arriving cost of power purchase cost in FY2023-24.

## 7.7. Energy Balance:

### Commissions' Analysis

The energy balance for the FY 2023-24 as projected by the P&ED is already depicted in para-7.1 above and those approved by the Commission is provided in the table below:

**Table 7.10: Energy Balance projected by Commission for entire MYT Period**

S.No.	Energy Balance (Approved)	2023-24	2024-25	2025-26	2026-27	2027-28
<b>A</b>	<b>Energy Requirement</b>	<b>MU</b>	<b>MU</b>	<b>MU</b>	<b>MU</b>	<b>MU</b>
1	Energy Sales (MU)	512.58	535.49	561.62	589.05	617.84
2	Distribution Loss (%)	22.61%	21.62%	20.67%	19.62%	18.87%
3	Distribution Loss (MUs)	149.79	147.68	146.33	143.80	143.74
<b>4</b>	<b>Total Energy Requirement</b>	<b>662.37</b>	<b>683.17</b>	<b>707.95</b>	<b>732.85</b>	<b>761.58</b>

<b>B</b>	<b>Energy Availability (Energy Balance)</b>	<b>MU</b>	<b>MU</b>	<b>MU</b>	<b>MU</b>	<b>MU</b>
5	State Own Generation	31.07	31.07	31.07	31.07	31.07
6	Energy Purchase from ER	33.40	33.40	33.40	33.40	33.40
7	Less: ER Pool Loss (%)	1.95%	1.95%	1.95%	1.95%	1.95%
8	Less: ER Pool Loss (Mus)	0.65	0.65	0.65	0.65	0.65
9	Net Energy for ER (MU)	32.75	32.75	32.75	32.75	32.75
10	Purchase from NER (Exl. Tuirial HEP)	522.36	542.36	566.69	595.8	625.11
11	Add: UI / Deviation	-	-	-	-	-
12	<b>Sub Total (9+10)</b>	<b>555.11</b>	<b>575.11</b>	<b>599.44</b>	<b>628.55</b>	<b>657.86</b>
13	Less: NER Pool Loss (%)	2.36%	2.36%	2.36%	2.36%	2.36%
14	Less: NER Pool Loss (MUs)	13.10	13.57	14.15	14.83	15.53
15	<b>Net Energy at NERLDC (12-14)</b>	<b>542.01</b>	<b>561.54</b>	<b>585.29</b>	<b>613.72</b>	<b>642.33</b>
16	Energy purchases from Tuirial HEP	170.93	170.93	170.93	170.93	170.93
17	Free Energy from Tuirial HEP	23.31	23.31	23.31	23.31	23.31
18	Rooftop Solar Generation	0.07	0.07	0.07	0.07	0.07
19	Solar Generation	2.30	2.30	2.30	2.30	2.30
20	<b>Energy Purchases Total</b>	<b>769.69</b>	<b>789.22</b>	<b>812.97</b>	<b>841.40</b>	<b>870.01</b>
21	Less: Outside State sale (IEX Sales)	93.80	92.11	90.58	93.59	92.89
22	<b>Total Energy at State Periphery</b>	<b>675.89</b>	<b>697.11</b>	<b>722.39</b>	<b>747.81</b>	<b>777.12</b>

B	Energy Availability (Energy Balance)	MU	MU	MU	MU	MU
23	Less: Intra State Tr. Loss (%)	2.00%	2.00%	2.00%	2.00%	2.00%
24	Less: Intra State Tr. Loss (MUs)	13.52	13.94	14.45	14.96	15.54
25	Net Energy for Retail Sales	662.37	683.17	707.95	732.85	761.58

In this process, this year the Commission had adopted a step by step procedure that is practically adopted in energy handling with an intention to depict the situation much closer to reality and arrived at the losses and the Outside state sales quantum after drilling down the projected energy quantum from costly stations judiciously to economise the total cost. In this process, the Commission had to assume the transmission losses at 2% of the energy input at state periphery for entire MYT period as proposed by P&ED.

Thus, the energy balance resulted in surplus of power at 93.80MU (instead of the projected 297.13MU) which the P&ED may sell through traders or under IEX to realise maximum revenue by coordinating with SLDC activity. The Commission have already made a directive in this matter upon observing the losses quantum in the Tariff Order Dt 20<sup>th</sup> March 2020. However, as already explained, the NERLDC losses too were adopted at 2.36% as per NER Compendium data for FY 2021-22 but the P&ED adopts 2.54% with no basis in Energy Balance calculations. The NER declared losses is attached as an annexure at the end of Tariff Order for reference. The Licensee shall endeavour to strictly comply with that said directive and report on its compliance.

## 7.8. Aggregate Revenue Requirement

### 7.8.1. Cost of Fuel

Cost of fuel in respect generating unit at Lengpui is provided as nil. It is spare generating station. Following the past years if any amount needed then the same was adjusted/paid from power purchase cost. So, the cost of projected as nil for the control period. The details are provided in table below.

**Table 7.11: Fuel Cost entire MYT Period filed by P&ED (Rs.Crs)**

Cost of Fuel					
Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Cost of Fuel	0.00	0.00	0.00	0.00	0.00

**The Commission also approves NIL fuel cost for entire MYT period based on the projections made by P & ED Mizoram.**

### 7.8.2. Cost of Generation

#### Petitioners Submission:

Cost of Generation of SHPs owned by P&ED is arrived at on the basis of projected net generation at the HEPs and per unit tariff determined as per JERC for Manipur & Mizoram (Terms and Conditions for Tariff Determination from Renewable Energy sources) (First Amendment) Regulations, 2014. Petition for the approval of the same is submitted as Part – V of this submission. Cost of Generation from SHPs owned by P&ED arrived as per the above is provided in the table below.

**Table 7.12: Cost of Generation for entire MYT period by the P&ED**

Particulars	(Rs. Cr)				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Cost of Generation	12.68	13.29	13.94	14.63	15.36

#### Commission Analysis:

Upon scrutiny of the Generation function ARR filed separately by the P&ED, the Commission approves cost of Generation ARR amount for each of the MYT period which also includes the O&M amount of Rs.1.66CrS pertaining to Amazon maintained four stations for the reasons detailed therein is tabulated below:

Cost of Generation approved by Commission (Rs.Crs)					
Particulars	FY	FY	FY	FY	FY
	2023-24	2024-25	2025-26	2026-27	2027-28
Cost of Generation	5.555	5.736	5.930	6.132	6.348

### 7.8.3. Cost of Power Purchase

#### Petitioner's submission

Based on the Energy balance and trend of energy requirement during peak demand period it is estimated that in addition to the firm as well as infirm allocation of power from various CGS, there will be excess of energy requirement for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. This scenario is likely to continue in the period of FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. For the purpose of estimation of power purchase cost, P&ED has considered the rates at which power

was procured through bilateral agreements/other sources during the FY 2022-23 after escalating the same by 5.72% year over year to factor in the rise in the rates. However, in the current high demand-supply gap scenario across the country these rates may further shoot up during the control Period.

Further, the cost towards RPO has been arrived in accordance with the RPO targets prescribed in the RPO regulations. The % for the FY 2021-22 is assumed as same for the FY 2022-23. The target for Wind RPO, HPO & Other RPO % is given in the table below:

**Table 7.13: Percentage of Target for Wind RPO, HPO & Other RPO**

Sl. No.	Financial Year	Wind RPO	HPO	Other RPO	Total
1	2	3	4	5	6
1	2023-24	1.60%	0.66%	24.81%	27.07%
2	2024-25	2.46%	1.08%	26.37%	29.91%
3	2025-26	3.36%	1.48%	28.17%	33.01%
4	2026-27	4.29%	1.80%	29.86%	35.95%
5	2027-28	5.23%	2.15%	31.43%	38.81%

For all the RPO category, the prescribed target as per above table has been applied on the base figure of 620.66 MUs, 650.10 Mus, 680.98 MUs, 713.14 MUs & 747.36 MUs for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively

Further, for the Wind RPO category, P&ED has not been procured any power during the control period. Accordingly, 9,930.54 MWh (9.93 MUs), 15,992.34 MWh (15.99 MUs), 22,880.85 MWh (22.88 MUs), 30,604.96 MWh (30.60 MUs) & 39,086.89 MWh (39.09 MUs) is computed as the Wind RPO for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively. The rate as prescribed by CERC has been considered to arrive at the cost of RPO of Rs . 0.99 Crores, Rs . 1.60 Crores, Rs . 2.29 Crores, Rs . 3.06 Crores & Rs . 3.91 Crores for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively.

For the HPO category, P&ED has not been procured any power during the control period. Accordingly, 40,96,346 kWh, 70,21,028 kWh, 100,78,468 kWh, 128,41,242 kWh & 160,68,226 kWh is computed as the HPO for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively. The rate as prescribed by CERC has been considered to arrive at the cost of HPO at Rs .

2.61 Crores, Rs . 4.70 Crores, Rs . 7.08 Crores, Rs . 9.46 Crores & Rs . 12.44 Crores for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively.

P&ED shall meet the requirement of Other RPO from its power procurement which is projected at 153.99 MUs, 171.43 MUs, 191.83 MUs, 213.02 MUs & 234.90 MUs for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively. Accordingly, there is no fund needed for meeting other RPO target, its already projected as achieve.

The Power purchase cost also includes charges towards purchase of REC certificates to meet the RPO obligation. Total cost of REC certificates (for Wind RPO, HPO & Other RPO) is Rs . 3.60 Crores, Rs . 6.30 Crores, Rs . 9.36 Crores, Rs . 12.52 Crores & Rs . 16.35 Crores for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively.

Detailed power purchase station wise units and cost is provided in the Format – F1 (ii) to F1 (vi). Considering the above the Hon'ble Commission is requested to allow the power purchase costs as projected by P&ED for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. Summary of the power purchase cost is provided in the table below:

**Table 7.14: Summary of Power Purchase cost for MYT Period by P&ED**

Sl. No.	FY	Units purchased (MUs)	Total Cost (Rs.Crs)
1	2023-24	918.35	479.70
2	2024-25	918.35	508.49
3	2025-26	918.35	539.14
4	2026-27	918.35	571.47
5	2027-28	918.35	606.12

**Commission analysis:**

As against the above power purchase quantity and cost projected by the P&ED, the Commission after careful examination had approved the following quantum and cost each year-wise but the values indicated for any year beyond FY2023-24 are temporary and has no sanctity as they are bound to vary and hence, no details are indicated from Commission end beyond 2023-24.

**Table 7.15: Power Purchase details (Approved by Commission) for MYT period**

Particulars	2023-24	2024-25	2025-26	2026-27	2027-28
Energy Purchases (MU)	783.44	803.44	827.77	856.88	886.19
Power Purchase Cost (Crs)	359.92	395.66	435.92	486.20	536.25
Cost Per Unit (Rs./kWh)	4.59	4.92	5.27	5.67	6.05

In fact, in the MYT petition, the power purchase projection for 5 years is not possible to predict without the accurate station wise energy availability of all the CGS power & other sources of purchase. As seen from the petition, the P&ED had made a uniform purchase pattern for all 5 years without any change is the best example to know the difficulty. Therefore, the Power procurement need be indicated for ensuing year (i.e. FY2023-24) only and not for other remaining years. Thus, it will be a meaningful projection exercise when the respective retail supply ARR filing is made unlike it is made now as a ritual and not useful benefit. The licensee may kindly note this point.

Table 7.16: Power Purchase Cost projected by the P &amp; ED for the FY 2023-24

Sl. No.	Energy procurement Source	Plant Installed capacity			P&ED (MYT Based filing )		
		(MW)	P&ED Share (%)	P&ED Share (MW)	Units (MU)	Total Cost (Rs Cr)	CPU (Rs/ kWh)
<b>A</b>	<b>CGS - NTPC Stations</b>						
1	NTPC Bongaigaon Unit I	750	5.415	40.61	98.78	93.76	9.49
2	Farakka STPS	1600	0.142	2.27	15.90	7.39	4.65
3	Kahalgaoon STPS	840	0.142	1.19	8.20	3.97	4.84
4	Talcher STPS	1000	0.142	1.42	9.30	2.99	3.22
	<b>Sub Total - NTPC</b>	<b>4190</b>		<b>45.50</b>	<b>132.18</b>	<b>108.11</b>	<b>8.18</b>
<b>B</b>	<b>CGS - NHPC</b>						
1	Loktak HEP	105.00	5.020	5.27	23.98	10.10	4.21
	<b>Sub-Total - NHPC</b>	<b>105.00</b>		<b>5.27</b>	<b>23.98</b>	<b>10.10</b>	<b>4.21</b>
<b>C</b>	<b>NEEPCO</b>						
1	Kopili - I HE	200	4.610	9.22	41.60	10.29	2.47
2	Kopili - II HE	25	6.040	1.51	6.05	1.61	2.66
3	Khandong HE	50	3.940	1.97	10.88	3.27	3.01
4	Ranganandi HE Project	405	5.700	23.09	70.35	19.06	2.71
5	Doyang HE Project	75	5.410	4.06	8.12	6.39	7.87
6	Pare HEP	110	5.765	6.34	26.84	14.39	5.36
7	Tuirial HEP	60	100.00	60.00	170.93	103.35	5.32
8	<b>Tuiria HEP - Free Power</b>				23.31	0.00	
9	Assam GBPP	291	5.410	15.74	81.48	46.35	5.69
10	Agartala GTPP	135	6.000	8.10	45.30	25.33	5.59
	<b>Sub-total</b>	<b>1351</b>		<b>130.03</b>	<b>484.86</b>	<b>230.04</b>	<b>4.74</b>
<b>D</b>	<b>Other Supplies</b>						
1	Baramura GBPP Unit IV & V	42.00	25.00	10.50	70.45	35.05	4.98
2	OTPC - Pallatana	726.00	3.03	22.00	204.52	72.90	3.56
	<b>Sub-total</b>	<b>768.00</b>		<b>32.50</b>	<b>274.97</b>	<b>107.95</b>	<b>3.93</b>
	<b>Total CGS &amp; Other Purchases</b>	<b>6414.00</b>		<b>213.29</b>	<b>915.99</b>	<b>456.20</b>	<b>4.98</b>
<b>E</b>	<b>Short-term power purchase</b>						
	IEX Purchase	-	-	0.00	0.00	0.00	0.00
	<b>Sub-total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>F</b>	<b>State Own Generation</b>						
	P&ED maintained Units						
	Amazon Generaion	34.85	100.0	34.85	31.07	0.00	
<b>G</b>	<b>UI Overdrawl</b>	-	-	0.00	0.00	0.00	#DIV/0!
	<b>UI Underdrawls</b>	-	-	0.00	0.00	0.00	0.00
<b>H</b>	<b>REC Certificate/Obligation</b>				-	3.60	
<b>I</b>	<b>Roof-top Solar Generation</b>				0.07	0.02	
<b>J</b>	<b>Solar Generation</b>				2.30	-	
<b>K</b>	<b>Reactive Energy charges</b>					0.02	
<b>L</b>	<b>LC Enhance/Renewal chrg.</b>				0.00	0.00	
<b>M</b>	<b>Addl. Supplementary Bills</b>			0.00	0.00	19.86	0.00
	<b>TOTAL POWER PURCHASE</b>	<b>6448.85</b>		<b>248.14</b>	<b>949.43</b>	<b>479.70</b>	<b>5.05</b>

### Commission's analysis

As such the Commission has now considered power purchase from all those stations projected by P&ED with suitable revision in the quantity from each of those stations whose average cost is expensive and thus the total power purchase quantity approved for FY2023-24 has been limited to **783.44MU** as against the 949.43MU filed by the P&ED. Accordingly, the applicable Power purchase cost is approved by Commission for FY 2023-24 as detailed in the table below:



**Table 7.17: Power Purchase Cost approved by the Commission for the FY 2023-24**

Sl. No.	Source for FY 2023-24	Commission Approved		
		Units (MU)	Total Cost (Rs Cr)	CPU (Rs/kWh)
A	CGS - NTPC Stations			
1	NTPC Bongaigaon Unit I	28.78	27.32	9.49
2	Farakka STPS	15.90	7.39	4.65
3	Kahalgaon STPS	8.20	3.97	4.84
4	Talcher STPS	9.30	2.99	3.22
	Sub Total - NTPC	62.18	41.67	6.70
B	CGS - NHPC			
1	Loktak HEP	23.98	10.10	4.21
	Sub-Total - NHPC	23.98	10.10	4.21
C	NEEPCO			
1	Kopili - I HE	41.60	10.29	2.47
2	Kopili - II HE	6.05	1.61	2.66
3	Khandong HE	10.88	3.27	3.01
4	Ranganandi HE Project	70.35	19.06	2.71
5	Doyang HE Project	5.12	4.03	7.87
6	Pare HEP	14.84	7.96	5.36
7	Tuirial HEP	170.93	103.35	5.32
8	<i>Tuiria HEP - Free Power</i>	23.31		
9	Assam GBPP	31.48	17.91	5.69
10	Agartala GTPP	30.30	16.94	5.59
	Sub-total	404.86	184.42	4.56
D	Other Supplies			
1	Baramura GBPP Unit IV & V	54.46	27.09	4.98
2	OTPC - Pallatana	204.52	72.90	3.56
	Sub-total	258.98	99.99	3.86
	Total CGS & Other Purchases	750.00	336.18	4.48
E	Short-term power purchase			
	IEX Purchase	0.00	0.00	#DIV/0!
	Sub-total	0.00	0.00	#DIV/0!
F	State Own Generation			
	P&ED maintained Units	31.07	0.00	0.00
	Amazon Generation			
G	UI Overdrawl	0.00	0.00	#DIV/0!
	UI Underdrawls	0.00	0.00	#DIV/0!
H	REC Certificate/Obligation		3.84	
I	Roof-top Solar Generation	0.07	0.02	
J	Solar Generation	2.30		
K	Reactive Energy charges		0.02	
L	LC Enhance/Renewal chrg.	0.00	0.00	
M	Addl. Supplementary Bills	0.00	19.86	0.00
	<b>TOTAL POWER PURCHASE</b>	<b>783.44</b>	<b>359.92</b>	<b>4.59</b>

**It is stated by the P&ED that the amount of Rs.1.66Crs has been paid in FY**

2021-22 to M/s. Amazon Engineering purely towards O&M expenses for the four stations as they are still owned by P&ED itself. Hence this amount cannot be treated as power purchase cost but it is more appropriate to show it as O&M related cost in Generation ARR. Thereby disallowing it in approved Power Purchase Cost during FY 2023-24 and considered in Generation ARR amount as O&M expenses paid to Amazon Engineering.

The above purchase cost includes RPPO obligation as adopted by the licensee with suitable revision due to change in quantity as per the directions of the Commission from time to time.

**Table 7.18: Renewable Energy Obligation considered**

RPO Units	23-24	24-25	25-26	26-27	27-28
Wind RPO	10.582	16.781	23.751	31.392	39.770
HPO	4.365	7.367	10.462	13.171	16.349
Other RPO	164.091	179.883	199.128	218.498	239.000
<b>Total RPO</b>	<b>179.038</b>	<b>204.031</b>	<b>233.341</b>	<b>263.061</b>	<b>295.119</b>

<b>RPO Obligation in Rs.Crs</b>					
Amount (Crs)	23-24	24-25	25-26	26-27	27-28
Wind RPO	1.05	1.68	2.38	3.14	3.98
HPO	2.78	4.93	7.35	9.70	12.66
Other RPO	0	0	0	0	0
<b>Total RPO</b>	<b>3.84</b>	<b>6.61</b>	<b>9.73</b>	<b>12.84</b>	<b>16.64</b>

#### 7.8.4. Inter-State Transmission Charges

The Transmission charges payable to CTUIL/PGCIL & POSOCO are projected based on the quantum of power proposed for wheeling for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 based on cost actually incurred in FY 2021-22 after escalating the same by 5.72% year over year to factor in the rise in the rates. Based on the above the transmission charges for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 are provided in the table below.

**Table 7.19: Inter-State Transmission Charges Filed**

(Rs. Crs)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Transmission Charges	63.76	67.40	71.26	75.33	79.64

The Commission approves Inter-State transmission charges at the same level so projected by P&ED for each year of the MYT period.

### 7.8.5. Intra-State Transmission Charges

The intra-state transmission system is being operated & maintained by P&ED and transmission charges has been calculated as per the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 and attached in Part - IV (A) of this petition.

Details of Annual Transmission charges are provided in the table below.

**Table 7.20: Intra-State Transmission charges for MYT period filed**

Particulars	Rs. Crs				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Intra-State Transmission Charges	58.50	61.63	64.94	68.90	72.61

#### Commission Analysis:

The Commission after scrutiny of the separately submitted Transmission ARR filing, approves Intra state Transmission charges for the entire MYT period stating the reasons individually elaborated against each expenditure item discussed therein and the approves charges are tabulated below:

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Intra-State Transmission Charges	53.197	54.531	56.253	57.731	59.122

### 7.8.6. O&M Expenses

Operation & maintenance expenses comprise of the following heads of expenditure viz.

- Employee Expenses
- Administration & General Expenses
- Repair & Maintenance Expenses

The operation & maintenance expense has been arrived in accordance with the Regulation 89.6 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014. Details of Employee Expenses, Administration & General Expenses and Repair & Maintenance Expenses are provided in the subsequent sections.

#### (a) Employee Expenses

The expense head of employee cost consists of salary and allowance, bonus, Leave Travel Concession (LTC) & Honorarium etc. P&ED has projected the employee cost in accordance with the Regulation 89.6 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014. The actual employee cost for the FY 2022-23 (H1) i.e. 1st April, 2022 to 30th September, 2022 is Rs . 108.46 Crores for P&ED as a whole (Distribution, Transmission & Generation).

Similarly, Rs . 108.46 Crores projected for FY 2022-23 (H2) for P&ED as a whole (Distribution, Transmission & Generation). Accordingly, the employee expenses for the FY 2023-24, FY 2024-25, FY2025-26, FY 2026-27 & FY 2027-28 based on cost estimated in FY 2022-23 after escalating the same by 5.72% year over year to factor in the rise in the rates. The employee cost projected for the FY 2023-24 to FY 2027-28 only relates to the distribution function. Based on the above the employee cost for Distribution utility for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 are projected in the table below:

**Table 7.21: Employee Cost for MYT period by P&ED**

Particulars	(Rs. Crs)				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Employee Expenses	160.54	169.72	179.43	189.69	200.54

### Commission's Analysis

The break-up of employees as furnished by P&ED in their ARR filing submission are considered for the entire entity and the portion relevant for Distribution function has no clue or data to apportion reasonably, therefore employee cost for MYT period is considered as follows:

Particulars	(Rs. Crs)				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Employee cost	144.95	147.56	152.88	156.92	163.54

As long the P&ED don't indicate the functional wise employee details, the estimation of distribution cost for ARR purpose will be on a crude basis and same needs to be accepted by Licensee, it is purely on account of P&ED's intransigency to provide accurate data.

**(b) Administrative and General Expenses****Petitioner's submission**

A&G expenses comprise of the following broad subheads of expenditure, viz.

- Domestic Travelling Expenses
- Office Expenses
- Legal, Regulatory & Consultancy Fees
- Insurance etc.

The P&ED has projected the A&G expenses in accordance with the Regulation 89.6 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014. The actual A&G expenses for the FY 2022-23 (H1) i.e. 1<sup>st</sup> April, 2022 to 30<sup>th</sup> September, 2022 is Rs . 3.45 Crores for P&ED as a whole (Distribution, Transmission & Generation). Similarly, Rs . 3.45 Crores projected for FY 2022-23 (H2) for P&ED as a whole (Distribution, Transmission & Generation). Accordingly, the A&G expenses for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 based on cost estimated in FY 2022-23 after escalating the same by 5.72% year over year to factor in the rise in the rates. The A&G expenses projected **for the FY 2023-24 to FY 2027-28 only relates to the distribution function**. Based on the above the A&G expenses for Distribution utility for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 are projected in the table below:

**Table 7.22: Administration & General Expenses by P&ED for MYT period**

(Rs. Cr)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Administration & General Expenses	5.10	5.39	5.70	6.03	6.37

**Commission's Analysis**

Since the A&G Expenses now claimed for FY 2021-22 was at 2.73crs for the entire entity. The Commission had approved A & G expenses at Rs.5.16Cr for FY 2022-23 as has been projected by the Licensee for entire entity. **Thus, projection of higher amount at Rs.5.10Cr only for distribution entity is unfair from 2023-24 onwards and approved figures are as follows:**

Particulars	Rs.Crs				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Administration & General Expenses	2.10	2.15	2.21	2.26	2.32

### c) Repairs and Maintenance Expenses

P&ED has been undertaking various Repairs and Maintenance activities as a step towards improvement of systems, reduction in breakdowns, reduction in response time and increasing preventive maintenance.

P&ED has projected the R&M expenses in accordance with the Regulation 89.6 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014. The actual R&M expenses for the FY 2022-23 (H1) i.e. 1st April, 2022 to 30th September, 2022 is Rs. 13.60 Crores for P&ED as a whole (Distribution, Transmission & Generation). Similarly, Rs. 13.60 Crores projected for FY 2022-23 (H2) for P&ED as a whole (Distribution, Transmission & Generation).

Accordingly, the R&M expenses for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 based on cost estimated in FY 2022-23 after escalating the same by 5.72% year over year to factor in the rise in the rates. The R&M expenses projected for the FY 2023-24 to FY2027-28 only relates to the distribution function. Based on the above the R&M expenses for Distribution utility for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 are projected in the table below.

**Table 7.23: R&M Expenses projected by the P&ED for MYT period**

Particulars	(Rs. Cr)				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Repair & Maintenance Expenses	11.96	12.65	13.37	14.13	14.94

It is submitted that P&ED is now gearing up for meeting the operational requirement of servicing existing and additional new consumers in line with the Standards of performance which the licensees have to adhere to. Hence there would be an increase in O&M expenditure to support full-fledged distribution

business operations.

#### Commission Analysis:

The Commission also considers to approve R & M expenses at the same level projected by the petitioner for the distribution function only.

The Summary of O & M expenses approved by the commission are Tabulated below:

**Table 7.24: O & M expenses approved by the Commission for MYT period  
(Rs. Crores)**

Summary of approved O&M Expenses	2023-24	2024-25	2025-26	2026-27	2027-28
a) Employee cost	144.95	147.56	152.88	156.92	163.54
b) Admin & General expenses	2.10	2.15	2.21	2.26	2.32
c) Rep & maintenance expenses	11.96	12.65	13.37	14.13	14.94
<b>O&amp;M expenses approved</b>	<b>159.01</b>	<b>162.36</b>	<b>168.46</b>	<b>173.31</b>	<b>180.80</b>

#### 7.8.7. Capital Investment

Summary of CWIP from FY 2021-22 to FY 2027-28 as furnished by the P&ED vide **Form F2C** is provided in the table below.

#### 7.8.8. Gross Fixed Assets & Depreciation

**Table 7.23: summary of CWIP projected by P&ED for MYT period (form-F2c)**

Sl. No.	Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
A	Opening Balance of CWIP	1,120.84	1,143.06	1,139.01	1,139.01	1,139.01	1,139.01	1,139.01
B	Fresh Investment during the year	65.17	9.18	0.00	0.00	0.00	0.00	0.00
C	Investment capitalised out of opening CWIP	42.95	13.22	0.00	0.00	0.00	0.00	0.00
D	Investment capitalised out of fresh investment							
	<b>Total Capitalisation during the year (C+D)</b>	<b>42.95</b>	<b>13.22</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	<b>Closing Balance of CWIP (A + B - C - D)</b>	<b>1,143.06</b>	<b>1,139.01</b>	<b>1,139.01</b>	<b>1,139.01</b>	<b>1,139.01</b>	<b>1,139.01</b>	<b>1,139.01</b>

#### Commission Analysis:

As seen from the above Format F2c, there are no capex investments planned during the entire MYT period and hence no capital addition has been depicted in this 3<sup>rd</sup> control period.

While as seen from format Form-F2b(iii) – Financing of Capitalised Works., the P&ED had projected the following amounts of Subsidy/Grants and the same is compared with the investment made during the respective three years and noted that **there is additional amount left unspent relating to FY2019-20 to 2022-23 and remained with the Licensee which can be used for system improvement this ensuing years to fully**

**utilised the Govt. Capital grants and subsidy** towards cost of Capital Assets (as per the Schedule-34 of the audited Balance Sheet) as was stated in Form-F2b(iii) and the details are as under:

Sl. No.	Description	2019-20 Rs.Crs	2020-21 Rs.Crs	2021-22 Rs.Crs	2022-23 Rs.Crs
1	Capital Subsidies / Grants	207.135	59.6105	68.2789	9.18
2	CWIP in Progress (Sch-21)	202.750	0	65.1700	9.18
3	Excess (+)/ Shortage (-) (2-1)	4.385	59.6105	3.1089	0.00

**The Capital Subsidy unspent excess from FY2019-20 to 2022-23 is noticed amounting to Rs.67.1044Crs lying with P&ED must be utilised in future for creation of Capital Assets. In the above table the values are considered up to date from the Audited accounts submitted, except in the case of 2022-23.**

#### 7.8.8.1. Gross Fixed Assets

P&ED has projected the Gross Fixed Asset in accordance with the Regulation 23 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

It is submitted that opening value of gross fixed assets (GFA) for the FY 2022-23 has been taken from Fixed Asset Register as on 31.03.2022 & the audited accounts for the FY 2021-22 and the same has been increased by addition of assets during the estimated addition during the FY 2022-23. Thereafter, planned additions during the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 have been considered and accordingly, GFA has been computed for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28.

It is further submitted that the assets of the utility have been segregated on the basis of function i.e., Generation, Transmission & Distribution. Since, Tariff of Generation & Transmission is being considered separately for the FY 2023-24 to FY 2027-28 the assets have also been considered accordingly. The GFA for the FY 2023-24, FY 2024-25, FY2025-26, FY 2026-27 & FY 2027-28 are projected in the table below:



**Table 7.25: Details of Gross Fixed Assets filed by P&ED**

(Rs. Cr)				
Financial Year	Generation	Transmission	Distribution	Total
2021-22	506.71	323.64	591.77	1422.11
2022-23	508.21	359.44	604.99	1472.64
2023-24	508.21	359.44	604.99	1472.64
2024-25	508.21	361.84	604.99	1475.04
2025-26	508.21	401.94	604.99	1515.14
2026-27	508.21	404.72	604.99	1517.92
2027-28	508.21	404.72	604.99	1517.92

The Assets and corresponding depreciation reflected in the Format F2 & F2a is for the **integrated utility up to the FY 2021-22 and only for the distribution function from the FY 2022-23 onwards.**

The commission feels it enigmatic, as to how the entity could have a split in assets segregation only from 2021-22 now but expressed inability in the earlier year filing. What precludes them from doing so is not explained. If they can have a functional wise split now with ease, it is could also be possible for any year under consideration in the past. This logic appears weird with the earlier expressions made to evade assets split.

#### **7.8.8.2. Depreciation**

##### **Petitioners' submission**

P&ED has projected the depreciation in accordance with the Regulation 28 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

It is submitted that opening value of gross fixed assets (GFA) & opening accumulated depreciation for the FY 2022-23 has been taken from Fixed Asset Register as on 31.03.2022 & the audited accounts for the FY 2021-22. Further, depreciation for the FY 2022-23 onwards has been calculated at the rates prescribed in the regulations on estimated addition during the FY 2022-23. Thereafter, planned additions during the FY2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 have been considered for the calculating the depreciation for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 respectively.

It is submitted that the State of Mizoram has been granted a special status similar to that of other North-Eastern States. Government of India provides special assistance for the development of infrastructure facilities in these States. Accordingly, the infrastructure projects of the State of Mizoram, including those of P&ED are being supported by issue of Grants through various Central Government Ministries and Agencies like Ministry of Power (MoP) through schemes of APDRP and RGGVY, Ministry of New and Renewable Energy (MNRE), Ministry of Development of North Eastern Region (DONER) and North Eastern Council (NEC).

Asset wise funding pattern is not available for each and every asset put in service since inception of the Department. However, in majority of the cases, the portion of grants is 90% of the total project cost. In view of the above, it is assumed that the 90% of the total Gross Fixed Assets are being funded through Grants. Accordingly, the proportionate amount to the extent of 90% of the total depreciation is deducted from the total depreciation to arrive at the amount of depreciation chargeable in the ARR. The table below indicates the depreciation of the assets calculated at 10% of total depreciation and the same has been considered while projecting the ARR for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. Details of category wise Assets & Depreciation is provided in the Format – F2 & F2a. Summary of Year wise depreciation is depicted in the table below:

**Table 7.26: Depreciation projected by P&ED for MYT period**

(Rs. Cr)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Depreciation	16.68	15.47	13.66	13.26	12.69
<b>10% of Depreciation</b>	<b>1.67</b>	<b>1.55</b>	<b>1.37</b>	<b>1.33</b>	<b>1.27</b>

### Commission's Analysis

**Table 7.27: Depreciation approved by the Commission for 3rd MYT period of 5 years**  
(Rs. Cr)

Sl. No.	Particulars	2019-20 Amount	2020-21 Amount	2021-22 Amount	2022-23 Amount
1	Closing balance of Contributions, Grants & subsidies for Capital Assets costs (Schedule-34)	2432.15	2491.76	2560.03	2597.19

Sl. No.	Particulars	2019-20 Amount	2020-21 Amount	2021-22 Amount	2022-23 Amount
2	Gross Block of Assets (OCFA) (Sch-19)	1294.02	1379.16	1422.11	1435.34
3	Excess of capital subsidy over OCFA	1138.13	1112.60	1137.92	1161.85
4	The Ratio of Gross block to Capital Subsidies (%) – (2/1x100)	53.20%	55.35%	55.55%	55.265%
5	<b>Own funds spent for Assets</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
6	<b>Eligibility to claim depreciation on assets in each year in the past</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>	<b>Nil</b>

As seen from the ratio of Gross Block of Assets to Capital Subsidies received for creation & capitalisation of assets only just above 50% and hence, it appears no own funds were spent by P&ED in any of the above years. Hence, the option of claiming 10% of the annual depreciation claiming under the pretext of 10% own fund investment is not a fact as the Capital Subsidy amount is very much higher (twice) than the Gross Asset values so far created based on the Audited Balance Sheets figures.

Though, the licensee had been claiming depreciation in ARR for all years of MYT period, after review it is not considered by the Commission that they are not eligible to claim for depreciation under Regulatory Accounting System.

Hence, NIL depreciation amount is approved for by the commission for entire 3<sup>rd</sup> MYT control period. However, what has already been allowed so far as depreciation may not be touched at this juncture as a matter of principle.

#### 7.8.9. Interest and Finance Charges

##### Petitioner's submission

Regulation 27 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides the methodology for calculation of the Interest & Finance charges. It provides that 30% of the capital employed shall be considered as equity and balance 70% is to be considered as

loan. The regulation provides for normative loan irrespective of actual loan availed by the utility. Repayment of loan and interest are also to be considered on normative basis.

In this regard it is submitted that the P&ED being a Government Department, **the entire capital employed till date has been funded through fund infusion by the Government inform of budgetary support which are generally in the nature of grants.** Apart from this in order to fund the capital projects, P&ED has also availed various loans through the State Govt. from LIC, REC and PFC.

It is also submitted that the loans under RGGVY Scheme & RAPDRP are convertible into grants at a future date subject to fulfilment of certain stipulations.

In view of the above, the financial principal of debt-equity ratio of 70:30 as provided in regulation 27 read with regulation 22 may not be applicable to the P&ED. Therefore P&ED has only considered the actual loans which are repayable for calculation of interest & finance charges. The total flow of loans from the above-mentioned financial institutions as well as the annual interest payments in respect of these loans is provided in **Format - F3a & F3b.**

The below table shows year-wise interest on the loans.

**Table 7.28: Interest and Finance charges projected by P&ED**

(Rs. Cr)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Interest on Loan	0.14	0.00	0.00	0.00	0.00

### Commission's Analysis

The Interest and Finance charges calculation as depicted in Form-F3b is adopted to arrive at the amount admissible and Commission approved amount details are in the table below:

**Table 7.29: Interest and Finance charges approved by the Commission**

(Rs. Crs)

2023-24	Principle Loan			Avg. Loan	Annual Interest		O/S Interest dues		
	Opn. balnc	Repay	Cls. Balnc		Rate	Amount	Opn.	For C.Yr	Clsn
Lic Loan	--	--	--	--	7.99%	0	7.4096	0	7.4096
RGGVY	2.398	2.398	--	1.199	11.63%	0.1394	20.8207	0.1394	20.9601
REC	--	--	--	---	0	0	2.2266	0	2.2266

2023-24	Principle Loan			Avg. Loan	Annual Interest		O/S Interest dues		
	Opn. balnc	Repay	Cls. Balnc		Rate	Amount	Opn.	For C.Yr	Clsn
Loan									
	2.398	2.398	---			0.1394	30.4569	0.1394	30.5963

Accordingly, the Interest and Finance charges for FY 2023-24 at Rs.0.14 Crs as projected by P&ED whose average interest rate is at 11.19% p.a (derived). However, the Commission observed that the interest on loans are only being levied on consumers in each year but P&ED grossly failed to remit/pay it to the lenders which resulted in accumulation of interest on debts liability left uncleared to the tune of Rs.29.9986crs as per schedule-31 of FY2021-22 audited accounts statement. This was already pointed out in earlier Tariff Order also for rectification but initiative steps for corrective action left unattended.

Hence, the amount of Rs.0.1394Crs towards loan interest in FY 2023-24 is fully disallowed now for the reason of not clearing the liability of this year also of previous year even. This cost element will be considered only in future by the Commission when the Government of Mizoram indicates in their Budget Actuals statements as to how much of repayment is made towards outstanding Interest on Loans and also against principle amounts repayment on behalf of P&ED. Until such time, the interest on Loans drawn will be disallowed in the ARR as a cost element. Besides, clearly indicate under the Revenue Receipt of Budget Estimates as to how much of amount of REC(RGGVY), LIC Loan and PFC loans if any are earmarked for P&ED department for utilisation in each year.

**The verifiable proof of payment of these liabilities would only entitles the PED for claiming reimbursement in true-Up from FY 2021-22 onwards at a later date.**

#### 7.8.10. Interest on Working Capital

##### Petitioner's Submission

The P&ED has computed the Interest on Working Capital for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 in accordance with the Regulation 29.4 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

As per the Regulations, for the purpose of computation of normative working capital and Interest on working capital, the components of working capital are as follows:

- (a) Operation and maintenance expenses for one month; plus
- (b) Maintenance spares at one (1) per cent of the historical cost escalated at 6% from the date of commercial operation; plus
- (c) Receivables equivalent to one (1) month of the expected revenue from sale of electricity at the prevailing tariffs; minus
- (d) Amount held as security deposits under clause (a) and clause (b) of sub-section (1) of Section 47 of the Act from consumers except the security deposits held in the form of Bank Guarantees;

Interest is required to be calculated at a rate equal to the State Bank Advance Rate (SBAR) as on 1<sup>st</sup> April of the financial year in which the Petition is filed i.e. 1<sup>st</sup> April, 2022.

Interest on working capital has been calculated accordingly and detailed in the table below:

**Table 7.30: Interest on working capital for MYT as projected by P&ED**  
(Rs. Cr)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Interest on Working Capital	8.74	8.84	8.95	9.06	9.18

### Commission's Analysis

As per the MYT Regulation 2014, the interest on working capital is a permissible element of ARR expenditure. However, it is observed that P&ED had not obtained any working capital loan during the entire financial year or was there any history of such loans being drawn. The admission of Working Capital Interest will only burden the consumers by

an extra charge for which they need not pay for it for the services rendered by P&ED and hence there is no need for allowing this cost element as P&ED is fully dependent/availing funding only from the State government and not from any other source for their day to day routine revenue expenses. **For this sole reason, no calculation is made afresh for this purpose in from FY 2022-23 onwards.** As seen from the reply received under additional information, they have categorically admitted that no such loans were ever availed.

Hence, the Commission **disapproves** Interest on Working Capital amount for FY 2023-24 and the rest of the MYT period up to FY 2027-28 adopting the same analogy as in the case of Return on Equity to off-load the unnecessary burden on Consumers **besides general public were seriously protesting this cost element admissibility in public hearing meetings.**

#### 7.8.11. Contributions to Contingency Reserve Fund

##### **Petitioner Submission:**

Regulation 76.6 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides that the licensee shall be allowed an annual appropriation of 0.5% of the original cost of fixed assets towards Contingency Reserve. It further provides that the maximum cumulative provision under the Contingency Reserve shall not exceed 5% of original cost of fixed assets. In view of the above, the P&ED has appropriated 0.5% of the cost of fixed assets towards Contingency Reserve for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28. Accordingly, Contingency Reserve Fund for the FY 2023-24, FY 2024-25, FY 2025-26, FY2026-27 & FY 2027-28 is provided in the table below:

**Table 7.31: Contributions to Contingency Reserve Fund for FY 2022-23**

(In ₹ Crores)

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Contingency Reserve Fund	3.02	3.02	3.02	3.02	3.02

**Commission Analysis:**

As per the Regulation-76.6 fund must be invested within six months of the close of the relevant financial year in which appropriation is allowed for and the amount so collected be invested in trusted security or in a Non-drawl account with a condition to accumulate the interest accrued also gets deposited into the same account as an accretion to Contingency Reserve fund having started in FY 2021-22 onwards and submit the proof of such investment compliance in each year along with details of amount accumulated in the fund to Commissions every year. Failing which the appropriation will be discontinued immediately thereafter and the amount so collected will be clawed back. Any withdrawal from such fund, in future, for the three (3) intended purposes will be with due & prior permission of the Commission to do so.

The P&ED in the replies provided to additional information, it has stated that P&ED has no financial control over its revenue generated with regard to withdrawal or expenditure etc., and all the revenues generated are being directly deposited into state consolidated account and can't be utilised by P&ED without the consent of Government of Mizoram.

Hence, the contributions to Contingency Reserve fund so allowed at Rs.3.23Cr and Rs.2.72Cr for FY2021-22 and FY2022-23 respectively in Tariff Orders were not invested but were deposited into State Treasury. Since the very purpose for which the Contingency fund created is vitiated and violated, thus Commission hereby strongly decides to withdraw this contribution in future and also prefers to claw-back the amount so allowed for in FY2022-23 at the time of True-up finalisation if no action is taken for its investment as per Regulation. If this being the situation, the P&ED hence forward need not claim this cost element in its ARR petition for the reasons so stated above as it will unnecessarily burden consumers.



**7.8.12. Bad Debts****Petitioner's submission**

Regulation 89.8 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides that bad debts written off may be allowed as a pass through in the ARR. P&ED is not proposing any provision for bad debts and the same shall be claimed on actual while true-up exercise.

**Commission's Analysis**

In view of the above the Commission would not consider/allow such provision for bad debts during MYT period. In case of these bad debts found unrecovered, the P&ED which has to mitigate such losses by its improved and efficient performance only and it cannot be passed to consumers in the form of true-up.

**7.8.13. Return on Equity****Petitioner's submission**

Regulation 26 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 read with Regulation 22 provides the methodology for calculation of the Interest & Finance charges. It provides that 30% of the capital employed shall be considered as equity and balance 70% is to be considered as loan.

In this regard it is submitted that the P&ED being a Government Department, the entire capital employed till date has been funded through fund infusion by the Government in form of budgetary support which are generally in the nature of grants and aids through financial institutions under various schemes like APDRP, RGGVY etc.

In view of the above, the financial principal of debt-equity ratio of 70:30 and return on equity thereon as provided in regulation 26 read with regulation 22 may not be applicable to the P&ED. Therefore P&ED has not considered return on equity while computing the ARR.

### Commission's Analysis

Since P&ED is a Government Department, Return on Equity is not considered for in the absence of identifiable Equity component in their Audited annual Accounts statement.

#### 7.8.14. Non-Tariff Income

##### Petitioner's submission

Regulation 90 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides that the Non-Tariff income shall be deducted from the ARR in calculating the Tariff. **Non-tariff income includes revenue of Supervision Charges, Meter Rent, Meter Testing Charge, Disconnection/Reconnection Charge and other departmental charges.**

The Non- tariff income for the FY 2023-24, FY2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 has been projected by escalating the estimated Non-Tariff income of the FY 2022-23 by 5.72% year over year. Accordingly, Non-tariff income for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 is provided in the table below.

**Table 7.32: Non – Tariff Income projected by P & ED**

Particulars	(Rs. Cr)				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Non-Tariff Income	8.48	8.96	9.47	10.02	10.59

##### Commission's Analysis

The Non-Tariff Income so projected by the Licensee is approved at the same level without any modification for the 3<sup>rd</sup> MYT control period.

#### 7.8.15. Efficiency Gains expected from Performance improvement by Licensee

The Licensee on his own accord projected Rs.15Crs as the efficiency gains amount in each year of the entire MYT period. The Commission adopts Rs.8.00Crs towards the Efficiency gains improvement amount for FY 2023-24 as

reduction from Gross ARR amount to arrive at the Net ARR of FY 2023-24 and allows Rs.15Cr for each year of the remaining MYT period.

### 7.9. Aggregate Revenue Requirement

Based on the above estimates and projections, the ARR for P&ED for the FY 2023-24, FY2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 works out as under:

**Table 7.33: Aggregate Revenue Requirement for MYT period projected by P&ED (Rs. Cr)**

Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Cost of Power Purchase	479.70	508.49	539.14	571.47	606.12
2	Cost of Generation	12.68	13.29	13.94	14.63	15.36
3	Cost of Fuel	0.00	0.00	0.00	0.00	0.00
4	Operation & Maintenance Expenses	177.60	187.76	198.50	209.85	221.86
5	Transmission charges	63.76	67.40	71.26	75.33	79.64
6	Intra- state Transmission Charges	58.50	61.63	64.94	68.90	72.61
7	Interest on Loan	0.14	0.00	0.00	0.00	0.00
8	Depreciation	1.67	1.55	1.37	1.33	1.27
9	Interest on Working Capital	8.74	8.84	8.95	9.06	9.18
10	Return on Equity	0.00	0.00	0.00	0.00	0.00
11	Prior period expenses	0.00	0.00	0.00	0.00	0.00
12	Provision for Bad Debt	0.00	0.00	0.00	0.00	0.00
13	Contribution to Contingency Reserve Fund	3.02	3.02	3.02	3.02	3.02
14	<b>Total Revenue</b>	<b>805.81</b>	<b>851.98</b>	<b>901.11</b>	<b>953.59</b>	<b>1009.06</b>
15	Less: Non-Tariff Income	8.48	8.96	9.47	10.02	10.59
16	Less: Efficiency Gains	15.00	15.00	15.00	15.00	15.00
17	Less: Revenue from Sale at Power-Exchange	198.38	178.32	157.28	135.19	112.06
18	<b>Net Revenue Requirement (14-15-16-17)</b>	<b>583.96</b>	<b>649.70</b>	<b>719.35</b>	<b>793.38</b>	<b>871.41</b>

### Commission's Analysis

Based on the approved costs the Aggregate Revenue Requirement for MYT period is indicated in the table below:

**Table 7.34: Commission approved ARR for MYT period (Rs. Crs)**

Sl. No.	Particulars	23-24	24-25	25-26	26-27	27-28
1	Cost of Power Purchase	359.92	395.66	435.92	486.20	536.25
2	Cost of Generation	5.56	5.74	5.93	6.13	6.35
3	Cost of Fuel	0.00	0.00	0.00	0.00	0.00
4	Operation & Maintenance Exps	159.01	162.36	168.46	173.31	180.80

Sl. No.	Particulars	23-24	24-25	25-26	26-27	27-28
5	Inter-State Transmission charges	63.76	67.40	71.26	75.33	79.64
6	Intra- state Transmission Charges	53.20	54.53	56.25	57.73	59.12
7	Interest on Loan	0.00	0.00	0.00	0.00	0.00
8	Depreciation	0.00	0.00	0.00	0.00	0.00
9	Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
10	Return on Equity	0.00	0.00	0.00	0.00	0.00
11	Prior period expenses	0.00	0.00	0.00	0.00	0.00
12	Provision for Bad Debt	0.00	0.00	0.00	0.00	0.00
13	Contingency Reserve Fund contribution	0.00	0.00	0.00	0.00	0.00
14	<b>Total Revenue Requirement</b>	<b>641.45</b>	<b>685.69</b>	<b>737.82</b>	<b>798.70</b>	<b>862.16</b>
15	Less: Non-Tariff Income	8.48	8.96	9.47	10.02	10.59
16	Less: Efficiency Gains	8.00	15.00	15.00	15.00	15.00
17	Less: True-Up surplus for FY2021-22	57.20	-	-	-	-
18	Less: Revenue from Exchange Sale	62.62	61.49	60.47	62.48	62.01
19	<b>Net ARR (14-15-16-17-18)</b>	<b>505.15</b>	<b>600.24</b>	<b>652.88</b>	<b>711.20</b>	<b>774.56</b>

#### 7.10. Revenue from existing Tariff for MYT period

##### Petitioner's submission

P&ED has calculated the Revenue from sale of power for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28 on the basis of the existing tariff and Revenue on the basis of the sale is provided in the table below:

**Table 7.35: Revenue from existing Tariff projected by P&ED**

(Rs. Cr)

Sl. No.	Category	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
	<b>LT Consumers</b>					
1	Kutir Jyoti	2.45	2.57	2.70	2.83	2.97
2	Domestic	183.49	192.78	202.55	212.83	223.62
3	Non-Profit Public Purpose	8.93	9.45	10.00	10.58	11.19
4	Commercial	35.22	36.29	37.41	38.56	39.75
5	Public Lighting	3.10	3.26	3.44	3.62	3.82
6	Agriculture	0.03	0.03	0.03	0.03	0.03
7	Public Water Works	7.70	8.09	8.49	8.92	9.37
8	Industrial	3.22	3.37	3.52	3.68	3.85
	<b>Total LT</b>	<b>244.14</b>	<b>255.85</b>	<b>268.14</b>	<b>281.05</b>	<b>294.60</b>
	<b>HT Consumers</b>					
9	Domestic	3.81	4.00	4.21	4.42	4.64
10	Non-Profit Public Purpose	14.01	14.71	15.45	16.22	17.03
11	Commercial	15.97	16.77	17.61	18.49	19.42
12	Agriculture	0.05	0.06	0.06	0.06	0.06
13	Public Water Works	97.30	102.32	107.60	113.15	118.99
14	Industrial	8.50	8.93	9.37	9.84	10.34
15	Bulk Supply	16.09	16.85	17.65	18.49	19.37

Sl. No.	Category	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
	<b>Total HT</b>	<b>155.74</b>	<b>163.64</b>	<b>171.94</b>	<b>180.67</b>	<b>189.84</b>
16	Outside State - Trading	198.38	178.32	157.28	135.19	112.06
	<b>Total</b>	<b>598.25</b>	<b>597.81</b>	<b>597.37</b>	<b>596.92</b>	<b>596.50</b>

### Commission's Analysis

Based on approved energy sales for FY2023-24, revenue from existing tariff is worked out from sales of 512.58MU which including revenue from sale of surplus units of 93.80MU as detailed in the table below. The revenue assessment has been reassessed duly reworking of slab wise energy consumption and no of consumers with reference to the applicable slab units for all LT & HT categories and deduced the revised revenue realisation based on existing tariff is as follows:

**Table 7.36: Expected Revenue at Existing Tariffs and no new category in FY 2023-24**

Sl. No	Category (FY 2023-24)	Energy (MU)	Revenue (Crs)	CPU (Rs./kWh)
	<b>LT Consumers</b>			
1	Kutir Jyoti	6.21	2.447	3.94
2	Domestic	305.34	186.390	6.10
3	Non-Domestic	9.74	8.931	9.17
4	Commercial	36.97	35.219	9.53
5	Public Lighting	2.61	3.096	11.87
6	Agriculture	0.06	0.026	4.76
7	Public Water Works	6.84	7.705	11.27
8	LT Industrial	2.80	3.224	11.51
	<b>Total LT</b>	<b>370.57</b>	<b>247.037</b>	<b>6.67</b>
	<b>HT Consumers</b>			
10	Domestic	3.62	3.814	10.53
11	Non-Domestic	14.15	14.009	9.90
12	Commercial	14.10	15.973	11.33
13	Agriculture	0.10	0.058	5.81
14	Public Water Works	84.22	99.47	11.81
15	HT Industrial (existing)	7.77	8.503	10.95
18	Bulk Supply	18.05	16.087	8.91
	<b>Total HT</b>	<b>142.01</b>	<b>157.913</b>	<b>11.29</b>
	<b>Total LT &amp; HT</b>	<b>512.58</b>	<b>404.95</b>	<b>7.90</b>
19	Outside State - Trading	93.80	62.62	6.68
	<b>Total</b>	<b>606.38</b>	<b>467.573</b>	<b>7.71</b>

### 7.11. Revenue Gap for FY 2023-24

#### Petitioner's Submission:

The estimated gap for the FY 2023-24 has been computed by deducting the

revenue at existing tariff from the net ARR as detailed above.

P&ED does not propose to recover the entire Gap as these may result in huge burden on the consumers. Tariff is a sensitive subject having substantial impact on social, economic and financial well-being of the public at large as well as the viability and growth of power sector. Recovery of entire Gap through tariff increase is not practicable as this would make power unaffordable to the general consumers. P&ED being a Government Department funded by budgetary support from State Government it proposes to absorb the unrecovered gap.

In view of the above the tariff proposal for the FY 2023-24 for individual categories is given below along with the comparison of existing and proposed energy & fixed charges.

**Table 7.37: Tariff – Existing vs. Proposed (FY2023-24) by P&ED**

Sl. No	Consumer Category	Existing (2022-23)		Proposed (2023-24)	
		Energy Charges	Fixed Charges	Energy Charges	Fixed Charges
		(Rs./Month)	(in Rs.)	(Rs./Month)	(in Rs.)
1	2	3	4	5	6
<b>1</b>	<b>Kutir Jyothi</b>				
i)	First 20 kWh	2.55/kWh	25/Conc	3.00/kWh	30/Conc
ii)	Balance > 20 kWh	3.55/kWh	25/Conc	4.00/kWh	30/Conc
<b>2</b>	<b>Domestic</b>				
A	<b>L.T</b>				
i)	First 100 kWh	4.90/kWh	50/C.L/kW	5.00/kWh	60/C.L/kW
ii)	Next 100 kWh	7.10/kWh	50/C.L/kW	7.40/kWh	60/C.L/kW
iii)	Balance>200 kWh	8.20/kWh	50/C.L/kW	8.50/kWh	60/C.L/kW
B	<b>H.T</b>	8.65/kVAh	50/B.D/kVA	8.65/kVAh	60/B.D/kVA
<b>3</b>	<b>Non-Domestic</b>				
A	<b>L.T</b>				
i)	First 150 kWh	7.60/kWh	60/C.L/kW	8.30/kWh	75/C.L/kW
ii)	Balance >150kWh	8.30/kWh	60/C.L/kW	8.30/kWh	75/C.L/kW
B	<b>H.T</b>	8.75/kVAh	60/B.D/kVA	8.75/kVAh	75/B.D/kVA
<b>4</b>	<b>Commercial</b>				
A	<b>L.T</b>				
i)	First 150 kWh	8.20/kWh	80/C.L/kW	8.50/kWh	90/C.L/kW
ii)	Balance >150kWh	8.45/kWh	80/C.L/kW	8.50/kWh	90/C.L/kW
B	<b>H.T</b>	8.90/kVAh	80/B.D/kVA	9.10/kVAh	90/B.D/kVA
<b>5</b>	<b>Public Lighting</b>	11.35/kWh	80/C.L/kW	11.35/kWh	90/C.L/kW
<b>6</b>	<b>Irrigation &amp; Agriculture</b>				
A	L.T	3.80/kWh	50/C.L/kW	4.70/kWh	50/C.L/kW
B	H.T	3.85/kVAh	50/B.D/kVA	4.80/kVAh	50/B.D/kVA
<b>7</b>	<b>Public Water Works (PWW)</b>				
A	L.T - PWW	11.10/kWh	90/C.L/kW	11.10/kWh	95/C.L/kW

Sl. No	Consumer Category	Existing (2022-23)		Proposed (2023-24)	
		Energy Charges	Fixed Charges	Energy Charges	Fixed Charges
		(Rs./Month)	(in Rs.)	(Rs./Month)	(in Rs.)
B	H.T - PWW	9.85/kVAh	90/B.D/kVA	9.85/kVAh	95/B.D/kVA
<b>8</b>	<b>Industrial</b>				
A	<b>L.T- Industrial</b>				
i)	First 400 kWh	7.10/kWh	80/C.L/kW	7.10/kWh	80/C.L/kW
ii)	Balance>400kWh	8.05/kWh	80/C.L/kW	7.10/kWh	80/C.L/kW
B	<b>H.T - Industrial</b>				
	<b>Option-1</b>	9.05/kVAh	80/B.D/kVA	9.05/kVAh	80/B.D/kVA
	<b>Option-2 (TOD) #</b>	-Nil-	-Nil-	<b>Optional only</b>	
	Usage from (6Hrs upto 17hrs) – Normal TOD			10.05/kVAh	80/B.D/kVA
	Usage from (17hrs upto 22hrs) – Peak TOD			11.55/kVAh	80/B.D/kVA
	Usage from (22hrs upto 6hrs) – Off-Peak TOD			8.55/kVAh	80/B.D/kVA
<b>9</b>	<b>Bulk Supply - HT</b>	6.85/kVAh	90/B.D/kVA	7.00/kVAh	95/B.D/kVA
<b>10</b>	<b>Electric Vehicle (EV) Charging Stations</b>				
<b>A</b>	Low Tension	- Nil -	- Nil -	8.20/kWh	75/CL/kW
<b>B</b>	High Tension	- Nil -	- Nil -	8.65/kVAh	75/B.D/kVA

B.D Stands for Billing Demand, C.L Stands for Connected Load

Based on the proposed tariff, following is the summary of the revenue.

**Table 7.38: Revenue realisable at Proposed Tariff by P&ED for FY2023-24**

(In ₹ Crore)		
Sl. No.	Category	Proposed Revenue
	<b>LT Consumers</b>	
1	Kutir Jyoti	2.87
2	Domestic	191.93
3	Non-profit public purpose	9.78
4	Commercial	36.57
5	Public Lighting	3.11
6	Agriculture	0.03
7	Public Water Works	7.71
8	LT Industrial	3.20
	<b>Total LT - A</b>	<b>255.21</b>
	<b>HT Consumers</b>	
9	Domestic	3.88
10	Non-profit public purpose	14.07
11	Commercial	16.54
12	Agriculture	0.06
13	Public Water Works	97.70
14	HT Industrial	8.50
15	Bulk Supply	16.52
	<b>Total HT - B</b>	<b>157.28</b>
	<b>L.T &amp; HT Total – (A&amp;B)</b>	<b>412.48</b>

Sl. No.	Category	Proposed Revenue
16	Outside State sales	198.38
	<b>Grand Total</b>	<b>610.86</b>

### 7.12. Additional Revenue at Proposed Tariff

Based on the revenue at tariff proposed above, following is the summary of the additional revenue at the proposed tariff rates.

Sl. No.	Particulars	FY 2023-24
1	Revenue from Retail Sales at Existing Tariff	399.87
2	Revenue from Retail Sales at proposed Tariff	412.28
3	Additional Revenue from proposed tariff (2-1)	12.61

**Table 7.39: Impact of Tariff projected by P&ED for 2023-24**

Sl. No.	Particulars	Units	FY 2023-24	
			Existing	Proposed
1	<b>Net Aggregate Revenue Requirement</b>	₹/CrS	<b>782.33</b>	<b>782.33</b>
2	Revenue from Retail tariff	₹/CrS	399.87	412.48
3	Revenue from Outside State sale	₹/CrS	198.38	198.38
4	<b>Total Revenue (2+3)</b>	₹/CrS	<b>598.25</b>	<b>610.86</b>
5	Revenue Gap (1-4)	₹/CrS	184.08	<b>171.47</b>
6	<b>Sales within State</b>	MUs	<b>510.59</b>	<b>510.59</b>
7	Outside state Sales	MUs	297.13	297.13
8	Total Sales (6+7)	MUs	807.73	807.73
9	Average Cost of Supply of State $\{(1-3)/6\}$	₹/kWh	11.44	11.44
10	Average Revenue (2/6)	₹/kWh	7.83	8.08
11	Pure Gap (9-10)	₹/kWh	3.61	3.36
12	Average Hike in Tariff	₹/kWh		<b>0.25</b>
13	Hike in Tariff	%		<b>3.15</b>

Hence, it is submitted that the average tariff required to recover the gap attributable to FY 2023-24 is ₹3.61/kWh but keeping in view the resultant burden on the consumers, the proposed hike has been restricted to ₹0.25/kWh.

#### **Commission's Analysis:**

In the above proposed revenue gap, Licensee presumed Government subsidy amount of Rs.171.47CrS and accordingly proposed Tariff hike was arrived at to recover only Rs.12.61CrS as additional revenue through revision of Tariff at 3.15% overall tariff hike. The revised tariff was so proposed by P&ED.



But, the **Government of Mizoram issued a tariff subsidy related letter on 10<sup>th</sup> January 2023** (copy of the same is enclosed as annexure at the end of the Tariff order for reference). It was stated by the Govt. of Mizoram that it may give subsidy amounting to Rs.157.90Cr or 20.50% of the reduced ARR whichever is less. Adopting 20.50% on net ARR amount approved by Commission of Rs.505.15Cr. It would yield Rs.103.56Cr as the ceiling limit for government subsidy only on adopting the fraction. Therefore, to cover up the deficit duly considering the Government subsidy of Rs.103.56Cr, the unmet gap would be **Nil** as the gap was much lesser than eligible subsidy amount. Accordingly, the Commission had felt no need to revise existing tariffs of various category of consumers in order to generate any additional revenue over and above the revised revenue amount of Rs.406.85Cr resulting from existing Tariffs along with revenue from two new categories introduced such as industrial-HT TOD and Electric Vehicle charging stations with new rates. The revised revenue from each consumer category for FY 2023-24 is tabulated below:

**Table 7.40: Revised revenue with new categories at Existing Tariffs for FY 2023-24**

Sl. No	Category (FY 2023-24)	Energy	Revenue	CPU
	LT Consumers	(MU)	(Cr)	Rs./kWh
1	Kutir Jyoti	6.21	2.447	3.94
2	Domestic	305.34	186.390	6.10
3	Non-Domestic	9.74	8.931	9.17
4	Commercial	36.97	35.219	9.53
5	Public Lighting	2.61	3.096	11.87
6	Agriculture	0.06	0.026	4.76
7	Public Water Works	6.84	7.705	11.27
8	LT Industrial	2.80	3.224	11.51
9	Electric Vehicle Charging Stn	2.00	1.748	8.74
	<b>Total LT</b>	<b>372.57</b>	<b>248.785</b>	<b>6.68</b>
	<b>HT Consumers</b>			
10	Domestic	3.62	3.814	10.53
11	Non-Domestic	14.15	14.009	9.90
12	Commercial	14.10	15.973	11.33
13	Agriculture	0.10	0.058	5.81
14	Public Water Works	84.22	99.47	11.81
15	HT Industrial (Opt-1)	5.77	6.410	11.12
16	HT Industrial (Opt-2)	2.50	3.004	12.01
17	Electric Vehicle Charging Stn - HT	2.00	0.795	10.61
18	Bulk Supply	14.08	14.534	9.82
	<b>Total HT</b>	<b>140.18</b>	<b>158.068</b>	<b>11.29</b>

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Sl. No	Category (FY 2023-24)	Energy	Revenue	CPU
	<b>Total LT &amp; HT</b>	<b>512.58</b>	<b>406.853</b>	<b>7.94</b>
19	Outside State - Trading	93.80	62.62	6.676
	<b>Total</b>	<b>606.38</b>	<b>469.473</b>	<b>7.74</b>

*Note: Detailed calculation of revised & approved subsidised Tariff is placed as Annexure – III*

**Table 7.41: Revenue Gap for FY 2023-24 as approved by the Commission**

Sl. No.	Particulars	Units	Existing	Post
			Tariff	Revision
1	Gross Aggr. Revenue Requirement	Rs. Crs	567.77	567.77
2	Less: Outside state sales revenue	Rs. Crs	62.62	62.62
3	<b>Net ARR (1 - 2)</b>	<b>Rs. Crs</b>	<b>505.15</b>	<b>505.15</b>
4	Revenue from retail sale of power	Rs. Crs	404.95	406.85
5	<b>Revenue Gap (3 – 4)</b>	<b>Rs. Crs</b>	<b>100.20</b>	<b>98.30</b>
6	<b>Tariff subsidy from Govt.</b>	Rs. Crs	<b>100.20</b>	<b>98.30</b>
7	<b>Unmet Revenue Gap (5 – 6)</b>	Rs. Crs	<b>0.000</b>	<b>---</b>
8	<b>Retail Sales within State</b>	<b>MUs</b>	<b>512.58</b>	<b>512.58</b>
9	Outside State power Sales	MUs	93.80	93.80
10	Total Sales from all Sources (8 + 9)	MUs	<b>606.38</b>	<b>606.38</b>
11	Average Cost of Supply within state (3/8)	Rs./kWh	<b>9.855</b>	<b>9.855</b>
12	Average Revenue (4/8)	Rs./kWh	7.900	7.935
13	Pure rate Gap (11-12)	Rs./kWh	1.955	1.920
14	Average Hike in Tariff - (7/8)	Rs./kWh		0.000
15	Hike adopted in Tariff (7/4)	%		<b>0.000%</b>

**7.13. Recovery of Revenue Gap for FY 2023-24**

As seen from the Table- 7.41 above, the revenue gap worked out by Commission to be Rs.100.20 Crs as against Rs.184.08Crs so indicated by P&ED (at table-7.39) which is about 19.83% of approved Net ARR for FY 2023-24. The License (P & ED) does not propose to recover the entire gap as this may result in huge burden on the consumers **but the Government subsidy support was over estimated.** Tariff is a sensitive subject having substantial impact on social, economic and financial well-being of public at large as well as the viability and growth of power sector. Recovery of entire gap through tariff increase is not feasible as this would make power unaffordable to the general consumers.

P & ED being a government department funded by budgetary support from State Government does not fully absorb the unrecovered gap but proposed an average increase in tariff by **3.15%** to bridge the gap partially by P&ED. **It is observed by the Commission that no increase in tariff is found necessary after considering the Government subsidy support of Rs.103.56Crs (20.5% of net ARR) instead of proposed Rs.171.47Crs presumed in the filing.**

Accordingly, the revenue realizable from the proposed tariff revision by the Commission would be **Rs.406.853 Crs** as detailed in the table

7.40 above. The increase in revenue is not due to hike in existing category tariffs but due new categories such as HT industrial TOD, EV Charging Stations at LT & HT level and also attributable to change in number of consumers, connected Load and change in units consumption over last year.

Thereby the net revenue gap reduced to **Rs.98.30 Crs** which will be met from Govt. subsidy as per P&ED letter No.B.19018/9/2022-P&E, Dt.10.01.2023 the photo copy of the same is placed at **Annexure-VII** for reference.

The detailed abstract statement of each category/slab wise Full cost tariff, subsidised tariff and the subsidy amount is appended at the end of this order as **Annexure-V**

#### **7.14. Government Tariff Subsidy/Support**

As seen from the above, it is clear that the revenue from sale of power is not sufficient to meet the ever-increasing expenditure and the P&ED shall continue to depend upon the subsidy/support from Government of Mizoram as the retail consumers are predominately Domestic category and very negligible from other Commercial categories from LT & HT. The net revenue gap of **Rs.98.30 Crores** so arrived at by the Commission shall be met totally within the announced Government subsidy/support.

The ARR & Tariff Petition for FY 2023-24 filed by the P&E Department was done with the prior approval of the State Government. The Licensee, in their submitted Tariff Petition, had proposed a tariff hike of 3.15% over the prevailing tariffs of FY 2022-23 resulting in a revenue gap amounting to Rs.171.47Crs which needs to be absorbed only by way of subsidy from the State Government of Mizoram and to this effect the letter already cited above dated:10<sup>th</sup> January 2023 issued by Under Secretary(tech) of GoM in assurance of subsidy is placed at **(Annexure-VII)**. In addition, a letter was issued by Govt. of Mizoram vide No.B.19018/9/2022-P&E, Dt.10<sup>th</sup> January 2023 as an assurance of blanket Tariff subsidy to all class of consumers by specifying a

percentage-based **subsidy allocation** for each & every category-wise/slab-wise

to be applied over the ARR filing based **Full Cost Tariff (FCT)**. In order to achieve the objective of year on year tariffs progressively to reflect the cost of electricity supply, the grant of subsidy shall have to be reduced every year in decrementing fashion and ultimately make the power utility to manage without Government subsidy support.

The Section-65 of the Electricity Act 2003 mandates that the State Government shall release subsidy amount due to the Licensee in advance so as to enable the licensee to implement the subsidized tariffs to their consumers as per subsidised Tariff rates in Table-8.2 (Detailed Revenue calculation of subsidised Tariff is given at **Annexure-III**). The State Government should release the above stated subsidy amount in Twelve (12) equal monthly instalments amounting to **Rs.819.17 lakhs (Rupees Eight hundred and nineteen lakhs and seventeen thousand only) every month in advance as enshrined in Section-65 of E.Act 2003**. However, in the event of delay or non-receipt of subsidy in advance in any month from the Government, the licensee shall adopt the applicable full cost tariff (FCT) rates indicated at **Table 8.3 of chapter -8** while issuing the monthly energy bill for that relevant month/months. Detailed calculation of FCT is placed at **Annexure-IV** for reference. A brief summary is tabulated below for reference.

**Table 7.42: Full Cost Tariff based Expected Revenue for FY 2023-24**

<b>Full Cost Tariff summary for 2023-24</b>		<b>Sales</b>	<b>Revenue</b>	<b>CPU</b>
	LT Category	(MU)	Rs.Crs	Rs./kWh
1	Kutir Jyoti	6.21	7.01	11.29
2	Domestic	305.34	283.23	9.28
3	Non-Domestic	9.74	9.42	9.67
4	Commercial	36.97	42.91	11.61
5	Public Lighting	2.61	2.76	10.57
6	Public Water Works	6.84	7.39	10.80
7	Agriculture	0.06	0.06	10.99
8	LT Industrial	2.80	3.30	11.78
	<b>Total LT</b>	<b>370.57</b>	<b>356.08</b>	<b>9.609</b>
	HT Category	(MU)	Rs.Crs	Rs./kWh
9	Domestic	3.62	4.21	11.63
10	Non-Domestic	14.15	15.29	10.81
11	Commercial	14.10	12.99	9.21
12	Public Water Works	84.22	86.248	10.24

Full Cost Tariff summary for 2023-24		Sales	Revenue	CPU
13	Agriculture	0.10	0.10	10.35
14	HT Industrial (opt-1)	5.77	6.74	11.68
15	HT Industrial (opt-2)	2.50	2.91	11.64
16	Electric Vehicle Charging-LT	2.00	2.35	11.75
17	Electric Vehicle Charging-HT	0.75	0.88	11.73
18	Bulk Supply	14.80	17.35	11.72
	<b>Total HT</b>	<b>142.01</b>	<b>149.07</b>	<b>10.50</b>
	<b>LT &amp; HT Total</b>	<b>512.57</b>	<b>505.15</b>	<b>9.86</b>

There could be a situation, where the outstanding monthly subsidy pending was released by the government after passage of much time elapse and thereby consumers were to be billed at full cost tariffs in those relevant month or months when subsidy was not paid in advance. Given the situation, the entire excess amount so charged to all consumers on account of full cost tariff adoption shall have to be refunded as deduction by treating such excess amount laying with Licensee **as an advance payment** to the licensee be settled **at one time** in the immediate monthly billing cycle where bills are being issued to respective consumers soon after receipt of such pending subsidy relating to the past month/months. If in case, the excess amount so refundable is exceeding the monthly billing amount to be so adjusted in case of any consumer/consumers, then such excess amount unrefunded may be carried forward and be adjusted in the immediately following monthly bill/bills to be issued to such consumer/consumers until full settlement is done in toto.

Lastly, the brief summary of the Commission calculations in support of subsidy amount deduced, the average of supply and the average revenue realisation details are tabulated in the following table.

**Table 7.43: Average Cost of electricity supply within Mizoram State for FY 2023-24**

Sl. No	Particulars	Units	Proposed by P&ED	Commission Approved
1	Net overall ARR	Rs. Cr	782.33	567.77
2	Sale of surplus power revenue	Rs. Cr	198.38	62.62
3	<b>Net ARR within the state (1-2)</b>	Rs. Cr	<b>583.95</b>	<b>505.15</b>
4	Net Revenue from Retail Sales	Rs. Cr	412.48	406.85
5	Net Revenue Gap (3-4)	Rs.Crs	171.47	98.30
6	<b>Govt. subsidy/ Support</b>	Rs. Cr	<b>171.47</b>	<b>98.30</b>
7	Energy sale within the state	MU	510.59	512.58
8	<b>Average Cost of Supply (3/7)</b>	Rs/KWH	<b>11.437</b>	<b>9.855</b>
9	Avg. rate of Revenue realisation - (4/7)	Rs/KWH	8.078	7.937
10	<b>Avg. rate of Subsidy per unit (7-8)</b>	Rs/kWh	<b>3.36</b>	<b>1.92</b>

## 8. Tariff Principles and Design

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### 8.1. Background

While determining the revenue requirement and in fixation of the retail supply tariff of the P&ED, Mizoram for the year 2023-24 the Commission had been guided by the provisions of the Electricity Act, 2003, the National Tariff Policy (NTP), CERC Regulations on Terms and Conditions of Tariff and JERC Regulations for Manipur and Mizoram (Multi Year Tariff) Regulation, 2014. Section 61 of the E. Act 2003 laid down the broad principles, which shall guide determination of retail supply tariffs. As per these statutory provisions, the tariff shall “Progressively reflect cost of supply” and also reduce cross subsidies components “within the period to be specified by the Commission”. The Act also lays special emphasis on safeguarding consumer interests and mandates that tariff determination should be guided by the factors, which encourage competition, efficiency, economical use of resources, good performance and optimum investment.

**The Tariff Policy notified by Government of India in January 2006 and also in 2016 provides** comprehensive guidelines for determination of tariff and in working out the revenue requirement of power utilities. The Commission had made conscious endeavour to follow these guidelines as far as possible.

NTP mandates that the Multi-Year-Tariff (MYT) framework be adopted for determination of tariff from 1st April 2006. Consequently, the Commission had introduced the MYT Regime in the State from 2015-16 onwards.

The National Tariff Policy of 2006 mandate that as a result of existence of cross subsidy component the tariffs so determined shall be well within plus / minus 20% of the average cost of supply before FY 2010-11 itself. But, this could not be accomplished due to high cost of power purchase, low paying capacity of the consumers and lack of industrialization in the state. Until this date, the P&ED could not submit the voltage-wise cost of supply. In this regard, a

directive has been issued to build up data to arrive at the cost of supply at various voltage levels etc so as to accomplish the object mandated in the National Tariff Policy. While in arriving at the cost of supply, the Commission has taken the average cost of supply as the basis in the absence of relevant data to work out consumer category wise cost of supply. In this tariff order an element of performance target has been indicated to maintain the set target for distribution loss reduction for the year 2022-23. But, the P&ED is still to show better performance by achieving reduction in loss levels, which will result in substantial reduction in average cost of supply on account of lesser power purchases. The loss levels noticed were very high at the range of 30% in 2018-19 and had projected slight improvement in FY 2019-20, and same needs to be monitored. The existing and proposed tariff of P&ED is a two-part tariff adopted under telescopic billing.

**8.1.1. Section 8.3 of Tariff Policy lays down the following principles for tariff design:**

1. In accordance with the National Electricity Policy, consumers below poverty line who consumption is below a specified level, say 30 units per Month, may receive a special support in the form of cross subsidy. Tariffs for such group of consumers will be at least 50% of the average cost of supply. This provision will be re-examined after five years.
2. For achieving the objective that the tariff shall progressively reflect the cost of supply of electricity, the JERC would notify the roadmap, within six Months with a target that latest by the end of the year 2023-24 that the tariffs fixed are within  $\pm 20\%$  of the average cost of supply except in the case of government category services like Public Lighting and Public Water Services under LT&HT at the expressed strong opinions of the general public in the Public Hearings conducted. The road map would have intermediate milestones, based on the approach of a gradual reduction in cross subsidy.
3. For example, if the average cost of service is Rs.3/- per unit, at the end of year 2010-11 the tariff for the cross subsidized categories excluding those referred



to in para-1 above should not be lower than Rs.2.40 per unit and that for any of the cross-subsidizing categories should not go beyond Rs.3.60 per unit.

4. While fixing tariff for agricultural use, it is imperatives to keep in view of usage of ground water resources in a sustainable manner in addition to the average cost of supply component. 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.”

National Electricity Policy (NEP) aims at increased access to electricity, supply of reliable and quality power at reasonable rates, minimum lifeline consumption and financial turnaround of consumer interest. The Commission has considered factors as far as possible which aim at achieving the objectives of NEP while determining the revenue requirement of the P&ED and designing the retail tariff for its consumers. The Commission considered a special treatment to **Kutir Jyoti** connection and **Agricultural** sector. It has also aimed at to raise the per capita consumption of the State from the existing level of 323 kWh to 360 kWh by the end of 2023-24. The Commission endeavours that the tariff progressively reflects Cost of Supply in a shortest possible period and the government subsidy is reduced gradually. The tariffs have been rationalized with regards to inflation, paying capacity of consumers and avoidance of high tariff shock.

## **8.2. Tariff Proposed by P&ED and Approved by the Commission**

### **8.2.1. Tariff Categories**

In the last year ARR and Tariff Petition of FY 2021-22, P&ED had proposed changes to some existing categories of consumers and the same is being continued in this year 2023-24 also.

#### **Various categories proposed by P&ED for FY2023-24:**

The Commission considers in retaining the existing/proposed categories as follows:

- |                                    |                                    |                   |
|------------------------------------|------------------------------------|-------------------|
| 1 (a) Kutir Jyoti (LT)             | (b) Domestic (LT)                  | (c) Domestic (HT) |
| 2 (a) Non-Profit Public Service LT | 2 (b) Non-Profit Public Service HT |                   |



Sl. No.	Type of installation	Existing Charges		Proposed Charges	
		Energy (Rs./Month)	Fixed Charges (in Rs.)	Energy (Rs./Month)	Fixed Charges (in Rs.)
<b>7</b>	<b>Public Water Works</b>				
A	LT Category	11.10/kWh	90/CL/ kW	11.10/kWh	95/CL/ kW
B	HT Category	9.85/kVAh	90/BD/ kVA	9.85/kVAh	95/BD/ kVA
<b>8</b>	<b>Industrial</b>				
A	Low Tension (LT)				
i)	First 400 kWh	7.10/kWh	80/CL/ kW	7.10/kWh	80/CL/ kW
ii)	All above 400 kWh	8.05/kWh	80/CL/ kW	7.10/kWh	80/CL/ kW
B	High Tension (HT)				
	Opt-1 (Existing)	9.05/kVAh	80/BD/ kVA	9.05/kVAh	80/BD/ kVA
	Opt-2 (TOD-Introduced) – Newly to be Opted			Option-2	Option-2
	i) Usage from 06.00 Hrs upto 17.00Hrs (Normal TOD)			<b>10.05/kVAh</b>	<b>80/BD/ kVA</b>
	ii) Usage from 17.00 Hrs upto 22.00Hrs (Peak TOD)			<b>11.55/kVAh</b>	<b>80/BD/ kVA</b>
	iii) Usage from 22.00 Hrs upto 06.00Hrs (Off-peak TOD)			<b>8.55/kVAh</b>	<b>80/BD/ kVA</b>
<b>9</b>	<b>Bulk Supply</b>	6.85/kVAh	90/BD/ kVA	7.00/kVAh	95/BD/ kVA
<b>10</b>	<b>Electric Vehicle (EV) Charging Stations</b>				
	a) L.T category			8.20/kWh	75/CL/ (kW)
	b) H.T category			8.65/kVAh	75/BD/(kVA)

Note: CL= Contracted Load, BD = Billing Demand

### 8.2.3. Tariffs Approved by the Commission

#### (a) Subsidized Tariff Approved for FY 2023-24

The Commission worked out the average rate to be **Rs.7.94/kWh** for FY 2023-24 upon adopting the existing applicable tariffs of FY 2022-23 based on the proposed number of consumers, load and energy consumption given for 2023-24 in their filing submission. Having considered the petition of P&ED Mizoram for approval of Aggregate Revenue Requirement (ARR) and determination of Retail Tariff for supply of energy and having approved the Aggregate Revenue Requirement (ARR) with a gap of **Rs. 100.20 Crore** vide Para 7.12, Table-7.41 of Chapter-7, as against the proposed gap of Rs.171.47Cr with the hike in tariff at **3.15%** by P&ED is detailed below:

**Table 8.2: Category wise Subsidised Tariff approved by the Commission for FY 2023-24**

Sl. No.	Type of installation	Existing Tariff Rates		Approved Tariff Rates	
		Energy (in Rs . )	Fixed (in Rs . )	Energy (in Rs . )	Fixed (in Rs . )
		<b>A</b>	<b>B</b>	<b>A</b>	<b>B</b>
<b>1</b>	<b>Kutir Jyothi (KJ)</b>				
i)	First 20 kWh	2.55/kWh	25/Connection	2.55/kWh	25/Connection
ii)	Balance >20 kWh	3.55/kWh	25/Connection	3.55/kWh	25/Connection
<b>2</b>	<b>Domestic</b>				
A	Low Tension (LT)				

Sl. No.	Type of installation	Existing Tariff Rates		Approved Tariff Rates	
		Energy (in Rs . )	Fixed (in Rs . )	Energy (in Rs . )	Fixed (in Rs . )
i)	First 100 kWh	4.90/kWh	50/CL/kW	4.90/kWh	50/CL/kW
ii)	Next 100 kWh	7.10/kWh	50/CL/kW	7.10/kWh	50/CL/kW
iii)	Balance > 200 kWh	8.20/kWh	50/CL/kW	8.20/kWh	50/CL/kW
B	High Tension (HT)	8.65/kVAh	50/BD/kVA	8.65/kVAh	50/BD/kVA
<b>3</b>	<b>Non-Profit Public Service (Previously Non-Domestic)</b>				
A	Low Tension (LT)				
i)	First 150 kWh	7.60/kWh	60/CL/kW	7.60/kWh	60/CL/kW
iii)	Balance > 150 kWh	8.30/kWh	60/CL/kW	8.30/kWh	60/CL/kW
B	High Tension (HT)	8.75/kVAh	60/BD/kVA	8.75/kVAh	60/BD/kVA
<b>4</b>	<b>Commercial</b>				
A	Low Tension (LT)				
i)	First 150 kWh	8.20/kWh	80/CL/kW	8.20/kWh	80/CL/kW
iii)	Balance > 150 kWh	8.45/kWh	80/CL/kW	8.45/kWh	80/CL/kW
B	High Tension (HT)	8.90/kVAh	80/BD/kVA	8.90/kVAh	80/BD/kVA
<b>5</b>	<b>Public Lighting</b>				
		11.35/kWh	80/CL/kW	11.35/kWh	80/CL/kW
<b>6</b>	<b>Public Water Works</b>				
A	Low Tension (LT)	11.10/kWh	90/CL/kW	11.10/kWh	90/CL/kW
B	High Tension (HT)	9.85/kVAh	90/BD/kVA	9.85/kVAh	90/BD/kVA
<b>7</b>	<b>Irrigation &amp; Agriculture</b>				
A	Low Tension (LT)	3.80/kWh	50/CL/kW	3.80/kWh	50/CL/kW
B	High Tension (HT)	3.85/kVAh	50/BD/kVA	3.85/kVAh	50/BD/kVA
<b>8</b>	<b>Industrial</b>				
A	Low Tension (LT)				
i)	First 400 kWh	7.10/kWh	80/CL/kW	7.10/kWh	80/CL/kW
ii)	Balance > 400 kWh	8.05/kWh	80/CL/kW	8.05/kWh	80/CL/kW
B	High Tension (HT)				
	Option-1 (existing)	9.05/kVAh	80/BD/kVA	9.05/kVAh	80/BD/kVA
	Option-2 (TOD Introduced) Newly to be Opted			<b>Optional</b>	<b>Optional</b>
	i) Usage from 06.00 Hrs upto 17.00Hrs (Normal TOD)			<b>10.05/kVAh</b>	<b>80/BD/ kVA</b>
	ii) Usage from 17.00 Hrs upto 22.00Hrs (Peak TOD)			<b>11.55/kVAh</b>	<b>80/BD/ kVA</b>
	iii) Usage from 22.00 Hrs upto 06.00Hrs (Off-peak TOD)			<b>8.55/kVAh</b>	<b>80/BD/ kVA</b>
<b>9</b>	<b>Bulk Supply</b>				
		6.85/kVAh	90/BD/kVA	6.85/kVAh	90/BD/kVA
<b>10</b>	<b>Electric Vehicle Charging Stations</b>				
	<b>A. LT category</b>			8.25/kWh	75/CL/KW
	<b>B. HT Category</b>			8.70/kVAh	75/BD/kVA

Note: CL= Contracted Load, BD = Billing Demand

Note:- Fixed charge for LT Supply is at per kW of Contracted Load except for Kutir Jyoti and for HT Supply it is per kVA of Billing Demand. In the case of Energy charge it is at per kWh for LT supply and at per kVAh for HT supply and all LT high value services ought to have provided with MDI meters.

The above table depicts fixed and energy charge only. However, Tariff Charges with detailed description are given in the Tariff Schedule chapter of this Order.

**(b) Approved Full Cost Tariff (FCT)**

With the approved ARR for FY 2022-23, the Commission also works out the average cost of supply at the rate of **Rs.10.10/kWh**. In the event of non-receipt of subsidy in advance in any respective month from the State Government, the Commission considers to indicate the Full Cost Tariff (FCT) for charging the consumer during such month/months is tabulated below:

**Table 8.3: Category wise full cost Tariff (i.e., without subsidy) approved by the Commission for FY 2023-24**

Sl. No.	Consumer Category	Approved Full Cost Tariff (FCT)	
		Energy Charges (Rs/month)	Fixed Charges (Rs.)
<b>1</b>	<b>Kutir Jyothi</b>		
i)	First 20 kWh	9.60/kWh	25/Connection
ii)	Balance above 20 kWh	11.94/kWh	25/Connection
<b>2</b>	<b>Domestic</b>		
A	<b>Low Tension</b>		
i)	First 100 kWh	8.29/kWh	50/kW of Contracted Load
ii)	Next 100 kWh	9.61/kWh	50/kW of Contracted Load
iii)	Balance above 200 kWh	10.17/kWh	50/kW of Contracted Load
B	<b>High Tension</b>	9.63/kVAh	50/kVA of Billing Demand
<b>3</b>	<b>Non-Profit Public Service</b>		
A	<b>Low Tension</b>		
i)	First 150 kWh	7.92/kWh	60/kW of Contracted Load
ii)	Balance above 150 kWh	9.35/kWh	60/kW of Contracted Load
B	<b>High Tension</b>	9.57/kVAh	60/kVA of Billing Demand
<b>4</b>	<b>Commercial</b>		
A	<b>Low Tension</b>		
i)	First 150 kWh	10.03/kWh	80/kW of Contracted Load
ii)	Balance above 150 kWh	10.98/kWh	80/kW of Contracted Load
B	<b>High Tension</b>	7.00/kVAh	80/kVA of Billing Demand
<b>5</b>	<b>Public Lighting</b>	10.05/kWh	80/kW of Contracted Load
<b>6</b>	<b>Public Water Works</b>		
A	Low Tension	10.64/kWh	90/kW of Contracted Load
B	High Tension	8.44 /kVAh	90/kVA of Billing Demand
<b>7</b>	<b>Irrigation &amp; Agriculture</b>		
A	Low Tension	10.03/kWh	50/kW of Contracted Load
B	High Tension	7.93/kVAh	50/kVA of Billing Demand
<b>8</b>	<b>Industrial</b>		
A	<b>Low Tension</b>		
i)	First 400 kWh	7.46/kWh	80/kW of Contracted Load
ii)	Balance above 400 kWh	7.49/kWh	80/kW of Contracted Load
B	High Tension (Op-1)	9.56/kVAh	80/kVA of Billing Demand
	High Tension (Op-2)	10.20/kVAh	80/kVA of Billing Demand
<b>9</b>	Electric Vehicle charging Stns (LT)	11.21/kWh	75/kW of Billing Demand

Sl. No.	Consumer Category	Approved Full Cost Tariff (FCT)	
		Energy Charges (Rs/month)	Fixed Charges (Rs.)
10	Electric Vehicle charging Stns (HT)	9.66/kVAh	75/kVA of Billing Demand
11	<b>Bulk Supply</b>	9.27/kVAh	90/kVA of Billing Demand

**\*\*\* Fixed charge in the case of LT supply except Kutir Jyoti is per kW of contracted load based and for HT supply it is per kVA of Billing Demand. For Energy charge in the case of LT Supply it is per kWh and for HT supply it is at kVAh and all LT high value services are ought to have been provided with MDI meters for energy recording.**

Note: The above table depicts fixed and energy charge only. However, Tariff Charges in detail are given in the Tariff Schedule Appended.

**(c) Miscellaneous Charges and Important Conditions of Supply**

The detail Tariffs including rates for un-metered categories of consumer, miscellaneous charges and Important Conditions of Supply furnished by P&ED are examined and approved as given in the **Tariff Schedule in the Appendix.**

###

## 9. Wheeling Charges

### 9.1. Background

Wheeling charges has been calculated in accordance with the Regulation-71 read with Regulation-72 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014. Since, **the P&ED is not maintaining separate accounts for the Distribution Wire Business & Retail Supply Business**; the ARR of the wheeling business is arrived at in accordance with the allocation matrix as prescribed in the Regulation-72 of the said MYT Regulation. The allocation matrix is given as below.

**Table 9.1: Allocation Matrix**

Sl. No	Particulars	Wire Business (%)	Retail Supply Business (%)
1	2	3	4
1	Cost of Power Purchase	0	100
2	Stand by Charges	0	100
3	Employee Expenses	60	40
4	Administration & General Expenses	50	50
5	Repair & Maintenance Expenses	90	10
6	Depreciation	90	10
7	Interest & Finance Charges	90	10
8	Interest on Working Capital	10	90
9	Provision for Bad Debt	0	100
10	Income Tax	90	10
11	Intra- state Transmission Charges	0	100
12	Contribution to contingency reserves	100	0
13	Return on Equity	90	10
14	Non-Tariff Income	10	90

The net distribution expenses are segregated into wire business and retail supply business as per the above matrix as detailed in table below.

**Table 9.2: ARR of Wheeling Business for the FY 2023-24 to FY 2025-26**

(Rs. Crs)

Sl. No	Particulars	FY 2023-24		FY 2024-25		FY 2025-26	
		Total	Wheeling	Total	Wheeling	Total	Wheeling
1	2	3	4	5	6	7	8
1	Cost of Power Purchase	479.70	0.00	508.49	0.00	539.14	0.00
2	Cost of Generation	12.68	0.00	13.29	0.00	13.94	0.00
3	Cost of Fuel	0.00	0.00	0.00	0.00	0.00	0.00
4	Employee Cost	160.54	96.32	169.72	101.83	179.43	107.66
5	Administration & General Expenses	5.10	2.55	5.39	2.70	5.70	2.85

6	Repair & Maintenance Expenses	11.96	10.77	12.65	11.38	13.37	12.03
7	Transmission charges	63.76	0.00	67.40	0.00	71.26	0.00
8	Intra- state Transmission Charges	58.50	0.00	61.63	0.00	64.94	0.00
9	Interest on Loan	0.14	0.12	0.00	0.00	0.00	0.00
10	Depreciation	1.67	1.50	1.55	1.39	1.37	1.23
11	Interest on Working Capital	8.74	0.87	8.84	0.88	8.95	0.89
12	Return on Equity	0.00	0.00	0.00	0.00	0.00	0.00
13	Provision for Bad Debt	0.00	0.00	0.00	0.00	0.00	0.00
14	Contribution to Contingency Reserve Fund	3.02	3.02	3.02	3.02	3.02	3.02
15	Revenue Requirement	805.81	115.16	851.98	121.21	901.11	127.69
16	Non-Tariff Income	8.48	0.85	8.96	0.90	9.47	0.95
17	Efficiency Gains	15.00	0.00	15.00	0.00	15.00	0.00
18	<b>Net Revenue Requirement (15-16-17)</b>	<b>782.33</b>	<b>114.31</b>	<b>828.02</b>	<b>120.31</b>	<b>876.64</b>	<b>126.74</b>

**Table 9.3: ARR of Wheeling Business for the FY 2026-27 to FY 2027-28**

Sl. No	Particulars	FY 2026-27		FY 2027-28	
		Total	Wheeling	Total	Wheeling
1	2	3	4	5	6
1	Cost of Power Purchase	571.47	0.00	606.12	0.00
2	Cost of Generation	14.63	0.00	15.36	0.00
3	Cost of Fuel	0.00	0.00	0.00	0.00
4	Employee Cost	189.69	113.81	200.54	120.32
5	Administration & General Expenses	6.03	3.01	6.37	3.19
6	Repair & Maintenance Expenses	14.13	12.72	14.94	13.45
7	Transmission charges	75.33	0.00	79.64	0.00
8	Intra- state Transmission Charges	68.90	0.00	72.61	0.00
9	Interest on Loan	0.00	0.00	0.00	0.00
10	Depreciation	1.33	1.19	1.27	1.14
11	Interest on Working Capital	9.06	0.91	9.18	0.92
12	Return on Equity	0.00	0.00	0.00	0.00
13	Provision for Bad Debt	0.00	0.00	0.00	0.00
14	Contribution to Contingency Reserve Fund	3.02	3.02	3.02	3.02
15	Revenue Requirement	953.59	134.67	1009.06	142.04
16	Non-Tariff Income	10.02	1.00	10.59	1.06
17	Efficiency Gains	15.00	0.00	15.00	0.00
18	<b>Net Revenue Requirement (15-16-17)</b>	<b>928.57</b>	<b>133.67</b>	<b>983.47</b>	<b>140.98</b>

**Commissions Analysis**

ARR for wheeling business arrived based on approved ARR and methodology vide Table 9.1 supra is as detailed in table below.



**Table 9.4: ARR of wheeling business approved by the Commission for FY 2023-24**

Sl. No.	Particulars	Total ARR	Wires Business	Retail Supply business	Wires ARR	Retail Supply ARR
	(FY 2023-24)					
A	Expenditure	Rs.Crs	(%)	(%)	Rs.Crs	Rs.Crs
1	Cost of Generation	5.56	0%	100%	0	5.56
2	Cost of fuel	0	0%	100%	0	0
3	Cost of power purchase	359.92	0%	100%	0	359.92
4	Inter-State Transmission Charges	63.76	0%	100%	0	63.76
5	Intra-State Transmission charges	53.20	0%	100%	0	53.20
6	<b>O&amp;M Expenses</b>	<b>159.01</b>			<b>98.784</b>	<b>60.23</b>
	Employee Expenses	144.95	60%	40%	86.97	57.98
	Repair & Maintenance expn.	11.96	90%	10%	10.764	1.20
	Administrative & General Expn	2.10	50%	50%	1.05	1.05
7	Depreciation	0	90%	10%	-	-
8	Interest on Loan	0	90%	10%	-	-
9	Interest on Working Capital	0	10%	90%	-	-
10	Interest on consumer Security Deposit	0	<b>10%</b>	<b>90%</b>	-	-
11	Contribn to Contingency Reserve	0	100%	0%	-	-
12	Provision for bad debts	0	0%	100%	-	-
13	Return on Equity	0	90%	10%	-	-
14	Income Tax	0	90%	10%	-	-
	<b>Total Gross ARR - (A)</b>	<b>641.45</b>			<b>98.78</b>	<b>542.67</b>
B	Less: Non-Tariff Income	8.48	10%	90%	0.848	7.63
	Less: Efficiency Gains	8.00	0%	100%	-	8.00
	Less: 1/3 <sup>rd</sup> of surplus in FY 2021-22	57.20	0%	100%	-	57.20
	<b>Deductions total – B</b>	<b>73.68</b>			<b>0.85</b>	<b>72.83</b>
	<b>Net Aggregate Revenue Requirement (A-B)</b>	<b>567.77</b>			<b>97.93</b>	<b>469.84</b>

## 9.2. Wheeling Tariff

The wheeling charges have been computed on the basis of approved costs of Distribution activity for its distribution wire business and the total energy expected to be wheeled through its network. In the absence of segregated data on costs of operation of 33kV and 11kV networks the wheeling charges are not segregated voltage wise.

**Combined wheeling charges approved are given in table below:**

The Wheeling charges as filed by the Licensee and that Commission was approved and energy sales are detailed in table below.



**Table 9.5: Wheeling for the FY 2023-24 to FY 2027-28 filed by P&ED**

Sl. No.	Particular	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	ARR for wheeling function	114.31	120.31	126.74	133.67	140.98
2	Total Energy sold	510.59	535.49	561.62	589.05	617.84
<b>3</b>	<b>Wheeling Tariff (Rs . /unit)</b>	<b>2.24</b>	<b>2.25</b>	<b>2.26</b>	<b>2.27</b>	<b>2.28</b>

**Table 9.6: Commission approved Wheeling charges for FY 2023-24**

Sl. No.	Particular	FY 2023-24
1	ARR for wheeling function (Rs.Crs)	97.93
2	Total Energy sold (MU)	512.58
<b>3</b>	<b>Wheeling Tariff (Rs . /unit)</b>	<b>1.91</b>

The P&ED estimated the wheeling Tariff at Rs.2.24/kWh, while the Commission has approved these wheeling charges at Rs . 1.9105/kWh for FY 2023-24. The Wheeling charges for other years have not been derived, as they are subject to change with power purchase in each future year and its quantity in MU and hence there is no point in fixing it now.

## 10. Fuel and Power Purchase Cost Adjustment

### 10.1. 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 to some extent automatically every month satisfying the stipulated condition in this regard.

#### ***Identification of Incremental cost and process of recovery.***

- (a) As part of the distribution function related activity, the Licensee shall recover the incremental cost incurred due to the following:
  - (i) Variation in Generation Cost of its own generation on account of increase in fuel cost, if the Distribution Licensee has its own generation.
  - (ii) Variation in power purchase cost on account of increase in fuel cost.
- (b) The incremental cost of own generation and power purchase shall be computed on the monthly basis on the basis of actual variation in fuel cost and power purchase cost vis-a-vis the cost approved in the tariff order in accordance with the formula provided in regulation 1.2 below.
 

**Note:** - *The incremental cost shall not be computed on the basis of estimated or expected variation in fuel/power purchase cost.*
- (c) *Incremental cost/FPPCA shall be calculated and billed to consumers, automatically, without going through regulatory approval process, on monthly basis, according to the formula prescribed below, by the State Commission subject to true-up on quarterly/ annual basis as decided by the State Commission. Provided that the automatic pass through shall be adjusted for in monthly billing in accordance with these Rules duly adhering to all the Terms & conditions given below.*
- (d) *The licensee shall compute on the basis of actual variation in cost of fuel and power purchase for the power procured during the nth month and*

levy the charge of incremental cost in the energy bill of (N+2)th month in accordance with the terms and conditions applicable for the FPPCA formula provided below, basing upon proportion to actual energy consumption in the *n*th month in which such incremental cost has been incurred. **The inter-state Transmission charges are excluded here.**

**Example:** The Incremental cost/FPPCA on account of changes in tariff for power supplied during the month of **April** of any financial year shall be computed and billed in the month of **June** of the same financial year.

- (e) The Distribution Licensee shall submit on monthly basis, the details of the incremental cost incurred and details of rate levied & amount charged to all consumers in the *n*th month, along with the detailed computations and supporting documents as may be required for verification and approval by the Commission promptly before the **end of subsequent month**.
- (f) The Commission shall verify the incremental cost charged/levied by the Licensee with supporting documents so submitted by the Licensee and approval shall be accorded with suitable & necessary modifications and adjustment if any needed after thorough examination and scrutiny after such submission.
- (g) In this regard, the Licensee shall suitably upgrade its billing and IT systems to incorporate Incremental Costs (IC) as a component of tariff & in billing mechanism.

#### **Formula for computation of Incremental cost/FPPCA:**

The formula and terms and conditions for calculation of the incremental charge on account of increase in fuel cost and power purchase cost namely **fuel and power purchase cost adjustment (FPPCA)** charges shall be as under:

FAC (Rs./kWh)	=	$\frac{Q_c(RC_2 - RC_1) + Q_0(RO_2 - RO_1) + Q_{pp}(R_{pp2} - R_{pp1}) + V_z + A}{(Q_{Pg1} + Q_{pp1} + Q_{pp2}) \times [1 - \frac{L}{100}] - PSE} \times 100$
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Where,

Q <sub>c</sub>	=	Quantity of coal consumed during the adjustment period in Metric Tons (MT). = (SHR X Q <sub>pg</sub> ) (1+TSL) X 1000/GCV, or actual whichever is less.
R <sub>c1</sub>	=	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 <sub>c2</sub>	=	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 Qc, Rc1, Rc2, Qo, Ro1, Ro2, Qpg and Qpg1 will have to 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. Then, Qc, Qo and Qpg1 will be zero in this case.

### **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 alone in this Tariff Order and it shall consider the Transmission charges in deriving the FPPCA.
- 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 may be recovered every month in the form of an incremental energy charge (Rs/kWh) in proportion to the energy consumption so long it do not exceed 5 (five) paise over the approved avg. power purchase cost in the relevant 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 after due approval from the Commission upon submitting the relevant proposal for scrutiny and approval.
- 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 power purchase cost increased by the licensee on account of **paying penalty, interest due to delayed payments, etc. and due to operational inefficiencies shall not be allowed for FPPCA purpose.**
- 6) FPPCA charges shall be levied on all categories of consumers **except LT Agriculture and Kutir Jyoti categories.**

- 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, 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 five (5) paise or less per unit. If it is more than 5 (five) paise/unit, the same may be carried forward for adjustment in the next month only.

The incremental cost per kWh due to this FPPCA over and above 5 (five) paise so arrived any month 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 Distribution Companies shall provide along with the proposal of FPPCA (as applicable to them) for a month/quarter, a compliance report of the previous order of the commission in respect of FPPCA.





## **11. Transmission function Aggregate Revenue Requirement for 3rd MYT period FY2023-24 to FY2027-28**

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### **11.1. Introduction & Basis of MYT filing**

P&ED's tariff determination is now governed by "Joint Electricity Regulatory Commission for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014" (referred to as "MYT Regulations, 2014") read with First Amendment Regulations, 2019 which came into force from 09.06.2014. The MYT Regulations, 2014 provide a framework for calculating tariffs on a cost-plus basis for a period of five years and allow the licensee to recover operational expenses including depreciation, interest on working capital and debt, and return on equity amongst others. The MYT Regulations, 2014 provide for the methodology & principles to be followed for determination of Transmission charges.

Further, the Regulations segregate the items impacting tariffs into controllable and uncontrollable factors. Items that are uncontrollable are passed through to the consumers. The MYT Regulations, 2014 identifies the uncontrollable and controllable parameters as follows:

#### **UNCONTROLLABLE FACTORS: -**

The "uncontrollable factors" comprises of the following factors:

- (i). Force Majeure events;
- (ii). Change in law, judicial pronouncements and Orders of the Central Government, State Government or Commission;
- (iii). Variation in the price of fuel and/or price of power purchase according to the FPPPA formula approved by the Commission from time to time; (for distribution function);
- (iv). Variation in the number or mix of consumers or quantities of electricity supplied to consumers;
- (v). Transmission Loss;
- (vi). Variation in market interest rates; (vii) Taxes and Statutory levies;
- (vii). Taxes on Income;
- (viii). Non-Tariff Income;



**CONTROLLABLE FACTORS: -**

Controllable factors include, but are not limited to the following:

- (i). Variations in capitalization on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events;
- (ii). Variation in Interest and Finance Charges, Return on Equity and Depreciation on account of variation in capitalization, as specified in clause (i) above;
- (iii). Variations in technical and commercial losses of Distribution Licensee;
- (iv). (iv) Variations in performance parameters;
- (v). Variations in working capital requirements;
- (vi). Failure to meet the standards specified in the Joint Electricity Regulatory Commission for the states of Manipur and Mizoram (Standard of Performance for Distribution and Transmission Licensees) Regulations, 2010, as amended from time to time except where exempted in accordance with those Regulations;
- (vii). Variations in labour productivity;
- (viii). Variation in operation & maintenance expenses;
- (ix). Variation in Wires Availability.

**11.2. OVERALL APPROACH FOR PRESENT FILING****a) Transmission Charges for 5-year MYT Control Period from FY 2023-24 to FY 2027-28:**

P&ED hereby submits its petition for approval of Multi Year Transmission Tariff for the third control period i.e., FY 2023-24 to FY 2027-28. This petition is being submitted in compliance with the provisions of MYT Regulations, 2014. The petitioner has attempted to comply with the various guidelines in the Act and regulations within the limitations of availability of data.

P&ED is filing the petition based on the past performance and expected changes in each element of cost and revenue for the ensuing year. P&ED has studied the past trends and taken cognizance of other internal and external developments to project the likely performance during the control period i.e., FY 2023-24 to FY 2027-28.

**b) Approach for the Filing**

The subsequent sections provide projection for various expenses and the expected revenue projections.

Projections of various cost components required for determination of Aggregate Revenue Requirement along with the rationale for estimation of such cost, the philosophy adopted by P&ED for projecting power to be transmitted for the control period has been covered in various sections.

For the purpose of projecting the financial & technical parameters, P&ED has considered its actual performance during FY 2021-22 and FY 2022-23 (H1) as base and has projected the figures for the control period with supporting rationales.

**c) AGGREGATE REVENUE REQUIREMENT FOR CONTROL PERIOD I.E. FY 2023-24 TO FY 2027-28**

This section outlines the Aggregate Revenue Requirement of the P&ED for control period i.e. FY 2023-24 to FY 2027-28, which takes into consideration:

- i. Actual Performance in FY 2021-22;
- ii. Estimated Performance for FY 2022-23 based on the Actual performance for the period 01.04.2022 to 30.09.2022;
- iii. Projection based on the Actual performance in FY 2021-22 and estimated performance in FY 2022-23;
- iv. Principles outlined in Tariff Regulations of JERC (M&M).

Past trends have been taken into cognizance in case of certain elements as deemed necessary. The present section has been structured in the following manner:

- **Determination of Energy to be transmitted**
  - o Energy input Projections
  - o Loss Trajectory
  - o Energy Balance
- **Proposed Capital Expenditure and capitalization**
  - o **Scheme wise details**
    - Capital Expenditure
    - Asset Capitalization

- **Determination of the Aggregate Revenue Requirement**

- o Power Generation/Purchase Costs
- o Transmission Charges
- o Operation and Maintenance Expenses
- o Depreciation
- o Interest charges (including interest on working capital)
- o Return on NFA
- o Provision for Bad and Doubtful Debts
- o Return on Equity

### 11.3. Capacity allocation and Energy Requirement

The Transmission capacity requirement and allocation to the long term & medium-term users of the license area is determined based on the expected transmission of energy in the area during the period under consideration. The Transmission function of P&ED primarily handles power required by the Distribution function and hence the forecast/projection would completely depend on the sales/energy transmission projection of the distribution function. Accordingly, the transmission system requirement projection by the P&ED for 5 years period from FY2023-24 to FY 2027-28 is as given in the succeeding paragraphs.

The energy requirement of the state is mainly met from outside Generating sources as the State's HEPs generations are seasonal in nature. The share allocation of Mizoram from various Central Sector Generating Stations & Own generation capacity is provided in the tables below. Apart from the allocation from the Central Sector Generating Stations & own sources, Mizoram has to resort to additional short-term purchases through other sources i.e. UI/Deviation over drawal & IEX.

**Table 11.1: Power Availability sources/ share (Other than Own Generation)**

Sl. No.	Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
A	Central Generating Stations			

Sl. No.	Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
I	NTPC			
	Bongaigaon TPS	750	5.415	40.613
	Farakka STPS	1600	0.142	2.268
	Kahalgaon STPS	840	0.142	1.190
	Talcher STPS	1000	0.142	1.417
	<b>NTPC-Total</b>	<b>4190</b>		<b>45.487</b>
II	NHPC			
	Loktak HEP	105	5.020	5.271
	<b>NHPC-Total</b>	<b>105</b>		<b>5.271</b>
III	NEEPCO			
	Kopili HEP	200	4.610	9.220
	Kopili - II HEP	25	6.040	1.510
	Khandong HEP	50	3.940	1.970
	Ranganadi HEP	405	5.700	23.085
	Doyang HEP	75	5.410	4.058
	Pare HEP	110	5.765	6.342
	Tuirial HEP	60	100.00	60.000
	AGBPP	291	5.410	15.743
	AGTPP	135	6.000	8.100
	<b>NEEPCO-Total</b>	<b>1351</b>		<b>130.027</b>
IV	TSECL			
	B'mura - IV	21	25.00	5.250
	B'mura - V	21	25.00	5.250
	<b>TSECL-Total</b>	<b>42</b>		<b>10.500</b>
V	OTPC			
	Palatana	726	3.030	22.000
	<b>OTPC-Total</b>	<b>726</b>		<b>22.000</b>
VI	<b>Grand Total</b>	<b>6414</b>		<b>213.29</b>

Table 11.1: Power Sources for FY2022-23- Own HEP Generation

Sl. No.	Name of Station	Installed Capacity (MW)
1.	Serlui-A	1.00
2.	Tuirivang	0.30
3.	Khawiva HEP	1.05
4.	Tuipui HEP	0.50
5.	Maicham-I	2.00
6.	Teirei HEP	3.00
7.	Tuipanglui	3.00
8.	Kau-Tlabung HEP	3.00
9.	Lamsial	0.50
10.	Maicham-II	3.00
11.	Tlawva	5.00
12.	Serlui-B	12.00
	<b>Total</b>	<b>34.35</b>

To transmit power within the State, P&ED has the following transmission network:

**Table 11.2: Estimated Transmission Network position for FY 2023-24**

Sl. No	Particulars	Beginning of the year	Additions in the year	Withdrawal from service	At the end of year
	Type of Line		(ckt-km)	(ckt-km)	(ckt-km)
1	132 Kv	895	22	--	918
2	66 kV	95	2	--	97
3	33 kV	1563	31	--	1594
	11 kV	5667	113		5780
	LT	3478	70		3548
4	33/11 kV SS	68	1	--	69
5	(33/11KV) PTs in MVA	97	2	--	99

#### 11.4. Transmission Loss

P&ED has been trying to reduce the transmission losses during recent years. P&ED submits that the system improvement works executed every year under the plan schemes have also contributed to the reduction of transmission losses. However, it may also be noted that reduction of transmission losses may not be possible beyond a certain level due to topographical conditions and technical limitations. The Department is currently not equipped to measure the exact energy flowing into and out of the state grid at various levels due to the in adequate metering equipment. Therefore, State Transmission losses has been calculated on the basis of the net input energy in the State Transmission System periphery. The transmission losses have been considered at 2% as approved by the Hon'ble Commission in the Tariff Order for the FY 2022-23. The table below provides the calculation of transmission loss for the period.

The table below provides the calculation of transmission loss

Sl. No.	Description	Unit (MU)/%	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Energy available at State Trans. Grid including local generation	Mus	633.33	663.36	694.88	727.96	762.61
2	Transmission Loss % (as approved in Tariff Order for FY 2022-23)	%	2%	2%	2%	2%	2%
3	Transmission Loss (1 X 2)	MUs	12.67	13.27	13.90	14.56	15.25



4	Net Energy available for sale at Transmission level (1 - 3)	MUs	620.66	650.09	680.98	713.40	747.36
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**Commission Analysis:**

The above tabulated data on transmission loss is an outcome of the commission Tariff Order of FY 2022-23 and P&ED has not made any additional contribution to the data for 5 years MYT period. As seen from the **Form No. P4 – Physical Statistics of the network**, the data pertaining to Number of Interface meters for 0.5 & 0.2 accuracy class meters has no meter installed number data deliberately. Obviously, the P&ED has no other option but to bank upon the Transmission Loss for all the 5 years in MYT at 2% transmission loss levels only and no progress has ever attempted to depict in the MYT filing for Transmission function is very much perturbing. There is no action plan indicated as to how they manage to achieve this task of 2% transmission loss constantly without any interface meters in place and measure the loss accurately. Otherwise, the loss over and above 2% will add to distribution loss and reflect the performance badly on distribution function ultimately.

**The Commission accordingly approves transmission loss at 2.00% for all the 5 years MYT period from FY 2023-24 to FY 2027-28.**

**11.5. Capital Expenditure & Capitalization**

P&ED has undertaken significant capital expenditure during the previous years and has plans to implement schemes for development of infrastructure during the FY 2023-24, to FY 2027-28. The infrastructure of P&ED is insufficient to cater to the present & projected load and hence to meet the increasing demand, capital expenditure is absolutely necessary.

The objective of incurring the capital expenditure is to continue the up-gradation and strengthening of the transmission network to meet the desirable standards of performance and provide better network reliability and sustainable performance.

**Commission Analysis:**

The above statement has no relevance to the actual performance being noticed in the form of loss reduction strategies and still unable to provide

accurate transmission losses sustained in the state with authenticity. They could not even specify the number of interface meters installed in the transmission network right from FY 2021-22 onwards. Where all the investments made so far in transmission activity had not given any fruitful results and needs thorough scrutiny. The capital investments seem to be not used for intended purpose. This is something very much causing displeasure to the Commission to not this window dressing performance on paper only.

#### **11.6. Aggregate Revenue Requirement**

Based on the provisions of the Tariff Regulations, the estimate for the Aggregate Revenue Requirement (ARR) would consist of the following elements:

- Return on Equity
- Interest and Finance charges on Loan Capital
- Depreciation
- Operation and Maintenance Expenses
- Interest on working capital

The above Aggregate Revenue Requirement is netted off for Non-Tariff Income for determining the net ARR for transmission function of P&ED.

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

Item wise each such expenses are discussed in detail here under.

#### **11.7. Return on Equity**

##### **Petitioner's submission**

Regulation 26 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 read with Regulation 22 provides the methodology for calculation of the Interest & Finance Charges. It provides that 30% of the capital employed shall be considered as equity and balance 70% is to be considered as loan.

In this regard it is submitted that the P&ED being a Government Department, the entire capital employed till date has been funded through fund infusion by the Government in form of budgetary support which are generally in the nature of

grants and aids through financial institutions.

In view of the above, the financial principal of debt-equity ratio of 70:30 and return on equity thereon as provided in regulation 26 read with regulation 22 may not be applicable to the P&ED. **Therefore P&ED has not considered return on equity while computing the ARR.**

**Commission's analysis**

**Keeping in view of the above highlighted submission of the Licensee, the Commission too had not considered any ROE for transmission function separately for all five (5) years period from FY 2023-24 onwards as has been followed as a convention being adopted in the earlier years also as the same is considered in the distribution function itself.**

**11.8. Interest and Finance charges**

**Petitioner's submission**

Regulation 27 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides the methodology for calculation of the Interest & Finance charges. It provides that 30% of the capital employed shall be considered as equity and balance 70% is to be considered as loan. The regulation provides for normative loan irrespective of actual loan availed by the utility. Repayment of loan and interest are also to be considered on normative basis.

In this regard it is submitted that the P&ED being a Government Department, the entire capital employed till date has been funded through fund infusion by the Government in form of budgetary support which are generally in the nature of grants.

In view of the above, the financial principal of debt-equity ratio of 70:30 as provided in regulation 27 read with regulation 22 may not be applicable to the P&ED. **Therefore P&ED has not considered Interest and finance charges while computing the ARR.**

**Commission's analysis**

**Keeping in view of the above submission by the Licensee duly highlighted, the**

Commission too did not consider any Interest and Finance charges for transmission function throughout 5 years MYT period from FY 2023-24 onwards as has been following as a convention applied even in the past as the same is once again considered fully in the distribution ARR function itself.

## 11.9. Gross Fixed Assets and Depreciation

### 11.9.1. Gross Fixed Assets

#### Petitioner's submission

P&ED has projected the Gross Fixed Asset in accordance with the Regulation 23 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

It is submitted that opening value of gross fixed assets (GFA) for the FY 2021-22 has been taken from Fixed Asset Register as on 31.03.2022 & the audited accounts for the FY 2021-22 and the same has been increased by estimated addition during the FY 2022-23. Thereafter, planned additions during the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28 have been considered and accordingly, GFA has been computed for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28. The GFA movement is given in the table below:

**Table 11.3: Gross Fixed Asset movement projected by P & ED  
(Rs. Cr)**

Financial Year	Opening Balance	Addition during year	Closing Balance
FY 2021-22	306.21	17.42	323.64
FY 2022-23	323.64	35.81	359.44
FY 2023-24	359.44	0.00	359.44
FY 2024-25	359.44	2.40	361.84
FY 2025-26	361.84	40.10	401.94
FY 2026-27	401.94	2.78	404.72
FY 2027-28	404.72	0.00	404.72

#### Commission's analysis

The Opening balance of transmission functional wise net block break-up of fixed assets as per FY 2021-22 audited balance sheet is only 151.3212 Crs and hence it can't be Rs. 323.64 crs in 2022-23 and how the P&ED is able to figure out

functional wise OCFA figure without any pragmatic approach and basic record. Besides, as seen from the form-F2b (Investment Plan-Master) the transmission related investment during 2022-23 is only Rs.13.32Cr. Hence, the additions during the year at Rs.13.32.49crs is also not considered without any supportive details. Hence, the details so provided for the entire MYT period is not acceptable in the absence of verifiable authentic data from Licensee. Basing on this the depreciation cannot be allowed on arbitrary figure, which are varying from one year to another inconsistently.

The Commission can't approve the growth of GFA for MYT period as per the details indicated in the above table by the Licensee and the Commission approved details are indicated at Table-11.6 below. Despite, the liberal approvals of CAPEX investment for strengthening the transmission network in each year, the transmission losses are still not yet achieved at desirable level and the losses are only presumed but not authenticated by the meter record.

The Licensee still expresses his inability of accurately measure energy inflows and outflows at the State Grid on account of metering equipment shortage which cannot be considered as an excuse at this juncture and the same excuse is being repeated in the previous filings also. Besides, the licensee has not specifically indicated any action plan to tackle this perpetual problem. This kind of attitude of the licensee is very much displease the Commission and it shall come-out with a suitable investment on this aspect for Commission's approval after seeking desirable fund approvals from the State Government also. Failing which, the Commission feels it high time to implement the Efficiency Gains concepts and adopt a suitable quantum of cut/rebate in their ARR in future ARRs which may also include the true-ups being given from FY 2021-22 in this year onwards in this matter.

### **11.9.2. Depreciation**

#### **Petitioner's submission**

P&ED has projected the depreciation in accordance with the Regulation 28 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

It is submitted that opening value of gross fixed assets (GFA) & opening accumulated depreciation for 2021-22 has been taken from Fixed Asset Register as on 31.03.2022 & the audited accounts for the FY 2021-22. Further, depreciation for FY 2021-22 has been calculated at the rates prescribed in the regulations on addition of assets during the FY2021-22 and estimated addition during the FY 2022-23. Thereafter, planned additions during the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28 have been considered for the calculating the depreciation for FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28 respectively. It is submitted that the State of Mizoram has been granted a special status similar to that of other North-Eastern States. Government of India provides special assistance for the development of infrastructure facilities in these States. Accordingly, the infrastructure projects of the State of Mizoram, including those of P&ED are being supported by issue of Grants through various Central Government Ministries and Agencies like Ministry of Power (MoP) through schemes of APDRP and RGGVY, Ministry of New and Renewable Energy (MNRE), Ministry of Development of North Eastern Region (DONER) and North Eastern Council (NEC).

Asset wise funding pattern is not available. However, in majority of the cases, the portion of grants is 90% of the total project cost. In view of the above, it is assumed that the 90% of the total Gross Fixed Assets are being funded through Grants. Accordingly, the proportionate amount to the extent of 90% of the total depreciation is deducted from the total depreciation to arrive at the amount of depreciation chargeable in the ARR. The table below indicates the depreciation of the assets calculated at 10% of total depreciation and the same has been considered while projecting the ARR of Transmission function for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY2027-28. Accordingly, the depreciation for the control period is depicted below:

**Table 11.4: Depreciation for MYT period projected by P & ED**

Financial Year	Opening as on 1st April	Additions During the Year	Discarded	Closing Balance as on 31st March	Depreciation	(Rs. Cr)
						10% of Total Depreciation
FY 2023-24	359.44	0.00	0.00	359.44	12.12	1.21
FY 2024-25	359.44	2.40	0.00	361.84	11.96	1.20

FY 2025-26	361.84	40.10	0.00	401.94	11.58	1.16
FY 2026-27	401.94	2.78	0.00	404.72	13.45	1.34
FY 2027-28	404.72	0.00	0.00	404.72	13.23	1.32

### Commission's Analysis

As verified from the above table the P&ED has considered depreciation rate at 3.89%. But as per audited annual accounts for FY 2019-20 the average rate of depreciation is 3.37%. Accordingly, the depreciation is re-calculated as detailed in the table below.

**Table 11.5: Depreciation for MYT period approved by the Commission**

(Rs. Cr)

Financial Year	Opng. Balnc	Additions	Clsng. Balnc	Avg. Fixed Assets	Depreciation @ 3.13%	10% of Depreciation
FY 2022-23	151.32	13.32	164.64	157.98	N.A	N.A
FY 2023-24	164.64	-	164.64	164.64	5.152	0.515
FY 2024-25	164.64	2.40	167.04	165.84	5.190	0.519
FY 2025-26	167.04	40.10	207.14	187.09	5.855	0.585
FY 2026-27	207.14	2.78	209.92	208.53	6.526	0.653
FY 2027-28	209.92	-	209.92	209.92	6.569	0.657

The however Commission prefers to calculated depreciation for the MYT period of 5 years considering the average rate of depreciation so adopted in audited balance sheet for FY 2021-22 uniformly over the 5 years period without any reduction in the rate.

While the Capital subsidy received so far by the Entity when compared with the GFA possessed after due consideration of work-in progress amount based on the Audited balance sheet of FY 2021-22 the own contributions by the entity is only to the extent of 0.361% of OCFA existing. Hence, the depreciation now allowed at 10% of depreciation amount is far higher than the entitlement. But this was considered OCFA figure of Transmission function could not be accurately assessable by Commission.

### 11.10. Operation and Maintenance expenses

#### Petitioner's submission

Operation & Maintenance expenses comprise of the following heads of expenditure viz.

- Employee Expenses
- Administration & General Expenses
- Repairs & Maintenance Expenses

The operation & maintenance expenses have been arrived at in accordance with the Regulation 62.5 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014. It is submitted that the P&ED is an integrated utility carrying out the three functions of Generation, Transmission & Distribution and the complete segregation of function wise accounts has not been done yet. In view of the above the operation & maintenance expenses has been allocated among the various functions on the principle allowed by the Hon'ble Commission in the Tariff order for the FY 2014-15.

The allocated actual expenses for the FY 2021-22 has been considered as the operation & maintenance expenses and the same has been escalated at the escalation factor of 5.72% to arrive at the operation & maintenance expenses for the FY 2022-23. The operation & maintenance expenses for each subsequent year has been determined by further escalating the estimated operation & maintenance expenses for the FY 2022-23 by the escalation factor of 5.72% YOY.

Accordingly, details of operation & maintenance expenses viz. Employee Expenses, Administration & General Expenses & Repairs & Maintenance Expenses are provided in the subsequent sections.

#### **11.10.1. Employee Expenses**

The expense head of employee cost consists of salary and allowance, bonus, Leave Travel Concession (LTC) & Honorarium etc. P&ED has projected the employee cost in accordance with the Regulation 62.5 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 and the methodology described in the para 4.4. It is therefore kindly requested that Hon'ble Commission may approve the employee expenses as projected.

**Table 11.6: Employee Expenses projected by P&ED for MYT period**



Particulars	Rs.Crores				
	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Employee Expenses	45.87	48.49	51.26	54.20	57.30

#### Commission Analysis:

Since, the P&ED department categorically reported in their Distribution ARR filings for FY 2021-22 at Para 1.10 that segregation of actual employee cost function wise is not available and hence the entire employee cost as a whole is claimed in the Distribution ARR true-up itself. Therefore, it is construed that the employee cost it claimed at one place in the Distribution ARR is for entire department as a whole and hence, no employee cost need be allowed separately for Transmission for the entire period of five (5) years from FY2023-24 to FY 2027-28 to curtail duplication of the same expenditure and to avoid burdening the consumers without any reason. Otherwise, the cost allowed for this function and the generation function if any will be subtracted from Overall employee cost and only the balance will go to distribution function. **Moreover, in the past P&ED was initially claiming Transmission ARR and later on it claims all its cost elements under Distribution function itself and discarding the earlier ARR amount preferred. This means the ARR filing for Transmission is done for the sake of it to file an ARR only.**

**The projection so made by the Licensee is made without the break-up details of employee strength existing in transmission function and many a time failed to provide the break-up in the past. Hence, the transmission employee cost is not basing on number of employees. However, the commission approves the following amount for transmission function subject to reducing these values finally in finalizations of distribution function as a whole.**

Table 11.7: Employee Expenses approved by commission for MYT period

Financial year	Rs.Crores					
	22-23	23-24	24-25	25-26	26-27	27-28
Employee Cost	44.27	45.14	46.31	47.11	47.95	48.10

#### 11.10.2. Administration and General Expenses

##### Petitioner's submission

A&G expenses comprise of the following broad subheads of expenditure, viz.

- Domestic Travelling Expenses
- Office Expenses
- Legal, Regulatory & Consultancy Fees
- Insurance etc.

The expense head of A&G expenses consists of Domestic Travelling Expenses, Office Expenses, Legal Regulatory & Consultancy Fees & Insurance etc. P&ED has projected the A&G expenses in accordance with the Regulation 89.6 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 and the methodology described in the para 4.4. It is therefore kindly requested that Hon'ble Commission may approve the A&G expenses as projected.

**Table 11.8: Administrative and General Expenses projected by P&ED for FY 2022-23 (Rs. Cr)**

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Administration & General Expenses	1.46	1.54	1.63	1.72	1.82

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

**The Commission approves Administration and General Expenses for 5 years MYT period as projected by P & ED indicated in the above table. These values will be reduced from the distribution figure finalization.**

#### **11.11. Repairs and Maintenance expenses**

##### **Petitioner's submission**

P&ED has been undertaking various Repairs and Maintenance activities as a step towards improvement of systems, reduction in breakdowns, reduction in response time and increasing preventive maintenance.

P&ED has projected the R&M expenses in accordance with the Regulation 89.6 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 and the methodology described in the para 4.4. It is therefore kindly requested that Hon'ble Commission may approve the R&M expenses as projected.

**Table 11.9: Repair and Maintenance expenses projected by P&ED for FY MYT period (Rs. Cr)**

Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
Repair & Maintenance Expenses	6.54	6.92	7.31	7.73	8.17

**Commission's analysis**

The Commission approves Administration and General Expenses for 5 years MYT period as projected by P & ED indicated in the above table. These values will be reduced from the distribution figure finalization.

**Table 11.10: Overall summary of O&M Expenditure for the MYT Period by P&ED (Rs. Crore)**

Sr. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Employee Expenses	45.87	48.49	51.26	54.20	57.30
2	Administration & General Expenses	1.46	1.54	1.63	1.72	1.82
3	Repair & Maintenance Expenses	6.54	6.92	7.31	7.73	8.17
4	<b>Total O&amp;M Expenses</b>	<b>53.87</b>	<b>56.95</b>	<b>60.21</b>	<b>63.65</b>	<b>67.29</b>

**Table 11.11: Summary of O & M expenses Approved by Commission****Summary of O&M expenses approved by Commission for Transmission function (Rs. Crore)**

Sr. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Employee Expenses	44.27	45.14	46.31	47.11	47.95
2	Administration & General Expenses	1.46	1.54	1.63	1.72	1.82
3	Repair & Maintenance Expenses	6.54	6.92	7.31	7.73	8.17
4	<b>Total O&amp;M Expenses</b>	<b>52.27</b>	<b>53.60</b>	<b>55.25</b>	<b>56.56</b>	<b>57.94</b>

**11.12. Interest on Working Capital****Petitioner's submission**

The P&ED has computed the Interest on Working Capital for the FY 2023-24 to FY 2027-28 in accordance with the Regulation 29.2 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

As per the Regulations, for the purpose of computation of normative working capital and Interest on working capital, the components of working capital are as follows:

- (a) Operation and maintenance expenses for one month; plus
- (b) Maintenance spares at one (1) percent of the historical cost escalated at 6% from the date of commercial operation; plus
- (c) Receivables equivalent to one (1) month of the expected revenue from sale of electricity at the prevailing tariffs; minus
- (d) Amount held as security deposits under clause (a) and clause (b) of sub-section (1) of Section 47 of the Act from consumers except the security deposits held in the form of Bank Guarantees;

Interest is required to be calculated at a rate equal to the State Bank Advance Rate (SBAR) as on 1st April of the financial year in which the Petition is filed.

Interest on working capital has been calculated accordingly and detailed in the table below:

**Table 11.12: interest on Working Capital projected by P & ED for 3rd MYT period  
(Rs. Cr)**

Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	O&M Exp for 1 Month	4.49	4.75	5.02	5.30	5.61
2	Maintenance Spares @1% of Historical Cost escalated @6% from COD	3.81	3.81	3.84	4.26	4.29
3	One Month Receivables	4.94	5.20	5.48	5.81	6.13
4	Security Deposit (if any)	0.00	0.00	0.00	0.00	0.00
5	Rate of Interest as on 01/04/2017	12.30%	12.30%	12.30%	12.30%	12.30%
<b>6</b>	<b>Interest for the Year</b>	<b>1.63</b>	<b>1.69</b>	<b>1.76</b>	<b>1.89</b>	<b>1.97</b>

#### **Commission's Analysis**

P&ED had worked out the Interest on working capital considering SBAR at 12.30% prevailing in 2017 for this purpose though no such loans were availed so

far by it for this purpose. Hence Commission disapproves Interest on Working Capital claimed for the entire 3<sup>rd</sup> MYT control period though projected by P&ED as there are no short-term loans proposed to have drawn during the past to claim this element and it will only be considered on having actually availing Short-term loans in future during true-up time.

#### 11.13. Contribution to Contingency Reserve Fund

Regulation -62.7 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides that the Transmission licensee shall be allowed an annual appropriation of 0.5% of the original cost of fixed assets towards Contingency Reserve. It further provides that the maximum cumulative provision under the Contingency Reserve shall not exceed 5% of original cost of fixed assets. In view of the above, the P&ED has appropriated 0.5% of the cost of fixed assets towards Contingency Reserve for the FY 2023-24 to FY 2027-28. It is further submitted that P&ED has not made any appropriation towards the Reserve in the previous years, hence, the total balance in the Contingency Reserve does not exceed the maximum cumulative limit of 5% of the original cost of fixed assets as provided in the Regulations. The detail of appropriation to the Contingency Reserve is provided in the table below.

Table 11.13: Contribution to Contingency Reserve Fund

(Rs . In Crores)

Sl. No.	Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Opening GFA	359.44	359.44	361.84	401.94	404.72
2	Additions During the Year	0.00	2.40	40.10	2.78	0.00
3	Closing GFA	359.44	361.84	401.94	404.72	404.72
4	Rate	0.50%	0.50%	0.50%	0.50%	0.50%
5	Total Contribution to Contingency Reserve Fund	1.80	1.80	1.81	2.01	2.02

#### Commission's Analysis

As per the regulation, for the purpose of contribution to contingency Reserve fund, the rate to be adopted is @0.25% on the Opening value of OCFA but not on the average figure. Now any contribution to Contingency Reserve Fund

should be based on @ 0.25% instead of 0.5% as proposed by the Licensee. This issue was categorically stated in the Tariff Order for FY2022-23, but the licensee seems to have not reflected in in this filing. It is quite enigmatic as to how P&ED could predict and indicate the Opening GFA for Transmission function for MYT purpose including each asset head wise break-up, while they have been expressing their inability to segregate any cost element functional wise. Hence, the above GFA data can't be relied upon without any empirical evidence on the values. Therefore, the Asset values will be of those already considered above for depreciation purpose and the details are tabulated below:

**Table 11.14: Contribution to Contingency Reserve Fund by Commission**

Sl. No.	Description	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Opening Asset value	164.64	164.64	167.04	207.14	209.92
2	Rate adopted (%)	0.25%	0.25%	0.25%	0.25%	0.25%
3	Contingency Reserve Fund Contributions	0.412	0.412	0.418	0.518	0.525

#### **11.14. Non- Tariff Income**

##### **Petitioner's Submission**

Regulation 63 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014 provides that the Non-tariff income shall be deducted from the ARR in calculating the Tariff. Non-tariff income includes revenue from rent on land and building, statutory investments, interest on delayed payments and other charges. **The P&ED has not considered non-tariff income for computing the ARR of the transmission function** for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28.

##### **Commission's Analysis**

**P & ED is an integrated utility. As such Non-Tariff income collected is being entirely accounted for under distribution business. The P&ED is conveniently not projecting NTI for Transmission activity, but it could project for O&M expenses, as the projection of NTI would decrease the ARR. However, Non-**

Tariff income has not been considered for the transmission business by the Commission also for the entire 3<sup>rd</sup> MYT period.

#### 11.15. Aggregate Revenue Requirement

Based on the above estimates and projections, the ARR for the transmission function of P&ED for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 and FY 2027-28 works out as under:

**Table 11.15: Aggregate Revenue Requirement filed by the P&ED**

(Rs. Cr)						
Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Return on Equity	0.00	0.00	0.00	0.00	0.00
2	Interest & Finance Charges	0.00	0.00	0.00	0.00	0.00
3	Depreciation	1.21	1.20	1.16	1.34	1.32
4	O&M Expenses	53.87	56.95	60.21	63.65	67.29
5	Interest on Working Capital	1.63	1.69	1.76	1.89	1.97
6	Contribution to Contingency Reserve	1.80	1.80	1.81	2.01	2.02
7	Non Tariff Income	0.00	0.00	0.00	0.00	0.00
8	Income from Other Business	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	<b>58.50</b>	<b>61.63</b>	<b>64.94</b>	<b>68.90</b>	<b>72.61</b>

The Hon'ble Commission is requested to kindly approve the ARR as calculated above.

#### Commission Analysis:

**Table 11.16: Transmission ARR approved by Commission for 3rd MYT Period**

(Rs. Crores)						
Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	Return on Equity	0.00	0.00	0.00	0.00	0.00
2	Interest & Finance Charges	0.00	0.00	0.00	0.00	0.00
3	Depreciation	0.515	0.519	0.585	0.653	0.657
4	O&M Expenses	53.87	56.95	60.21	63.65	67.29
5	Interest on Working Capital	0.00	0.00	0.00	0.00	0.00
6	Contribution to Contingency Reserve	0.412	0.412	0.418	0.518	0.525
7	Non-Tariff Income	0.00	0.00	0.00	0.00	0.00

Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
8	Income from Other Business	0.00	0.00	0.00	0.00	0.00
	<b>Net ARR for Transmission</b>	<b>53.197</b>	<b>54.531</b>	<b>56.253</b>	<b>57.731</b>	<b>59.122</b>

### 11.16. Transmission Charges per Unit

#### Petitioner's submission

P&ED has calculated the Transmission charges in accordance with the Regulation 65 of The Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014:

Sl. No.	Particulars	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
1	ARR	58.50	61.63	64.94	68.90	72.61
2	Total MW Allocation	247.64	247.64	247.64	247.64	247.64
3	Total Energy Transferred at Dist. Periphery (MUs)	633.33	663.36	694.88	727.96	762.61
4	Transmission Charges (Rs ./MW/month)	196877.85	207408.03	218518.02	231844.21	244337.61
5	Transmission Charges (Rs ./MW/day)	6472.70	6818.89	7184.15	7622.28	8033.02
6	<b>Transmission Tariff (Rs ./kWH)</b>	<b>0.92</b>	<b>0.93</b>	<b>0.93</b>	<b>0.95</b>	<b>0.95</b>

The Hon'ble Commission is requested to kindly approve the Transmission Charges as calculated above.

#### Commissions Analysis

The Commission has calculated the transmission tariff with approved data as detailed in the table below.

**Table 11.17: Transmission charges approved by the Commission for 3rd MYT Period**

Rs.Crs

Sl. No.	Particulars	2023-24	2024-25	2025-26	2026-27	2027-28
1	Net ARR	53.197	54.531	56.253	57.731	59.122
2	Total Allocation in MWs	248.14	248.14	248.14	248.14	248.14



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3	Total Energy Transferred at State. Periphery (MUs)	662.37	683.17	707.95	732.85	761.58
4	Transmission Charges (Rs./MW/ month)	178652.51	183132.51	188915.53	193879.13	198550.55
5	Transmission Charges (Rs./MW /day)	5857.46	6020.79	6210.92	6374.11	6527.69
6	<b>Transmission Tariff (Rs./kWH)</b>	<b>0.803</b>	<b>0.798</b>	<b>0.795</b>	<b>0.788</b>	<b>0.776</b>

## 12. ARR of Generation Function for MYT period from FY 2023-24 to FY2027-28

### 12.1. Background

The Power & Electricity Department, Government of Mizoram owns **11 (eleven)** Small Hydro Projects with installed capacity of 34.85 MW. Accordingly, the P&ED has submitted the proposal for determination of tariff as per The Joint Electricity Regulatory Commission for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 read along with First Amendments Regulations, 2014. P&ED hereby submits its 3<sup>rd</sup> Control period MYT petition for approval of Generation Charges for the FY 2023-24 to FT 2027-28.

This petition is being submitted in compliance with the provisions of Renewable Energy Sources Tariff Regulations, 2010 and its subsequent amendments. The petitioner has attempted to comply with the various guidelines in the Act and regulations within the limitations of availability of data.

P&ED is filing the petition based on the past performance and expected changes in each element of cost and revenue for the ensuing year. P&ED has studied the past trends and taken cognizance of other internal and external developments to estimate the likely performance during the period i.e., FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28.

### 12.2. Details of SHPS (Small Hydro Power Stations)

Details of Own SHPS are provided in the table below.

**Table 12.1: Details of Small Hydro Power Station projected by P & ED**

Sl. No.	Name of Station	Installed Capacity (MW)	Date of COD
1	Serlui- 'A'	1.00	24.04.1984
2	Tuirivang	0.30	14.08.1989
3	Khawiva	1.05	08.12.1988
4	Tuipui	0.50	15.12.1991
5	Teirei	3.00	12.10.1999
6	Kau-Tlabung	3.00	05.05.2005
7	Maicham-I	2.00	05.01.1996

Sl. No.	Name of Station	Installed Capacity (MW)	Date of COD
8	Tuipanglui	3.00	17.12.2004
9	Lamsial	0.50	26.08.2008
10	Maicham-II	3.00	11.11.2009
11	<b>Tlawva (New)</b>	<b>5.00</b>	11.08.2022
12	Serlui- 'B'	12.00	Not yet Commissioned
	<b>Grand Total</b>	<b>34.35</b>	

In this regard it is submitted that **since the Serlui 'B' SHP has not been commissioned till date the same has not been considered for the calculation of Capital cost, ARR & Generation Tariff thereof** in accordance with The Joint Electricity Regulatory Commission for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 read along with First Amendments Regulations, 2014.

However, the above SHP is generating in-firm power and the same is being injected in the state grid. The rate at which the energy supplied by the SHP is to be considered while arriving at the total cost of generation has been dealt with separately in the subsequent section of this submission.

Further, it is submitted that **P&ED is not operating the Khawiva SHP, Tuipui SHP, Teirei SHP & Kau-Tlabung SHP and the SHPs have been operated and managed by Amazon Engineering. However, P&ED has procured the energy generated from the above SHPs and has incorporated the same in the own generation for the year.**

### **12.3. Aggregate Revenue Requirement for the period of FY 2023-24 to FY2027-28**

This section outlines the Aggregate Revenue Requirement of the P&ED for the period i.e., FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28, which takes into consideration:

- Actual Performance in FY 2021-22;
- Estimated Performance for FY 2022-23 based on the Actual performance for the period 01.04.2022 to 30.09.2022;
- Projection based on the Actual performance in FY 2021-22 and estimated performance in FY 2022-23;
- Principles / Normative Parameters outlined in Tariff Regulations of JERC (M&M).

Past trends have been taken into cognizance in case of certain elements as deemed necessary. The petition has been structured in the following manner:

**SHP details**

- Installed capacity & COD
- Capital Cost
- Design Energy

**Proposed Capital Expenditure and capitalization**

- Scheme wise details
- Capital Expenditure
- Asset Capitalisation

**Determination of the Aggregate Revenue Requirement**

- Loan & Finance Charges
- Depreciation
- Return on Equity
- Interest on Working Capital
- Operation and Maintenance Expenses

**12.4. Capital Cost**

Regulation 28 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 provides that the capital cost of Small Hydro Projects shall be determined as per the normative parameters defined in the regulation. The extract of the regulation is reproduced below:

- (1) The normative capital cost for small hydro projects during first year of Control Period (FY 2012-13) shall be as follows:

**Table 12.2: Normative Capital Cost**

Sl. No	Project Size	Capital Cost (Rs. in Lakh /MW)
1	Below 5 MW	770
2	5 MW to 25 MW	700

- (2) The capital cost for subsequent years shall be determined on the basis of indexation formula as outlined under Regulation 29.

Further, regulation 29 provides the Capital Cost Indexation Mechanism. The provisions of the regulation are reproduced below:

“The following indexation mechanism shall be applicable in case of small hydro power projects for adjustments in capital cost over the Control Period with the changes in Wholesale Price Index for **Steel and Electrical Machinery**.

$$CC(n) = P\&M(n) * (1+F1+F2+F3)$$

$$P\&M(n) = P\&M(0) * (1+d(n))$$

$$d(n) = [a * \{(SI(n-1)/SI(0)) - 1\} + b * \{(EI(n-1)/EI(0)) - 1\}] / (a+b)$$

**Where,**

**CC(n)** = Capital Cost for nth year

**P&M(n)** = Plant and Machinery Cost for nth year

**P&M(0)** = Plant and Machinery Cost for the base year

**Note:** - **P&M(0)** is to be computed by dividing the base capital cost (for the first year of the control period) by  $(1+F1+F2+F3)$  i.e.

**Table 12.3: Base Capital cost**

Small hydro Project	Base Capital Cost (Rs. Lakh/MW)	Factor (1+F1+F2+F3)	P&M (0) (Rs. Lakh/MW)
SHP (<5MW)	770	1.40	550
SHP (5 - 25 MW)	700	1.40	500

**d(n)** = Capital Cost escalation factor for year (n) of Control Period

**SI(n-1)** = Average WPI Steel Index prevalent for calendar year (n-1) of the Control Period

**SI(0)** = Average WPI Steel Index prevalent for calendar year (0) at the beginning of the Control Period **i.e. April,2011 to December March,2012**

**EI(n-1)** = Average WPI Electrical Machinery Index prevalent for calendar year (n-1) of the Control Period.

**EI(0)** = Average WPI Electrical and Machinery Index prevalent for calendar year at the beginning of the Control Period **i.e. April,2011 to December March,2012**

**a** = Constant to be determined by Commission from time to time, (In default it is 0.6), for weightage to **Steel Index**.

**b** = Constant to be determined by Commission from time to time, (In default it is 0.4), for weightage to **Electrical Machinery Index**.

**F1** = Factor for Land and Civil Work (0.16)

**F2** = Factor for Erection and commissioning (0.10)

**F3** = Factor for IDC and Financing Cost (0.14)

Capital Cost of the SHPS has been calculated in accordance with the above defined norms and mechanism. The calculation of index capital cost is detailed below.

**Table 12.4: Indexed Capital Cost**

Sl. No.	Factors	Reference Year	Value
i	d(n)	2022-23	
ii	SI(n-1)	2021-22	126.50
iii	SI(0)	2011-12	100.00
iv	EI (n-1)	2021-22	122.30
v	EI (0)	2011-12	100.00
vi	a		0.60
vii	b		0.40
viii	F1+F2+F3		0.40
ix	P&M(0)	<5 MWs	550.00
X	P&M(0)	5MW to 25 MWs	500

**For <5 MW Category**

$$\begin{aligned} d(n) &= [a*\{(SI(n-1)/SI(0))-1\}+b*\{(EI(n-1)/EI(0))-1\}]/(a+b) \\ &= [0.6\{(126.50/100.00)-1\}+0.40\{(122.30/100.00)-1\}]/(0.60+0.40) \\ &= \mathbf{0.248} \end{aligned}$$

$$\begin{aligned} P\&M(n) &= P\&M(0)*\{1+d(n)\} \\ &= 550\{1+ 0.248\} \\ &= \mathbf{686.51} \end{aligned}$$

$$\begin{aligned} CC(n) &= P\&M(n)*(1+F1+F2+F3) \\ &= 686.51(1+0.40) \\ &= \mathbf{961.11} \end{aligned}$$

**For 5 to 25 MW Category**

$$\begin{aligned} d(n) &= [a*\{(SI(n-1)/SI(0))-1\}+b*\{(EI(n-1)/EI(0))-1\}]/(a+b) \\ &= [0.6\{(126.50/100.00)-1\}+0.40\{(122.30/100.00)-1\}]/(0.60+0.40) \\ &= \mathbf{0.248} \end{aligned}$$

$$P\&M(n) = P\&M(0)*\{1+d(n)\}$$

$$= 500\{1+ 0.248\}$$

$$= \mathbf{624.10}$$

$$\mathbf{CC(n)} = P\&M(n) \cdot (1+F_1+F_2+F_3)$$

$$= 624.10 (1+0.40)$$

$$= \mathbf{873.74}$$

Therefore, the indexed cost of project per MW is **Rs. 961.11 Lakhs** for project belongs to <5MW category & Rs.873.74 Lakhs for projects belongs to 5 and up to 25 MW category. The indexed capital costs of the 11 SHPs are accordingly calculated below.

**Table 12.5: Capital Cost projected by P & ED for SHPS for FY2022-23  
(Rs. Crs)**

Sl. No.	Name of Station	Installed Capacity (MW)	Capital Cost (@Rs . 961.11/873.74 Lakhs/MW)
1	Serlui 'A'	1.00	9.61
2	Tuirivang	0.30	2.88
<b>3</b>	<b>Khawiva</b>	<b>1.05</b>	<b>10.09</b>
<b>4</b>	<b>Tuipui</b>	<b>0.50</b>	<b>4.81</b>
<b>5</b>	<b>Teirei</b>	<b>3.00</b>	<b>28.83</b>
<b>6</b>	<b>Kau-Tlabung</b>	<b>3.00</b>	<b>28.83</b>
7	Maicham-I	2.00	19.22
8	Tuipanglui	3.00	28.83
9	Lamsial	0.50	4.81
10	Maicham-II	3.00	28.83
11	Tlawva	5.00	43.69
	<b>G.Total</b>	<b>22.35</b>	<b>210.43</b>

### Commission's Analysis

P&ED in its additional information has furnished that **Serlui A and Tuipanglui are not in operation**. Barring the above only 5 old stations are in-operation plus newly commissioned 5MW Tlawva SHP, therefore Commission considers Capital costs of the balance (6) four Hydro stations (includes new plant Tlawva also) which are in operation as projected by P & ED and the details are Tabulated below.

**Table 12.6: Capital Cost approved by the Commission for FY 2023-24 to FY 2027-28  
(Rs. Crs)**

Sl. No.	Name of Station	Installed Capacity (MW)	Capital Cost@ (Rs . 9.6111/ Rs . 8.7374
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			<b>Crs/MW)</b>
1	Serlui 'A'	1.00	9.61
2	Tuirivang	0.30	2.88
3	Maicham-I	2.00	19.22
4	Tuipanglui	3.00	28.83
5	Lamsial	0.50	4.81
6	Maicham-II	3.00	28.83
7	Tlawva	5.00	43.69
	<b>Grand Total</b>	<b>11.80</b>	<b>137.87</b>

## 12.5. DETERMINATION OF ANNUAL REVENUE REQUIREMENT

### 12.5.1. Loan and Finance Charges

Loan has not been availed by the P&ED, therefore interest on Loan and Finance charges has been considered as Nil for calculating of the AFC.

#### Commission Analysis:

The interest & finance charges on account of availment of Long term Loans for construction of projects was not considered for in this tariff calculation as the Licensee had categorically stated about non-availing of any outside loan for the above projects.

### 12.5.2. O & M expenses

#### Petitioner's Submission

Operation and Maintenance Expenses has been calculated in accordance with the regulation 18 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 along with amendments. The Operation and Maintenance Expenses of the SHPs for the control period is provided below:

**Table 12.7: Operation and Maintenance Expenses projected by P&ED**

(Rs. Crs)

Sl. No.	Name of Station	Capacity (MWs)	Normative O&M Exp/MW			3rd MYT Control Period 5 years				
			Norm/MW	Lakhs/FY12-13	Escl.rate /Yr	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
1	Serlui 'A'	1.00	25	25.00	5.72%	0.46	0.49	0.52	0.54	0.58
2	Tuirivang	0.30	25	7.50	5.72%	0.14	0.15	0.15	0.16	0.17
3	Khawiva	1.05	25	26.25	5.72%	0.48	0.51	0.54	0.57	0.6
4	Tuipui	0.50	25	12.50	5.72%	0.23	0.24	0.26	0.27	0.29
5	Maicham-I	2.00	25	50.00	5.72%	0.92	0.97	1.03	1.09	1.15
6	Teirei	3.00	25	75.00	5.72%	1.38	1.46	1.55	1.63	1.73
7	Tuipanglui	3.00	25	75.00	5.72%	1.38	1.46	1.55	1.63	1.73



Sl. No.	Name of Station	Capacity (MWs)	Normative O&M Exp/MW			3rd MYT Control Period 5 years				
			Norm/MW	Lakhs/ FY12-13	Escl.rate /Yr	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
8	Kau-	3.00	25	75.00	5.72%	1.38	1.46	1.55	1.63	1.73
9	Lamsial	0.50	25	12.50	5.72%	0.23	0.24	0.26	0.27	0.29
10	Maicham-II	3.00	25	75.00	5.72%	1.38	1.46	1.55	1.63	1.73
11	Tlawva	5.00	25	125.00	5.72%	2.30	2.44	2.58	2.72	2.88

Table 12.8: O &amp; M expenses arrived at by the Commission for 5 years MYT Period

(Rs. Cr)

Sl. No.	Name of Station	Capacity (MWs)	Normative O&M Exp/MW			3rd MYT Control Period 5 years				
			Norm/MW	Lakhs/ FY12-13	Escl.rate /Yr	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
1	Serlui 'A'	1.00	25	25.00	5.72%	0.461	0.487	0.515	0.545	0.576
2	Tuirivang	0.30	25	7.50	5.72%	0.138	0.146	0.155	0.163	0.173
3	Khawiva	1.05	25	26.25	5.72%	0.484	0.512	0.541	0.572	0.605
4	Tuipui	0.50	25	12.50	5.72%	0.230	0.244	0.258	0.272	0.288
5	Maicham-	2.00	25	50.00	5.72%	0.922	0.975	1.030	1.089	1.152
6	Teirei	3.00	25	75.00	5.72%	1.383	1.462	1.546	1.634	1.728
7	Tuipanglui	3.00	25	75.00	5.72%	1.383	1.462	1.546	1.634	1.728
8	Kau-	3.00	25	75.00	5.72%	1.383	1.462	1.546	1.634	1.728
9	Lamsial	0.50	25	12.50	5.72%	0.230	0.244	0.258	0.272	0.288
10	Maicham-	3.00	25	75.00	5.72%	1.383	1.462	1.546	1.634	1.728
11	Tlawva	5.00	25	90.00	5.72%	1.659	1.754	1.855	1.961	2.073
		<b>22.35</b>	<b>Grand Total</b>			<b>9.657</b>	<b>10.210</b>	<b>10.794</b>	<b>11.411</b>	<b>12.064</b>

For Tuirivang HEP, the P&ED had not claimed any depreciation and in MYT order also no depreciation, hence the station is considered not in operation at all. Hence no O&M Expenses given for this station.

In adopting the normative O&M cost per MW, the cost adopted for 5 MW SHP plant Tlawva, the cost approved in the amendment on 8<sup>th</sup> August 2014 for Renewable Energy Regulation 2010 was Rs.18 lakhs /MW. But the P&ED had claimed Rs125 Lakhs/MW in their petition is now revised.

**The Commission approves the full O&M expenses at Rs. 2.40Cr based on the methodology adopted in the Tariff Order Dt 12.03.2018 as against the same Rs.2.53Cr projected by P&ED for FY 2022-23. But in the Distribution ARR filings, the licensee has adopted the employee cost for the entire sector, stating its difficulty in segregation of these charges each functional wise. Hence, the**

Commission feels it appropriate to adopt 50% of the total O&M cost to be attributable towards Employee cost towards Generation function. Therefore, the O&M Expenses are to be reduced to the extent of Rs.1.20Cr in order to avoid the duplication of employee cost already reflected in full under Distribution function. In addition, for meeting the O&M expenses of the stations under Amazon Engineering, the Commission is considering to allow it under O&M expenses to the tune of Rs.1.67Cr instead of allowing it under the power purchase cost. Therefore, the overall O&M expenses allowed is Rs.2.87Cr (i.e., Rs . 1.20crs plus Rs . 1.67crs towards O&M maintenance cost of four stations managed by Amazon Engineering).

### 12.5.3. Depreciation

#### Petitioner's Submission

Depreciation has been calculated in accordance with the regulation 15 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations,2010 along with amendments. The depreciation of the SHPs for the control period is provided below:

**Table 12.9: Calculation of Depreciation for MYT period projected by P & ED, Mizoram (Rs. Crs)**

Calculation of Depreciation the FY 2023-24								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY23-24
1	Serlui 'A'	24.04.1984	9.61	39	-4	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	34	1	0.15	0.03	0.03
3	Khawiva	08.12.1988	10.09	35	0	0.53	0.12	0.12
4	Tuipui	15.12.1991	4.81	32	3	0.25	0.06	0.06
5	Maicham-I	05.01.1996	19.22	27	8	1.01	0.23	0.23
6	Teirei	12.10.1999	28.83	24	11	1.51	0.34	0.34
7	Tuipanglui	17.12.2004	28.83	19	16	1.51	0.34	0.34
8	Kau-Tlabung	05.05.2005	28.83	18	17	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	15	20	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	14	21	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	1	34	2.29	0.51	2.29
								4.15

Calculation of Depreciation the FY 2024-25								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY24-25

Calculation of Depreciation the FY 2024-25								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY24-25
1	Serlui 'A'	24.04.1984	9.61	40	-5	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	35	0	0.15	0.03	0.03
3	<b>Khawiva</b>	08.12.1988	10.09	36	-1	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	33	2	0.25	0.06	0.06
5	Maicham-I	05.01.1996	19.22	28	7	1.01	0.23	0.23
6	<b>Teirei</b>	12.10.1999	28.83	25	10	1.51	0.34	0.34
7	Tuipanglui	17.12.2004	28.83	20	15	1.51	0.34	0.34
8	<b>Kau-Tlabung</b>	05.05.2005	28.83	19	16	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	16	19	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	15	20	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	2	33	2.29	0.51	2.29
								<b>4.03</b>

Calculation of Depreciation the FY 2025-26								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY25-26
1	Serlui 'A'	24.04.1984	9.61	41	-6	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	36	-1	0.15	0.03	0
3	<b>Khawiva</b>	08.12.1988	10.09	37	-2	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	34	1	0.25	0.06	0.06
7	Maicham-I	05.01.1996	19.22	29	6	1.01	0.23	0.23
5	<b>Teirei</b>	12.10.1999	28.83	26	9	1.51	0.34	0.34
8	Tuipanglui	17.12.2004	28.83	21	14	1.51	0.34	0.34
6	<b>Kau-Tlabung</b>	05.05.2005	28.83	20	15	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	17	18	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	16	19	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	3	32	2.29	0.51	2.29
								<b>4.00</b>

Calculation of Depreciation the FY 2026-27								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY26-27
1	Serlui 'A'	24.04.1984	9.61	42	-7	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	37	-2	0.15	0.03	0
3	<b>Khawiva</b>	08.12.1988	10.09	38	-3	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	35	0	0.25	0.06	0.06
7	Maicham-I	05.01.1996	19.22	30	5	1.01	0.23	0.23
5	<b>Teirei</b>	12.10.1999	28.83	27	8	1.51	0.34	0.34
8	Tuipanglui	17.12.2004	28.83	22	13	1.51	0.34	0.34
6	<b>Kau-Tlabung</b>	05.05.2005	28.83	21	14	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	18	17	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	17	18	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	4	31	2.29	0.51	2.29
								<b>4.00</b>

Calculation of Depreciation the FY 2027-28								
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Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY27-28
1	Serlui 'A'	24.04.1984	9.61	43	-8	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	38	-3	0.15	0.03	0
3	<b>Khawiva</b>	08.12.1988	10.09	39	-4	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	36	-1	0.25	0.06	0
7	Maicham-I	05.01.1996	19.22	31	4	1.01	0.23	0.23
5	<b>Teirei</b>	12.10.1999	28.83	28	7	1.51	0.34	0.34
8	Tuipanglui	17.12.2004	28.83	23	12	1.51	0.34	0.34
6	<b>Kau-Tlabung</b>	05.05.2005	28.83	22	13	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	19	16	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	18	17	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	5	30	2.29	0.51	2.29
								<b>3.94</b>

### Commission's Analysis

The depreciation rate as revised in the Regulation for Renewable Energy Sources (first Amendment) regulation 2014 under clause-8 is adopted on the useful life of 35 (thirty-five) year for the Small Hydro Plant indicated in the said Regulation 2014. These rates are applied on the Capital cost as filed by the licensee at Table-4.3 for capital cost in their ARR filing submission without change. The details of the depreciation calculation & approved by the Hon'ble Commission is tabulated below year wise for the MYT.

**Table 12.10: Calculation of Depreciation by the Commission and approved for MYT**

(Rs. Cr)

Calculation of Depreciation the FY 2023-24								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY23-24
1	Serlui 'A'	24.04.1984	9.61	39	-4	0.5	0.11	<b>0</b>
2	Tuirivang	14.08.1989	2.88	34	1	0.15	0.03	<b>0.03</b>
3	<b>Khawiva</b>	08.12.1988	10.09	35	0	0.53	0.12	<b>0.00</b>
4	<b>Tuipui</b>	15.12.1991	4.81	32	3	0.25	0.06	<b>0.06</b>
5	Maicham-I	05.01.1996	19.22	27	8	1.01	0.23	<b>0.23</b>
6	<b>Teirei</b>	12.10.1999	28.83	24	11	1.51	0.34	<b>0.34</b>
7	Tuipanglui	17.12.2004	28.83	19	16	1.51	0.34	<b>0.34</b>
8	<b>Kau-Tlabung</b>	05.05.2005	28.83	18	17	1.51	0.34	<b>0.34</b>
9	Lamsial	26.08.2008	4.81	15	20	0.25	0.06	<b>0.06</b>
10	Maicham-II	11.11.2009	28.83	14	21	1.51	0.34	<b>0.34</b>
11	Tlawva	11.08.2022	43.69	1	34	2.29	0.51	<b>2.29</b>
								<b>4.03</b>

Calculation of Depreciation the FY 2024-25								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY24-25
1	Serlui 'A'	24.04.1984	9.61	40	-5	0.5	0.11	<b>0</b>

Calculation of Depreciation the FY 2024-25								
Sl. No.	Name of Station	Date of COD	Capital Cost	No.of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY24-25
2	Tuirivang	14.08.1989	2.88	35	0	0.15	0.03	0.00
3	<b>Khawiva</b>	08.12.1988	10.09	36	-1	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	33	2	0.25	0.06	0.06
5	Maicham-I	05.01.1996	19.22	28	7	1.01	0.23	0.23
6	<b>Teirei</b>	12.10.1999	28.83	25	10	1.51	0.34	0.34
7	Tuipanglui	17.12.2004	28.83	20	15	1.51	0.34	0.34
8	<b>Kau-Tlabung</b>	05.05.2005	28.83	19	16	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	16	19	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	15	20	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	2	33	2.29	0.51	2.29
								<b>4.00</b>

Calculation of Depreciation the FY 2025-26								
Sl. No.	Name of Station	Date of COD	Capital Cost	No.of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY25-26
1	Serlui 'A'	24.04.1984	9.61	41	-6	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	36	-1	0.15	0.03	0
3	<b>Khawiva</b>	08.12.1988	10.09	37	-2	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	34	1	0.25	0.06	0.06
7	Maicham-I	05.01.1996	19.22	29	6	1.01	0.23	0.23
5	<b>Teirei</b>	12.10.1999	28.83	26	9	1.51	0.34	0.34
8	Tuipanglui	17.12.2004	28.83	21	14	1.51	0.34	0.34
6	<b>Kau-Tlabung</b>	05.05.2005	28.83	20	15	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	17	18	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	16	19	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	3	32	2.29	0.51	2.29
								<b>4.00</b>

Calculation of Depreciation the FY 2026-27								
Sl. No.	Name of Station	Date of COD	Capital Cost	No.of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY26-27
1	Serlui 'A'	24.04.1984	9.61	42	-7	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	37	-2	0.15	0.03	0
3	<b>Khawiva</b>	08.12.1988	10.09	38	-3	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	35	0	0.25	0.06	0.00
7	Maicham-I	05.01.1996	19.22	30	5	1.01	0.23	0.23
5	<b>Teirei</b>	12.10.1999	28.83	27	8	1.51	0.34	0.34
8	Tuipanglui	17.12.2004	28.83	22	13	1.51	0.34	0.34
6	<b>Kau-Tlabung</b>	05.05.2005	28.83	21	14	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	18	17	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	17	18	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	4	31	2.29	0.51	2.29
								<b>3.94</b>

Calculation of Depreciation the FY 2027-28								
Sl. No.	Name of Station	Date of COD	Capital Cost	No. of Years		Depreciation		
				since COD	Balance Life	upto 12th yr	from 13th Yr	FY27-28
1	Serlui 'A'	24.04.1984	9.61	43	-8	0.5	0.11	0
2	Tuirivang	14.08.1989	2.88	38	-3	0.15	0.03	0
3	<b>Khawiva</b>	08.12.1988	10.09	39	-4	0.53	0.12	0
4	<b>Tuipui</b>	15.12.1991	4.81	36	-1	0.25	0.06	0
7	Maicham-I	05.01.1996	19.22	31	4	1.01	0.23	0.23
5	<b>Teirei</b>	12.10.1999	28.83	28	7	1.51	0.34	0.34
8	Tuipanglui	17.12.2004	28.83	23	12	1.51	0.34	0.34
6	<b>Kau-Tlabung</b>	05.05.2005	28.83	22	13	1.51	0.34	0.34
9	Lamsial	26.08.2008	4.81	19	16	0.25	0.06	0.06
10	Maicham-II	11.11.2009	28.83	18	17	1.51	0.34	0.34
11	Tlawva	11.08.2022	43.69	5	30	2.29	0.51	2.29
								<b>3.94</b>

### Petitioners Submission

#### Funding of SHPs through Grants – Calculation of Depreciation

It is submitted that the State of Mizoram has been granted a special status similar to that of other North-Eastern States. Government of India provides special assistance for the development of infrastructure facilities in these States. Accordingly, the infrastructure projects of the State of Mizoram, including those of P&ED are being supported by issue of Grants through various Central Government Ministries and Agencies like Ministry of Power (MoP) through schemes of APDRP and RGGVY, Ministry of New and Renewable Energy (MNRE), Ministry of Development of North Eastern Region (DONER) and North Eastern Council (NEC).

Asset wise funding pattern is not available. However, in majority of the cases, the portion of grants is 90% of the total project cost. In view of the above, it is assumed that the 90% of the total Gross Fixed Assets are being funded through Grants. Accordingly, the proportionate amount to the extent of 90% of the total depreciation is deducted from the total depreciation to arrive at the amount of depreciation chargeable in the ARR. The table below indicates the depreciation of the SHPs calculated at 10% of total depreciation and the same has been considered while projecting the ARR of SHPs for the FY 2023-24, FY 2024-25, FY 2025-26, FY 2026-27 & FY 2027-28.

The details of depreciation amount preferred by the Licensee is tabulated below:

Rs.Crs

Sl. No.	Name of Station	Year-wise Depreciation derived					10% value of Depreciation claimed				
		23-24	24-25	25-26	26-27	27-28	23-24	24-25	25-26	26-27	27-28
1	Serlui 'A'										
2	Tuirivang	0.03	0.03								
3	Khawiva	0.12					0.01				
4	Tuipui	0.06	0.06	0.06	0.06		0.01	0.01	0.01	0.01	
5	Maicham-I	0.23	0.23	0.23	0.23	0.23	0.02	0.02	0.02	0.02	0.02
6	Teirei	0.34	0.34	0.34	0.34	0.34	0.03	0.03	0.03	0.03	0.03
7	Tuipanglui	0.34	0.34	0.34	0.34	0.34	0.03	0.03	0.03	0.03	0.03
8	KauTlabung	0.34	0.34	0.34	0.34	0.34	0.03	0.03	0.03	0.03	0.03
9	Lamsial	0.06	0.06	0.06	0.06	0.06	0.01	0.01	0.01	0.01	0.01
10	Maicham-II	0.34	0.34	0.34	0.34	0.34	0.03	0.03	0.03	0.03	0.03
11	Tlawva	2.29	2.29	2.29	2.29	2.29	0.23	0.23	0.23	0.23	0.23
	<b>G. Total</b>	<b>4.15</b>	<b>4.03</b>	<b>4.00</b>	<b>4.00</b>	<b>3.94</b>	<b>0.40</b>	<b>0.39</b>	<b>0.39</b>	<b>0.39</b>	<b>0.38</b>

### Commission Analysis

Therefore, Commission approves depreciation for the above six HEPs for the MYT period from FY 2023-24 to 2027-28 being the 1% of the full depreciation on account of utilisation of major Government funds for create Fixed Assets. As seen from the audited Accounts of FY 2021-22, only 0.361% of Own fund appears to have availed upon scrutiny of Audited accounts. Hence allowing at 1% of the Total depreciation would also would be more generous from Commission side. The calculation detail is also indicated below for reference.

Sl. No.	Details of Items	2021-22	2020-21
		Rs.Lakhs	Rs. Lakhs
1	Capital Subsidy (Sch-34)	256003.46	249175.56
2	Work-in-Progress (Sch-21)	114305.75	112083.88
3	<b>Cap. Subsidy less WIP - (1-2)</b>	<b>141697.71</b>	<b>137091.68</b>
4	Original Cost of Fixed Assets (Stat-8)	142211.30	137916.10
5	<b>Own investment - (4-3)</b> [Excess of OCFA over utilised subsidy]	<b>513.59</b>	<b>824.42</b>
6	% of Own funds to OCFA (5/4)	<b>0.36%</b>	<b>0.60%</b>
7	% of Cap. Subsidy to OCFA - (3/4)	99.64%	99.40%

The eligible amount of depreciation allowed by the Commission against each year of the MYT period of 5 years is at 1% of Total depreciation is tabulated below for comprehension.

Rs. Crores

Sl.	Name of	Year-wsie Depreciation derived	1% value of Total Depreciation allowed
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No.	Station	23-24	24-25	25-26	26-27	27-28	23-24	24-25	25-26	26-27	27-28
1	Serlui 'A'										
2	Tuirivang	0.03					0.0003				
3	Khawiva										
4	Tuipui	0.06	0.06	0.06			0.0006	0.0006	0.0006		
5	Maicham-I	0.23	0.23	0.23	0.23	0.23	0.0023	0.0023	0.0023	0.0023	0.0023
6	Teirei	0.34	0.34	0.34	0.34	0.34	0.0034	0.0034	0.0034	0.0034	0.0034
7	Tuipanglui	0.34	0.34	0.34	0.34	0.34	0.0034	0.0034	0.0034	0.0034	0.0034
8	KauTlabung	0.34	0.34	0.34	0.34	0.34	0.0034	0.0034	0.0034	0.0034	0.0034
9	Lamsial	0.06	0.06	0.06	0.06	0.06	0.0006	0.0006	0.0006	0.0006	0.0006
10	Maicham-II	0.34	0.34	0.34	0.34	0.34	0.0034	0.0034	0.0034	0.0034	0.0034
11	Tlawva	2.29	2.29	2.29	2.29	2.29	0.0229	0.0229	0.0229	0.0229	0.0229
	<b>Gr. Total</b>	<b>4.03</b>	<b>4.00</b>	<b>4.00</b>	<b>3.94</b>	<b>3.94</b>	<b>0.0403</b>	<b>0.0400</b>	<b>0.0400</b>	<b>0.0394</b>	<b>0.0394</b>

**12.5.4.****12.5.5. Return on equity****Petitioner's submission**

The Fixed Assets of P&ED are funded through the budgetary support by the Government of Mizoram and Grants and Aids through Financial Institutions under various schemes like RGGVY, APDRP etc. Approximately 90% of the funding is done through the Government funding/Grants. However, in line with the previous orders of the Hon'ble Commission in this regard Return on Equity has not been considered for computing the ARR for the control period.

**Commission's Analysis**

**Under the circumstances explained supra the Commission didn't considered Return on Equity during the entire MYT period from FY 2023-24 to FY 2027-28. The Commission approves no ROE amount for entire 3<sup>rd</sup> MYT control period of 5 years.**

**12.5.6. Interest on Working Capital****Petitioner's submission**

Interest on working capital has been calculated in accordance with the regulation 17 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 along with amendments. The Interest on working capital of the SHPs for the control period is provided below:



Table 12.11: Interest on Working Capital for all MYT period projected by P &amp; ED

(Rs. Cr)

Calculation of Interest on Working Capital for the FY 2023-24						
Sl. No.	Name of Station	Operation & Maintenance Exp. For one Month	Receivables for two months	Maintenance Spares - 15% of O&M	Total	Interest
		One Month	Two Months	15%		12.30%
1	Serlui 'A'	0.04	0.08	0.07	0.19	0.02
2	Tuirivang	0.01	0.03	0.02	0.06	0.01
3	Khawiva	0.04	0.09	0.07	0.20	0.02
4	Tuipui	0.02	0.04	0.03	0.10	0.01
5	Maicham-I	0.08	0.17	0.14	0.38	0.05
6	Teirei	0.12	0.25	0.21	0.58	0.07
7	Tuipanglui	0.12	0.25	0.21	0.58	0.07
8	Kau-Tlabung	0.12	0.25	0.21	0.58	0.07
9	Lamsial	0.02	0.04	0.03	0.10	0.01
10	Maicham-II	0.12	0.25	0.21	0.58	0.07
11	Tlawva	0.19	0.45	0.35	0.99	0.12

(Rs. Cr)

Calculation of Interest on Working Capital for the FY 2024-25						
Sl. No.	Name of Station	Operation & Maintenance Exp. For one Month	Receivables for two months	Maintenance Spares - 15% of O&M	Total	Interest
		One Month	Two Months	15%		12.30%
1	Serlui 'A'	0.04	0.09	0.07	0.20	0.02
2	Tuirivang	0.01	0.03	0.02	0.06	0.01
3	Khawiva	0.04	0.09	0.08	0.21	0.03
4	Tuipui	0.02	0.04	0.04	0.10	0.01
5	Maicham-I	0.08	0.18	0.15	0.41	0.05
6	Teirei	0.12	0.27	0.22	0.61	0.07
7	Tuipanglui	0.12	0.27	0.22	0.61	0.07
8	Kau-Tlabung	0.12	0.27	0.22	0.61	0.07
9	Lamsial	0.02	0.04	0.04	0.10	0.01
10	Maicham-II	0.12	0.27	0.22	0.61	0.07
11	Tlawva	0.20	0.48	0.37	1.04	0.13

(Rs. Cr)

Calculation of Int on Working Capital for the FY 2025-26						
Sl. No.	Name of Station	Operation & Maintenance Exp. For one Month	Receivables for two months	Maintenance Spares - 15% of O&M	Total	Interest
		One Month	Two Months	15%		12.30%
1	Serlui 'A'	0.04	0.09	0.08	0.21	0.03

Calculation of Int on Working Capital for the FY 2025-26						
Sl. No.	Name of Station	Operation & Maintenance Exp. For one Month	Receivables for two months	Maintenance Spares - 15% of O&M	Total	Interest
		One Month	Two Months	15%		12.30%
2	Tuirivang	0.01	0.03	0.02	0.06	0.01
3	Khawiva	0.05	0.10	0.08	0.22	0.03
4	Tuipui	0.02	0.05	0.04	0.11	0.01
5	Maicham-I	0.09	0.19	0.15	0.43	0.05
6	Teirei	0.13	0.28	0.23	0.64	0.08
7	Tuipanglui	0.13	0.28	0.23	0.64	0.08
8	Kau-Tlabung	0.13	0.28	0.23	0.64	0.08
9	Lamsial	0.02	0.05	0.04	0.11	0.01
10	Maicham-II	0.13	0.28	0.23	0.64	0.08
11	Tlawva	0.21	0.50	0.39	1.10	0.14

(Rs. Cr)

Calculation of Int on Working Capital for the FY 2026-27						
Sl. No.	Name of Station	Operation & Maintenance Exp. For one Month	Receivables for two months	Maintenance Spares - 15% of O&M	Total	Interest
		One Month	Two Months	15%		12.30%
1	Serlui 'A'	0.05	0.10	0.08	0.22	0.03
2	Tuirivang	0.01	0.03	0.02	0.07	0.01
3	Khawiva	0.05	0.10	0.09	0.24	0.03
4	Tuipui	0.02	0.05	0.04	0.11	0.01
5	Maicham-I	0.09	0.20	0.16	0.45	0.06
6	Teirei	0.14	0.30	0.25	0.68	0.08
7	Tuipanglui	0.14	0.30	0.25	0.68	0.08
8	Kau-Tlabung	0.14	0.30	0.25	0.68	0.08
9	Lamsial	0.02	0.05	0.04	0.11	0.01
10	Maicham-II	0.14	0.30	0.25	0.68	0.08
11	Tlawva	0.23	0.53	0.41	1.16	0.14

(Rs. Cr)

Calculation of Int on Working Capital for the FY 2027-28						
Sl. No.	Name of Station	Operation & Maintenance Exp. For one Month	Receivables for two months	Maintenance Spares - 15% of O&M	Total	Interest
		One Month	Two Months	15%		12.30%
1	Serlui 'A'	0.05	0.10	0.09	0.24	0.03
2	Tuirivang	0.01	0.03	0.03	0.07	0.01
3	Khawiva	0.05	0.11	0.09	0.25	0.03
4	Tuipui	0.02	0.05	0.04	0.12	0.01
5	Maicham-I	0.10	0.21	0.17	0.48	0.06
6	Teirei	0.14	0.31	0.26	0.72	0.09
7	Tuipanglui	0.14	0.31	0.26	0.72	0.09
8	Kau-Tlabung	0.14	0.31	0.26	0.72	0.09
9	Lamsial	0.02	0.05	0.04	0.12	0.01
10	Maicham-II	0.14	0.31	0.26	0.72	0.09
11	Tlawva	0.24	0.55	0.43	1.23	0.15

### Commission's Analysis

As a matter of uniformity in principle in the case of interest on working capital the Commission approves NIL interest on working capital from FY 2023-24 onwards till end of FY 2027-28 due to non-availing of any kind of short-term loans by the Licensee not even in one occasion and any approval of this item would only burden the consumers unduly. This amount will be considered upon

**P&ED substantial its working capital loan availment in future for consideration by the Commission.**

### 12.5.7. Aggregate Revenue Requirement (ARR)

#### Petitioner's submission

The ARR of the SHPs has been arrived at based on the components of tariff as detailed in the previous sections. The table below provides the ARR of 11 SHPs.

**Table 12.12: Annual Revenue Requirement projected by P&ED for FY 2023-24 (Rs. Cr)**

FY 2023-24	O&M Exps	RoE	Int. on Loan	Deprcn	Int. on W/Capital	Grand Total
Serlui 'A'	0.46	0	0	0	0.02	<b>0.48</b>
Tuirivang	0.14	0	0	0	0.01	<b>0.15</b>
Khawiva	0.48	0	0	0.01	0.02	<b>0.52</b>
Tuipui	0.23	0	0	0.01	0.01	<b>0.25</b>
Maicham-I	0.92	0	0	0.02	0.05	<b>0.99</b>
Teirei	1.38	0	0	0.03	0.07	<b>1.49</b>
Tuipanglui	1.38	0	0	0.03	0.07	<b>1.49</b>
Kau-Tlabung	1.38	0	0	0.03	0.07	<b>1.49</b>
Lamsial	0.23	0	0	0.01	0.01	<b>0.25</b>
Maicham-II	1.38	0	0	0.03	0.07	<b>1.49</b>
Tlawva	2.30	0	0	0.23	0.12	<b>2.66</b>
<b>Gr. Total</b>	<b>10.30</b>	<b>0</b>	<b>0</b>	<b>0.41</b>	<b>0.53</b>	<b>11.25</b>

(Rs. Cr)

FY2024-25	O&M Exps	RoE	Int. on Loan	Deprcn	Int. on W/Capital	Grand Total
Serlui 'A'	0.49	0	0	0	0.02	<b>0.51</b>
Tuirivang	0.15	0	0	0	0.01	<b>0.16</b>
Khawiva	0.51	0	0	0	0.03	<b>0.54</b>
Tuipui	0.24	0	0	0.01	0.01	<b>0.26</b>
Maicham-I	0.97	0	0	0.02	0.05	<b>1.05</b>
Teirei	1.46	0	0	0.03	0.07	<b>1.57</b>
Tuipanglui	1.46	0	0	0.03	0.07	<b>1.57</b>
Kau-Tlabung	1.46	0	0	0.03	0.07	<b>1.57</b>
Lamsial	0.24	0	0	0.01	0.01	<b>0.26</b>
Maicham-II	1.46	0	0	0.03	0.07	<b>1.57</b>
Tlawva	2.44	0	0	0.23	0.13	<b>2.79</b>
<b>Gr. Total</b>	<b>10.89</b>	<b>0</b>	<b>0</b>	<b>0.40</b>	<b>0.56</b>	<b>11.85</b>

Rs.Crs

FY2025-26	O&M Exps	RoE	Int. on Loan	Deprcn	Int. on W/Capital	Grand Total
Serlui 'A'	0.52	0	0	0	0.03	0.54
Tuirivang	0.15	0	0	0	0.01	0.16
Khawiva	0.54	0	0	0	0.03	0.57
Tuipui	0.26	0	0	0.01	0.01	0.28
Maicham-I	1.03	0	0	0.02	0.05	1.11
Teirei	1.55	0	0	0.03	0.08	1.66
Tuipanglui	1.55	0	0	0.03	0.08	1.66
Kau- Tlabung	1.55	0	0	0.03	0.08	1.66
Lamsial	0.26	0	0	0.01	0.01	0.28
Maicham-II	1.55	0	0	0.03	0.08	1.66
Tlawva	2.58	0	0	0.23	0.14	2.94
<b>Total</b>	<b>11.51</b>	<b>0</b>	<b>0</b>	<b>0.40</b>	<b>0.59</b>	<b>12.51</b>

Rs.Crs

FY2026-27	O&M Exps	RoE	Int. on Loan	Deprcn	Int. on W/Capital	Grand Total
Serlui 'A'	0.54	0	0	0	0.03	0.57
Tuirivang	0.16	0	0	0	0.01	0.17
Khawiva	0.57	0	0	0	0.03	0.60
Tuipui	0.27	0	0	0.01	0.01	0.29
Maicham-I	1.09	0	0	0.02	0.06	1.17
Teirei	1.63	0	0	0.03	0.08	1.75
Tuipanglui	1.63	0	0	0.03	0.08	1.75
Kau- Tlabung	1.63	0	0	0.03	0.08	1.75
Lamsial	0.27	0	0	0.01	0.01	0.29
Maicham-II	1.63	0	0	0.03	0.08	1.75
Tlawva	2.72	0	0	0.23	0.14	3.10
<b>Total</b>	<b>12.17</b>	<b>0</b>	<b>0</b>	<b>0.40</b>	<b>0.63</b>	<b>13.20</b>

Rs.Crores

2027-28	O&M Exps	RoE	Int. on Loan	Deprcn	Int. on W/Capital	Grand Total
Serlui 'A'	0.58	0	0	0	0.03	0.61
Tuirivang	0.17	0	0	0	0.01	0.18
Khawiva	0.6	0	0	0	0.03	0.64
Tuipui	0.29	0	0	0	0.01	0.30
Maicham-I	1.15	0	0	0.02	0.06	1.23
Teirei	1.73	0	0	0.03	0.09	1.85
Tuipanglui	1.73	0	0	0.03	0.09	1.85
Kau- Tlabung	1.73	0	0	0.03	0.09	1.85
Lamsial	0.29	0	0	0.01	0.01	0.31
Maicham-II	1.73	0	0	0.03	0.09	1.85
Tlawva	2.88	0	0	0.23	0.15	3.26
<b>Total</b>	<b>12.87</b>	<b>0</b>	<b>0</b>	<b>0.39</b>	<b>0.66</b>	<b>13.92</b>

**Summary of Annual Revenue Requirement as claimed by P&ED****Table 12.13: Summary of ARR for the 11 SHPs year-wise during the MYT period  
(Rs.Crores)**

Sl. No.	Name of Project	2023-24	2024-25	2025-26	2026-27	2027-28
1	Serlui 'A'	0.48	0.51	0.54	0.57	0.61
2	Tuirivang	0.15	0.16	0.16	0.17	0.18
3	Khawiva	0.52	0.54	0.57	0.60	0.64
4	Tuipui	0.25	0.26	0.28	0.29	0.30
5	Maicham-I	0.99	1.05	1.11	1.17	1.23
6	Teirei	1.49	1.57	1.66	1.75	1.85
7	Tuipanglui	1.49	1.57	1.66	1.75	1.85
8	Kau- Tlabung	1.49	1.57	1.66	1.75	1.85
9	Lamsial	0.25	0.26	0.28	0.29	0.31
10	Maicham-II	1.49	1.57	1.66	1.75	1.85
11	Tlawva	2.66	2.79	2.94	3.10	3.26
	<b>Total</b>	<b>11.25</b>	<b>11.85</b>	<b>12.51</b>	<b>13.20</b>	<b>13.92</b>

**Commission's analysis**

**Consolidated ARR approved for all commissioned the SHP stations excluding the Serlui-B by the Commission is detailed below in the table.**

**Table 12.14: Annual Revenue Requirement Commission approved for MYT period  
Combined ARR (O&M Expns and Depreciation) approved**

Sl. No.	Name of Station	23-24	24-25	25-26	26-27	27-28
		Rs.Crs	Rs.Crs	Rs.Crs	Rs.Crs	Rs.Crs
1	Serlui 'A'					
2	Tuirivang	0.14	0.15	0.16	0.16	0.17
3	Khawiva					
4	Tuipui					
5	Maicham-I					
6	Teirei					
7	Tuipanglui	1.39	1.47	1.55	1.64	1.73
8	Kau-Tlabung					
9	Lamsial					
10	Maicham-II	1.39	1.47	1.55	1.64	1.73
11	Tlawva	1.68	1.78	1.88	1.98	2.10
	<b>Grand Total</b>	<b>4.5930</b>	<b>4.8537</b>	<b>5.1317</b>	<b>5.4217</b>	<b>5.7317</b>

Therefore, Commission approves the adjusted ARR for the above commissioned SHP generating stations at the values indicated above for entire MYT period, excluding the Serlui-B station related ARR amount for the MYT period. **The Station leased out to Amazon Engineering is not considered as the O&M charges payable by P&ED will be separately added to arrive at the generation ARR at the end and some stations not generating energy are also considered in the calculation for their non-contribution to power generation.**

#### 12.5.8. Capacity Utilization factor

##### Petitioner's submission

Capacity Utilisation Factor has been calculated in accordance with the regulation-30 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 along with amendments. The extract of the regulation is reproduced below:

“Capacity Utilisation factor for the small hydro projects in Manipur and Mizoram shall be 45%.

**Explanation:** For the purpose of this Regulation normative CUF is net of free power to the home state if any, and any quantum of free power if committed by the developer over and above the normative CUF shall not be factored into the tariff.”

Generation of SHPs at the CUF of 45% is provided in the table below:

**Table 12.15: Total Generation from all commissioned SHP plants**

Sl. No.	Name of Station	Installed Capacity (MW)	Generation at 45% CUF
1	Serlui 'A'	1.00	3.942
2	Tuirivang	0.30	1.183
3	Khawiva	1.05	4.139
4	Tuipui	0.50	1.971
5	Maicham-I	2.00	7.884
6	Teirei	3.00	11.826
7	Tuipanglui	3.00	11.826
8	Kau-Tlabung	3.00	11.826
9	Lamsial	0.50	1.971
10	Maicham-II	3.00	11.826
11	Tlawva	5.00	19.710
<b>Grand Total</b>		<b>22.35</b>	<b>88.104</b>

### Commission's Analysis

The Commission approved gross generation from the above stations is at 32.40 MU for each year of the MYT period and net energy available for consumption as per the power purchases projection shall be the upper limit at 31.07MU only. This assumption is made by Commission in the absence of any verifiable concrete information from Licensee. The station wise net energy table is place in the subsequent paras for relevance.

#### 12.5.9. Auxiliary Consumption

##### Petitioner's submission

Auxiliary Consumption has been calculated in accordance with the regulation 30 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 along with amendments. The extract of the regulation is reproduced below:

*“Normative auxiliary consumption for the small hydro projects shall be 1.00%”*

Normative Auxiliary consumption and Net generation is calculated in the table below:

Table 12.16: Normative Auxiliary Consumption projected by P & ED

Sl. No.	Name of Station	Generation at 45% CUF	Auxiliary Consumption @1%	Net Generation
1	Serlui 'A'	3.942	0.039	3.903
2	Tuirivang	1.183	0.012	1.171
3	Khawiva	4.139	0.041	4.098
4	Tuipui	1.971	0.020	1.951
5	Maicham-I	7.884	0.079	7.805
6	Teirei	11.826	0.118	11.708
7	Tuipanglui	11.826	0.118	11.708
8	Kau-Tlabung	11.826	0.118	11.708
9	Lamsial	1.971	0.020	1.951
1	Maicham-II	11.826	0.118	11.708
1	Tlawva	19.710	0.197	19.513

##### Commission's analysis

The Licensee has not made any realistic projection, but done it on normative basis without any practicality of whether the power station is contributing any energy for consumption. The information is totally not supported by



verifiable evidence. Here for the purpose of generation ARR P&ED had projected about 100.754MU of availability which includes net energy of 87.224MU from existing stations and the remaining 13.530MU is from Serlui-B. Whereas in the power purchase quantum, energy shown only 31.07MU from all sources comprising of 34.85MW. Hence, the energy generation shown here is absurd and impractical.

The Commission approves net generation of 31.07MU for all the above stations in operation without considering some of the stations as tabulated below:

Own SHPs		23-24	24-25	25-26	26-27	27-28
MW's	SHP Name	MU	MU	MU	MU	MU
1.00	Serlui-A					
0.30	Tuirivang	0.02	0.02	0.02	0.02	0.02
2.00	Maicham-I					
3.00	Tuipanglui					
0.50	Lamsial					
3.00	Maicham-II	4.58	4.58	4.58	4.58	4.58
5.00	Tlawva	2.59	2.59	2.59	2.59	2.59
1.05	Khawiva	1.83	1.83	1.83	1.83	1.83
0.50	Tuipui					
3.00	Teirei	7.26	7.26	7.26	7.26	7.26
3.00	Kau Tlabung	8.31	8.31	8.31	8.31	8.31
12.00	Serlui-B	6.49	6.49	6.49	6.49	6.49
0.50	Lengpui					
<b>34.85</b>	<b>Gr.Total</b>	<b>31.07</b>	<b>31.07</b>	<b>31.07</b>	<b>31.07</b>	<b>31.07</b>

#### 12.5.10. Generation Tariff

##### Petitioner's submission

Generation tariff of the SHPs has been calculated on the basis of the ARR and net generation of the SHPs. Tariff per unit for 11 SHPs for the FY 2023-24 is provided in the table below:

**Table 12.17: Tariff for Generation projected by P & ED**

Sl. No.	Name of Station	Net Generation (In Mus)	ARR (Rs . in Crs)	Tariff
1	Serlui 'A'	3.903	0.48	1.24
2	Tuirivang	1.171	0.15	1.27
3	Khawiva	4.098	0.52	1.27
4	Tuipui	1.951	0.25	1.27
5	Maicham-I	7.805	0.99	1.27
6	Teirei	11.708	1.49	1.27
7	Tuipanglui	11.708	1.49	1.27

8	Kau-Tlabung	11.708	1.49	1.27
9	Lamsial	1.951	0.25	1.27
10	Maicham-II	11.708	1.49	1.27
11	Tlawva	19.513	2.66	1.36
<b>Grand Total</b>		<b>87.224</b>	<b>11.26</b>	<b>1.291</b>

**Commission's Analysis**

Tariff for generation for the above eleven (11) stations for FY 2023-24 is considered as detailed in the table below.

**Table 12.18: Generation Tariff approved by the Commission for 2023-24**

Sl. No.	Name of Station	Net Generation (in Mus)	ARR (Rs. Crs)	Tariff (Rs./kWh)
1	Serlui 'A'	0	--	0
2	Tuirivang	0.02	0.1383	
3	Khawiva	1.83	--	
4	Tuipui	nil	--	
5	Maicham-I	0	--	
6	Teirei	7.26	--	
7	Tuipanglui	0	0	
8	Kau-Tlabung	8.31	--	
9	Lamsial	0	--	
10	Maicham-II	4.58	1.3864	
11	Tlawva	2.59	1.6819	
<b>Grand Total</b>		<b>31.07</b>	<b>3.2066</b>	<b>1.032</b>

**Combined ARR approved for the MYT period**

Sl. No.	Name of Station	23-24	24-25	25-26	26-27	27-28
		Rs.Crs	Rs.Crs	Rs.Crs	Rs.Crs	Rs.Crs
1	Serlui 'A'					
2	Tuirivang	0.1383	0.1460	0.1550	0.1630	0.1730
3	Khawiva					
4	Tuipui					
5	Maicham-I					
6	Teirei					
7	Tuipanglui					
8	Kau-Tlabung					
9	Lamsial					
10	Maicham-II	1.3864	1.4654	1.5494	1.6374	1.7314
11	Tlawva	1.6819	1.7769	1.8779	1.9839	2.0959
<b>Grand Total</b>		<b>3.2066</b>	<b>3.3883</b>	<b>3.5823</b>	<b>3.7843</b>	<b>4.0003</b>

The Leasing charges being paid to M/s.Amazon Engineering amounting to Rs.1.66Cr is considered as O&M charges for these four plant and added to ARR at the end.

#### 12.5.11. TARIFF FOR THE ENERGY SUPPLIED FROM SERLUI 'B' SHP

As submitted in para 4.1 above since the Serlui 'B' SHP has not been commissioned till date the same has not been considered for the calculation of Capital cost, ARR & Generation Tariff thereof in accordance with The Joint Electricity Regulatory Commission for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 read along with First Amendments Regulations, 2014.

However, the SHP is generating infirm power and the same is being injected in the state grid. The details of energy supplied from the SHP & the rate for the energy charge considered for arriving at the total cost of generation of the generation function is detailed in the subsequent sections.

#### Petitioner's submission

##### Energy Generation

The energy generated from the Serlui 'B' SHP is provided in the table below:

**Table 12.19: Energy Generation from Serlui 'B':**

(In Mus)

Generation Details of Serlui 'B'						
Sl. No.	Name of Station	2023-24	2024-25	2025-26	2026-27	2027-28
1	Gross Generation	14.00	14.00	14.00	14.00	14.00
2	Auxiliary Consumption	0.46	0.46	0.46	0.46	0.46
3	Net Generation	13.53	13.53	13.53	13.53	13.53

#### Commission Analysis:

Having observing the performance by this plant since from FY 2019-20 onwards and it is still not commissioned and the energy projection so made for the FY 2023-24 the licensee had projected more energy than it generated in the past. The Commission however, feels it appropriate to consider the net energy be at 6.49MU. Therefore, the net energy as adopted by the Licensee in the ARR for FY 2023-24 until 2027-28 at 13.53MU is not considered as the energy output of Serlui-B station but it would be more appropriate at 6.49MU only when the

overall energy projected from Own Station is at 31.07MU from all SHPs..

### Energy Charges

Rate of energy charge has been considered as Rs . 1.06 per unit in accordance with the Hon'ble Commission approved in the Tariff Order dated 23.03.2022. The total energy charge for the period FY 2023-24 to FY 2027-28 has been calculated accordingly. The table below provided the details of energy charges.

**Table 12.20: Energy Charges for Serlui 'B' by P&ED:**  
(R.Crores)

Energy Charges for Serlui 'B'						
Sl. No.	Name of Station	2023-24	2024-25	2025-26	2026-27	2027-28
1	Net Generation	13.53	13.53	13.53	13.53	13.53
2	Rate	1.06	1.06	1.06	1.06	1.06
3	Total Energy Charge	1.43	1.43	1.43	1.43	1.43

### Commission analysis:

The energy projected by P&ED from Serlui-B is by adopting 13.32% PLF for station still reeling under restriction for its full-fledged commissioning for various inexplicable reasons. Until last year FY 2022-23 the PLF adopted for this plant is at 3.89% and the sudden steep jump in PLF from FY2023-24 has not been explained. Therefore, the Commission fees it appropriate to approve the energy generation at 6.49MU itself and not any more from Serlui-B during MYT period from FY 2023-24 to 2027-28 as long as it does not achieve full-fledged commissioning. Accordingly, the energy charges payable will also be at Rs. 0.6879 Cr Per Annum only adopting the energy unit rate as proposed by the P&ED for the indicated net generation of 6.49MU during MYT period prior to its commissioning.

Energy Charges for Serlui 'B' (Commission approved)						
Sl. No.	Name of Station	2023-24	2024-25	2025-26	2026-27	2027-28
1	Net Generation (MU)	6.49	6.49	6.49	6.49	6.49
2	Rate per unit	1.06	1.06	1.06	1.06	1.06
3	Energy Charges (Crs)	0.6879	0.6879	0.6879	0.6879	0.6879

### 12.5.12. Aggregate Revenue Requirement (ARR)

#### Petitioner's submission

Total ARR of the Generation function comprising of the 11 commissioned SHPs and Serlui 'B' SHP which is generating infirm power is detailed in the table below:

**Table 12.21: ARR of Generation Function projected by P & ED**

(Rs. Cr)

Sl. No.	Name of Project	2023-24	2024-25	2025-26	2026-27	2027-28
1	Serlui 'A'	0.48	0.51	0.54	0.57	0.61
2	Tuirivang	0.15	0.16	0.16	0.17	0.18
3	Khawiva	0.52	0.54	0.57	0.60	0.64
4	Tuipui	0.25	0.26	0.28	0.29	0.30
5	Maicham-I	0.99	1.05	1.11	1.17	1.23
6	Teirei	1.49	1.57	1.66	1.75	1.85
7	Tuipanglui	1.49	1.57	1.66	1.75	1.85
8	Kau- Tlabung	1.49	1.57	1.66	1.75	1.85
9	Lamsial	0.25	0.26	0.28	0.29	0.31
10	Maicham-II	1.49	1.57	1.66	1.75	1.85
11	Tlawva	2.66	2.79	2.94	3.10	3.26
12	Serlui 'B'	1.43	1.43	1.43	1.43	1.43
	<b>Total</b>	<b>12.68</b>	<b>13.29</b>	<b>13.94</b>	<b>14.63</b>	<b>15.36</b>

The Hon'ble Commission is requested to kindly approve the ARR as calculated above.

**Commission Analysis:**

**The ARR for all stations in operation and Serlui 'B' (not yet commissioned) approved by the Commission for MYT period is as detailed below:**

**Table 12.22: Generation Function ARR approved by the Commission for FY 2022-23**

(Rs . Crs)

S.No.	Name of Project	2023-24	2024-25	2025-26	2026-27	2027-28
1	Serlui 'A'					
2	Tuirivang	0.1383	0.1460	0.1550	0.1630	0.1730
3	Khawiva	1.660	1.660	1.660	1.660	1.660
4	Tuipui					
5	Teirei					
6	Kau-Tlabung					
7	Maicham-I					
8	Tuipanglui					
9	Lamsial					
10	Maicham-II	1.3864	1.4654	1.5494	1.6374	1.7314
11	Tlawva	1.6819	1.7769	1.8779	1.9839	2.0959
12	Serlui 'B'	0.6879	0.6879	0.6879	0.6879	0.6879
	<b>Total</b>	<b>5.555</b>	<b>5.736</b>	<b>5.930</b>	<b>6.132</b>	<b>6.348</b>

Rs.1.66Crs of leasing charges are considered for the four (4) station leased to M/s. Amazon Engineering and accordingly, the cost is added in the Generation cost, though Licensee has ignored this practical transaction for the above four station.

## 13. Directives

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### 13.1. General

While examining the information and data contained in the proposed ARR and Tariff Petition for the FY 2023-24, 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 P&ED require substantial improvement within a specified time frame.

Similar situation was noticed in the ARR & Tariff petition for the FY 2021-22. The Commission had observed that while there is ample scope for reducing cost and increasing internal efficiency in the operation of the department, serious efforts appear to be lacking. It is in the above context that 14 directives were given for compliance in the Tariff Order 2010-11 out of which some directives were fully complied with. Seven fresh Directives were issued in tariff order for FY 2012-13. The Commission expected that P&ED 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, though action has been initiated, but overall seriousness with which the directives were issued by the Commission does not appear to have been realized by the P&ED Mizoram.

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

#### **Directive 4: Management Information System**

The PED has not maintained proper data in respect of sales, revenue and revenue expenses as also the category wise / slab wise number of consumers, connected load / demand etc. for proper analysis of the past data based on actual and estimate of proper projections for consideration in

the ARR and Tariff Petition.

The PED is directed to take steps to build credible and accurate data base and management information system to meet the requirements for filing ARR& Tariff Petition as per regulatory requirement and also suit the Multi Year Tariff principles which the Commission may consider at the appropriate time under Regulation-11 of JERC (Terms and Conditions for Determination of Tariff) Regulations, 2008. *The formats software and hardware may synchronize with the Regulatory Information and Management System (RIMS) circulated by Central Electricity Regulatory Commission (CERC).*

The PED should get a study conducted on computerized data base, on electronic media and shall give a proposal as to how the department proposes to achieve this. The PED is directed to provide age wise analysis before the next ARR and initiate action to update the arrears by 31/03/2011.

**Compliance:**

***Progress achieved and positive advantages of SAP-ISU implemented under RAPDRP:***

1. *Centralized Data: Nine towns RAPDRP covered scheme are SAP enabled. Data of all nine towns are centralized and stored in cloud-based server maintaining data integrity enabling ease of access.*
2. *Online Payment enabled: Online payment is enabled for all consumers reducing queuing at the bill payment counters.*
3. *Prepaid meter, smart meter and net metering ready.*
4. *Monitoring and processing of monthly energy bills under Aizawl Power Circle: All monthly energy bills under Aizawl Power Circle are processed centrally from IT Cell reducing probability of errors in energy bills.*
5. *Enterprise Software with high Security.*

**Action Plans:**

1. *Under RDSS scheme, all remaining towns are planned to be migrated in this centralized software. Master data for these remaining towns are being compiled and will be migrated once compilation is completed.*
2. *22 towns under IPDS towns will be migrated in the first phase of RDSS scheme.*
3. *Road map for the department and implementing agency is being prepared for prompt execution of the scheme.*

**Commission's comment**

The SAP-ISU implementation under RAPDRP where it is already in force the progress achieved report and positive advantages noted due to usage along with any new town planning to be covered under the SAP-ISU may be submitted latest by 15<sup>th</sup> July 2023 positively for the status as on 1<sup>st</sup> half year. While, in the case of remaining consumers (Non-RAPDRP) who are being covered or yet to be covered by this SAP-ISU, the details of action plan and the status achieved report shall be furnished to the commission by 30<sup>th</sup> September 2023.

#### **Directive 5: Pilferage of Energy**

The P&ED has furnished the T&D losses at 41.7% during 2009-10 and projected the losses at 39.5% for 2010-11. The Department has not segregated the losses into technical and commercial losses. It is feasible that the losses projected may include commercial losses on account of pilferage.

Pilferage of energy may be by illegal tapings from electrical lines, tampering of meters etc. The Commission feels that there is a need to launch an extensive drive to revoke illegal connections, if any, check meter tampering replacement of defective meters proper account of consumer of un-metered services and keep constant vigil so that corrective measures could be taken to reduce the AT & C losses. Requisite action may be taken as per the provisions under sections-135 and 138 of Electricity Act, 2003.

The P&ED is directed to furnish an action plan to arrest the pilferage.

#### **Compliance:**

*As desired by the Hon'ble Commission, the department rendered maximum efforts to reduce and eradicate pilferage / theft of energy within the state. New format for half yearly vigilance report sent by the Commission vide letter No. H.20013/32/20-JERC Dt. 25.05.2022 was circulated within the Department vide letter No. T.26011/01/15-EC(P)/Com/89 on Dt. 02.06.2022. Progress on vigilance report on 1<sup>st</sup> half yearly for FY 2022-23 is enclosed as **Annexure-I:***

#### **1<sup>st</sup> Quarter of FY 2021-2022**

Sl No	Items of Report	CE (SO)	CE (D)	Grand Total
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SI No	Items of Report	CE (SO)	CE (D)	Grand Total
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1.	No of cases where inspection was carried out	764	2527	<b>3291</b>
2.	No of cases where theft or misuse was detected			
	a) Meter by-pass	5	43	<b>48</b>
	b) Hooking	2	30	<b>32</b>
	c) Unauthorized extension	2	7	<b>9</b>
	d) Tampering	0	7	<b>7</b>
	<b>Total (a+b+c+d)</b>	<b>9</b>	<b>87</b>	<b>96</b>
3	Estimate quantity of Energy considered as pilfered	0	0	<b>0</b>
4	No of cases where sentence were imposed	0	3	<b>3</b>
5	Quantity of Energy for which cost were recovered (KwH)	0	0	<b>0</b>
6	Amount realised (Rs)	19,495	1,500	<b>20,995</b>

#### Commission's comment

As seen from the 1st quarters details of FY 2021-22 reported, it is felt that the amount so far recovered is very nominal and the collection details pertaining from 2<sup>nd</sup> quarter onwards was not provided despite the completion of financial year.

The Commission needs to be apprised of the progress made and status report on number of cases being booked and penalties recovered every quarter continuously in FY 2021-22 (last three quarters) & in 2022-23 to monitor the progress being made. The directive will be in force until such time the Commission is satisfied with the performance and progress achieved.

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

#### Compliance:

The report of half yearly installation of Energy Meter with MDI facility and replacement of damaged/defective meter as desired by the Commission since last report in the compliance of Directive along with submission of Tariff Petition for FY 2023-24 are as follows:

Description	Meters Installed as on 31.03.2021	during 1st Half of 21-22	during 2nd Half of 21-22	Meters Installed Upto 31.03.2022	during 1st Half of 22-23	Upto date Meters total

Description	Meters Installed as on 31.03.2021	during 1st Half of 21-22	during 2nd Half of 21-22	Meters Installed Upto 31.03.2022	during 1st Half of 22-23	Upto date Meters total
Installation of energy Meter with MDI	45565	3608	6214	55387	4001	59388
Replacement of damaged / Defective meter with MDI facility	10892	1547	2663	15102	2667	17769
<b>Grand Total</b>	<b>56457</b>	<b>5155</b>	<b>8877</b>	<b>70489</b>	<b>6668</b>	<b>77157</b>

The report of half yearly installation of Energy Meter with MDI facility and replacement of damaged/defective meter as desired by the commission since last report in the compliance of directives along with submission of Tariff Petition for FY 2021-22 are as follows:

**This data is missing in the submission, hence the same may be provided once again in April 2023.**

#### Commission's comments

As seen from the new additional consumers joined during the year was 59388 but LT & HT Category wise data was not mad available in the information provided. While the new meters installed in 1<sup>st</sup> quarter was only 4001 in FY2022-23. The progress made in other quarters needs to be observed to assess the progress achieved .This will in assessing the new services released and it would help in estimating the revenue for the Department and also help to arrest Distribution losses if carried out pedantically.

The progress achieved is not communicated exhaustively. The status of completion and the no. of defective meters to be replaced may be continued to be reported to the Commission every six months till such time the 100% metering is achieved or the Commission is thoroughly satisfied with the progress.

#### Directive 8: Transmission and Distribution Losses

The P&ED has projected the transmission and distribution loss at 39.5% (35% Distribution loss + 4.5% Transmission losses) for the year 2010-11.

The P&ED is directed to get Energy Audit conducted by providing meters on all the feeders (132 kV, 66 kV, and 11 kV) and at distribution transformers to identify the high loss areas and take appropriate measures to reduce both

technical and commercial losses to the level fixed by the Commission. The P&ED shall also comply with loss reduction trajectory for T&D losses for the next three years.

The investment required to reduce the losses shall be included in the investment plan for augmentation of T&D system be submitted to the Commission. Effective technical and administrative measures shall be taken to reduce the commercial losses. The action plan for energy audit and loss reduction measures shall be furnished to the Commission by June 2011.

### **Compliance**

Government of India has approved Revamped Distribution Sector Scheme – A Reforms based and Results linked scheme for improvement of reliability & quality of power supply, operational efficiencies and financial sustainability of the Power sector. Accordingly, Ministry of Power has notified the scheme vide Office memorandum dated 20.7.2021 and the Monitoring Committee has approved the Operational Guidelines.

### **The objectives of the scheme are:**

- Improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient distribution sector.
- Reduce the Annual Technical & Commercial Loss (AT&C Loss) to pan-India levels of 12-15% by 2024-25;
- Reduce Average Cost of Supply (ACR) - Average Revenue Realise (ARR) Gap to zero by 2024-25.

After successful implementation of this RDSS scheme, the Transmission and Distribution Losses is expected to come down considerably.

### **Commission's comments**

**The Distribution losses were in increasing trend even in FY 2021-22 and the losses have gone past the approved losses and this indicate the lack of control of P&ED on curtailment of Losses is conspicuous. But again, the Loss projects made for MYT period was very rosy but not reachable in the near future to the level of 17.13%. The increasing losses indicates lots of Commercial related**

**losses, rather than technical losses. There needs a increased vigilance to arrest pilferage and non-billing consumer who are on the raise.**

**There needs a lot of effort still required to put in to arrest all the losses especially by rectifying/replacing the damaged/ defective/struck-up meters at all substations rapidly to capture the actual energy flows occurring at all level of transmission, sub-transmission and distribution levels to capture the real time losses in T&D by P&ED, besides arrest various kinds of Commercial losses rampant in Distribution sector and bring down the distribution losses alone to 15% in near future. It is advised to precisely indicate the T&D Losses by next year ARR filing submission. The assumptions will not be considered.**

#### **Directive 9: Consumers bills**

At present current month consumption bill is being served to the consumer while taking meter reading of next Month, thereby collection postponed by one Month. It is high time to introduce spot billing with handheld computers and advance revenue realization by one Month. PED is directed to take action accordingly and report action taken by June 2011.

Commission should establish the consumer grievances redressal forum immediately and give wide publicity of functioning of the said forum and report compliance.

#### **Compliance**

After implementation of the on-going RDSS, consumer will be billed on pre-paid mode and the question of late issue of bill will be solved.

District / Circle-wise Consumers' Grievance Redressal Forum as directed by the Commission vide letter No. H. 11019/5/18-JERC Dt. 08.12.2022 have been constituted and submitted to the Commission.

#### **Commission's comments**

**The main reason for sustaining revenue loss is due to improper meter reading and considerable delay in issuance of monthly bills resulting in delayed collections causing the financial crisis and fund crunch. Thereby, to cover up the same P&ED is resorting to higher revision of tariff without actually attending to the real cause. It is not understandable, as to why the updates**

on usage of handheld machines are not provided so far towards compliance which are currently in use and prefers to be silent on it. As seen from the reply, the progress on the matter still in formulation stage only and nothing constructive is done till date. This kind of inaction is not tolerable for years, and the issue is not gaining attention by the higher authority of P&ED. The commission had observed the raise in distribution Losses to an alarming level of 29% in FY 2021-22.

In addition, the latest status on the establishment of CGRF and the progress made so far may be intimated.

The non-submission of compliance report is viewed seriously by the Commission and directs the P&ED to submit the above stated pending report on the two issues (including on CGRF formation) without fail on or before 31<sup>st</sup> May 2023 revealing the factual status and can't give evasive replies during directive compliance as a ritual.

#### **Directive 10: Investment and Capping of Capital Expenditure**

Annual Investment Plan should be submitted to the Commission and approval of Commission should be obtained for all major capital works costing ₹5.00 crore and above before execution of the works.

#### **Compliance**

The Department noted the directive and advise to the Government in accordance with appropriate regulation set in force, if any, will be given as and when the Department is about to take up the work above 5.00 Crores.

#### **Commission's comments**

The Commission is the authority for fixation of tariff of P&ED and all the cost components incurred will have to be made according to the approval of the Commission, even if the department is funded by the Government. That does not mean the department can make capital investment at their will without looking into its necessity & need, which will have to be examined by the Commission before its execution. The Regulation speaks about submission of investment plan prior approval is the regulation relevant in this aspect and it is the duty of the licensee to get himself familiar of the Regulations in force and available in the Commissions website. It is unwarranted the licensee is asking

**Commission to provide the Regulations and it shall not be the way to represent the lapses.**

The P&ED is bound to obtain prior approval of the Commission before execution of the major capital works costing Rs.5 crores and above. It is the prerogative that for projects executed unilaterally can be disallowed by the Commission in the absence of prior approval leading to ignorance of those assets being capitalised and consequential recurring benefits financially. The P&ED is directed to tender the reasons for not taking the Commission approval for the above projects in execution on top-priority before 1<sup>st</sup> May 2023 and without fail. The reply is very casual in nature and not attentive.

**Directive 11: High Employee Cost of the Department**

The employee cost projected by the PED is on very high side and alarming. PED is therefore directed to take measures to control the high employee cost.

**Compliance**

The Department noted the Directive and new recruitment of the employees will be proposed in consultation with the Commission from now on.

**Commission's comments**

The reply given has no relevance to the pointed issue in the directive above cited. The Commission has not called for details of the Employees. This kind of irrelevance is unexpected of from a Government organisation without any iota of nuance.

The directive is intended to be more judicious in the recruitment of staff based on the need but not for allied reasons. It was already directed in Tariff Order for 2020-21 that any further recruitment in staff needs to be intimated to the Commission beforehand with proper justification of such appointment and seek approval of the same before claiming in the future ARR submissions. So far no suitable action taken report was ever reported by the P&ED on this aspect.

The entire additional recruitment cost reflected in ARR will be disallowed in toto for having not done without Commissions concurrence.

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

Maximum Demand Meters should be provided for HT Consumers.

### **Compliance**

As desired by the Commission, no of HT consumers metering at LT side and HT Supply with HT side metering as on 30<sup>th</sup> November 2022 within the Department is as follows:

Sl No	Category	No of Consumers
1	No of HT Consumers	887
2	HT Consumer metering at LT side	855
3	HT Consumer metering at HT side	32

### **Commission's comments**

The reply seems to be very encouraging and the progress so far made is satisfactory, but the reply doesn't indicate the relevant year for which the data relates to. However, the installation of MDIs may be continued until 100% is achieved and the progress being made may be intimated to the Commission every six month invariably. The above metering installation seems to be for L.T metering.

*As such P&ED should submit number of consumers with H.T supply but metering at L.T side and H.T Supply with H.T side metering within one (1) months. Pertaining to FY 2022-23. The para will be dropped, sooner the Commission is satisfied with the performance level.*

### **Directive 15: Contract Demand**

With the introduction of two-part tariff in the Tariff Order of 2010-11 the consumers feel the impact of connected load in the Electricity bill is high. The PED stated that connected load and contract demand are the same in Mizoram. If so, the Commission has observed that the contract demand is high. PED is therefore directed to reassess the contract demand by December, 2014 and submit a report.

### **Compliance**

The latest compiled category wise contracted load (i.e. as on September 2022) as desired the Commission comments on reply of the Directive for the previous year is as under:

SI No	Category	Contracted Load in kW					
		Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
1	Kutir Jyoti	5344.41	5403.17	5404.73	5405.83	5299.43	5352.09
2	Domestic	302929.52	307455.85	320793.53	293615.64	306277.55	307424
3	Non-Domestic	17819.36	19058.29	18852.55	18323.29	18218.53	18292.8
4	Commercial	58111.39	58548.42	57152.63	58747.46	58860.22	57495.9
5	Industrial	12822.01	10989.43	11003.93	10954.27	10894.34	10885.7
6	PWW	45687.85	55568.33	53991.21	55614.29	56971.15	55210.5
7	Bulk	22704.97	14139.01	18228.53	19510.58	18913.80	20674.5
8	Public Lighting	3739.69	1226.33	1226.33	1236.83	1252.69	1258.19
9	Agriculture/Irrigation	7301.42	179.84	203.07	200.33	200.94	200.33

#### Commission's comments

This process is a perpetual activity to be carried out pedantically by the Licensee and keep the data base up to date for future billing cycle purpose. The usage of outdated data will reflect the financial status of the entity very badly.

The Commission insisted for consumer wise contracted demand latest and up to date, but it is not complied with in the absence of required consumer wise break-up. The reply is provided without awareness.

The Directive is still treated as not complied with.

#### Directive 16: Restructuring of Staff

PED has stated that the number of employees as on 31st March, 2012 is 4575. It is very high. The Department however, has pleaded shortage of staff for poor performance. The Commission has observed that deployment of the existing staff is not rational. PED is directed to prepare a restructuring plan by 31st December, 2014 and submit a report.

#### Compliance

Report for restructuring of the P&ED, Government of Mizoram prepared by ASCI and submitted to the Government is still in consideration under the



Government.

**Commission's comments**

**The pointed issue is that P&ED shall provide the functional wise employees & staff utilisation in the organisation. The submission of Restructuring report has no relevance to the content of the Directive and the tendency of replying appears very sad state of affairs of the Department and even the higher authority is also not hesitant in forwarding such the replies is surprising. The directive therefore, is still in force and needs compliance with appropriate reply.**

**Directive 19: Survey and physical verification of consumer's connections.**

To conduct survey and physical verifications to find out their actual connected load and category in which supply is being availed and to analyse category wise single phase and 3 phase connections with their annual energy consumption and status of meters. This work should be completed by 31.10.2014 and details be furnished in next tariff petition invariably.

**Compliance**

In continuation to the action taken for reply of this Directive, survey and physical verification of consumers connections has been continued and conversion of category with necessary updation of the contracted load of the consumer has been done. The monthly report on number of consumers' with necessary updation of the connections as on September 2022 is furnished in **Annexure-III**

**Commission's comments**

**The revenue yield enhancement due to proper classification is very much desired on a righteous way. Commission wishes the Licensee to make this exercise continuously to earn the correct revenue in future, if these efforts are continued.**

**This directive is still in force until commission is thoroughly satisfied with the effort.**

**Directive 24: Scraping of Heavy fuel plants lying idle**

Heavy fuel plant of capacity 22.93 MW at Bairabi is lying idle. P&ED is advised

either to operate the generator or write off the plant and utilise the man power elsewhere in the Department for better output.

**Compliance**

Bharat Heavy Electricals Limited (BHEL), Hyderabad is engaged for checking the possibility of conversion of the HFO based Bairabi Thermal Plant into Gas based power plant which is still under investigation. Depending upon the report of the investigation further necessary action will be taken.

**Commission's Comments**

**If abandonment of the plant is not desired, then often the plant may be operated to generate energy to keep the plant in good working condition until such time a decision in this regard is received from Central Government else keeping it totally idle will lead to scrap gathering of the equipment existing at plant site. The progress made with the BHEL consultancy my be appraised.**

**Directive 28: Segregation of expenses among generation, transmission and distribution.**

From annual accounts of FY 2015-16 onwards all expenses such as employee cost, R&M expenses and Administration & General expenses and interest charges and depreciation shall be segregated among the three functions, viz. generation, transmission and Distribution.

**Compliance**

Power & Electricity Department is attempting its best to segregate the expenses among generation, transmission and distribution function. However, until and unless physical segregation of the utility into Strategic Business Unit of Distribution, Transmission and Generation is in place, reliable segregation of accounts is not possible.

**Commission's comment**

**Hence the latest status on this directive may be communicated sooner with due discussions and the decision taken in this regard by Government of Mizoram.**

**Directive 33: Installation of meters with MDI facility**

P&ED should start using meters having MDI facility as CEA Meter Regulation, 2006. Contracted load/demand as well as connected load/demand should be recorded for consumers and fixed charge billed based on contracted load/demand. Contracted load/demand should be reviewed annually based on MDI record and supply code, 2013. All consumers under RAPDRP towns should be completed by 30.09.2016. Quarterly progress should be submitted to the Commission.

**Compliance**

Progress report on MDI facility for FY 2021-22 and FY 2022-23 1st half yearly is as annexed:

**Commission's comment**

**The status achieved pertaining to the remaining period from 3<sup>rd</sup> & 4<sup>th</sup> quarter of FY2022-23 may be furnished with all details latest by May end.**

**Directive 38: Projection of Non-Tariff Income**

The projection for Non-Tariff Income for FY 2023-24 is as follows

The P&ED is directed to account for the income relating to above heads in the respective heads and furnish the information in the format without omissions from next ARR.

**Compliance**

The projection for Non-Tariff Income is submitted as below in the ARR filing for FY 2022-23 as intimated by the Commission.

Sl.No.	Particulars	FY 2022-23
1	Rent of E/Meter	1,63,25,891
2	E/Meter shifting charge	11,721
3	E/Meter replacement charge	27,600
4	Meter Testing charge	1,46,763
5	Consumers' installation Test charge	-
6	Charges for Disconnection & Reconnection	1,02,398
8	Re-rating of installation charge	5,56,208
11	Cost of application of SC / Test Report Form	4,40,670
12	Pole Hiring charge	4,72,477
13	Recovery from theft of Energy	71,565
14	Agency / Department charges	1,18,89,853

15	Mobile BTS Rent	366
16	Load Security	5,482
17	Hiring charge of M&E	4,121
18	Others S/C	46,15,360
	<b>TOTAL OTHER RECEIPTS</b>	<b>3,46,70,475</b>

#### Commission's Comment

**The P&ED should submit the estimated amount expected against each element of NTI in the next ARR filing invariably. This data must be submitted every year in the submission of ARR filing without fail.**

#### Directive 40: Pre-Paid meters and Smart meters

The P&ED is directed to examine the feasibility of installation of pre-paid meters/smart meters in a phased manner so as to improve revenue collection and reduce leakages in power consumption which will cause reduction in distribution losses.

#### Compliance:

With the introduction of RDSS scheme, all meters will be replaced with prepaid/smart meters. Presently the installation of smart meters as a pilot project in Zarkawt locality is completed. The details are as follows:

Total estimated no. to be installed as a pilot Project	Already installed
694	640

#### Commission's Comments

**The reply does not provide any practical figures on the achievements made and about pendency. Hence, the actual progress achieved with number of consumers installed with meters may be submitted to the Commission periodically for keeping the Commission abreast with the progress made and not like responding to the Tariff order Directive.**

**Directive 42: P&ED has to request State Government to allocate head of account for Generation, Transmission & Distribution**

P&ED should request the State Govt. to allocate different heads of account for (i) Generation, (ii) Transmission and (iii) Distribution. Projection /Estimated expenditure should be classified accordingly or segregate the accounts by Department itself. Audited figure should also be in line with the allocated heads of account.

**Compliance:**

Since Power & Electricity Department being a single integrated entity under Government of Mizoram, sudden allocation of fund for different head of account for Generation, Transmission and Distribution function without proper scrutiny could lead to various complications within the Department and the State Government. The Hon'ble Commission is requested to drop the Directive since allocation of separate head of account of different functions will be existed automatically after restructuring of the Department.

**Commission's Comments**

**The P&ED should take up & discuss the matter with Finance department of the State until it allocates individual accounts heads for each function wise separately assiduously. Hence, the directive is still treated as not complied with and awaits the compliance.**

**Directive 43- System metering**

P & ED is directed to complete the system metering (metering at all voltage level) by Sept., 2018 to know the actual loss at various voltage levels i.e.

- 1) Transmission (above 33 kV)
- 2) Sub-Transmission (33 kV level)
- 3) Distribution (11 kV level)
- 4) Low tension (level).

**Compliance:**

Despite meters has been installed in all the feeders and lines of 11kV and above, proper accounting of data cannot be obtained due to shortage of maintenance fund for replacement of damaged meters and associated

equipments in many feeders. However, the recently adopted Revamped Distribution Sector Scheme (RDSS) includes improvement of metering system in the feeders and hence after successful implementation of the scheme proper and reliable accounting will be possible to maintain with details of the name of line and substations and the place where such installation is executed and completed.

#### **Commission's Comments**

**The Directive is treated as dropped after having seen the recent reply.**

#### **Directive 46**

**P&ED should strive to achieve AT&C Loss set in UDAY Scheme signed under unilateral agreement.**

#### **Compliance:**

In order to reduce the AT&C losses, the Department had taken initiatives for recovery of the huge pending arrears from Government Department. Accordingly, discussion about Govt. Department dues in the Govt. level with concerned Govt. Departments had been convened. As a result of the discussion and subsequent pursuance by the Department Rs. 158.00 Crores and Rs. 4.00 Crores of unpaid arrear from PHED and LAD is recovered during the current year. With the receipt of this much arrear from Govt. Department, the AT&C loss at the end of the current FY 2022-23 is expected to reduce to about 20% or below.

#### **Commission's Comments**

**What are the measures the P&ED had initiated in recovery of the huge pending arrears from government departments were not appraised? It is high time, that the AT&C losses shot-up to 39.55% and prima-facie the matter needs to be brought to attention of Govt. of Mizoram for suitable action to yield some fruitful results. The directive is therefore still in force and needs**

**compliance with latest figure relating to FY 2022-23. Detailed report should be furnished in the next ARR filing.**

## **New Directives**

### **Directive 1: Voltage wise cost of supply submission**

The Licensee shall submit the voltage-wise cost of supply in the next year ARR filing duly providing all the relevant details with regard to each distribution voltage level along with voltage wise losses being incurred. This data is very much essential for arriving at the cost of supply to various categories of consumers at the time of tariff determination duly adhering to the National Tariff Policy principles.

#### **Compliance:**

Even though the Department is trying its best to provide the required information there is ambiguity in the concept. When the concept is made clear to us and the present system / practices permit the sought data / information, voltage wise cost of supply can be computed.

### **Commission's Comments**

**The Directive is treated as not complied with and the compliance report is awaited as this matter is also being pursued by the CERC for the compliance and commission is awaiting your primary report on this issue. The P&ED must engage a consultant having the needed know ow on the voltage wise cost of supply to file in 2024-25 ARR submission without fail.**

### **Directive 4: INSTALLATION OF SMART METERS**

Smart meters have the advantages of remote metering and billing, implementation of peak and off-peak tariff and demand side management through demand response. These would become essential in future for load generation balancing due to increasing penetration of intermittent generation like wind and solar power.

In line with Clause 8.4 of National Tariff Policy 2016, the Commission, therefore mandate Smart meters for the following consumers:

- a) Consumers with monthly consumption of 500 units and more at the earliest but not later than 31.12.2019.
- b) Consumers with monthly consumption above 200 units by 31.12.2019.
- c) The Smart meters shall also be provided to all those consumers who sell back electricity to the grid as and when they require by 15.03.2020.

Action taken report on installation of smart meters for the consumers stated above may be submit by the 1<sup>st</sup> week of January 2020 and again by end of March 2020 to the Commissions to monitor progress.

**Compliance:**

All the meters of the consumers under the Department are proposed to be replaced by Pre-paid Smart Meters under the on-going RDSS.

**Commission's Comments**

**The directive is treated as pending and considered as not complied with.**

**Fresh Directives in FY 2020-21 based on ARR Submission**

**Directive No.2 Outstanding Interest and Financial charges to State Government Loans**

Keeping In view of the above, the actual Interest & Finance charges amount of Rs. 1.90 Crores for the FY 2018-19 though not paid back to State government Loans, the Commission approves these charges in true-up **but directs the P&ED to clear all the outstanding arrears to the respective lenders by the end of the FY 2020-21 as all those interest charges were passed on to the consumers and were reimbursed to the Department. In case of failure to repay these charges, then the entire amount outstanding as on 31.03.2021 would be clawed back by the Commission in the ensuing ARR determination.**

**Compliance:**

Reply: It is submitted that the P&ED is a State Government Department and the entire revenue earned is deposited into the government treasury. Utilisation of funds towards repayment of loan/interest is the prerogative of the State Government. It is further submitted that P&ED has considered the interest on loan as expenditure for the year and has also recognised the unpaid



interest as liability in the Balance sheet. Non-payment of interest on loan does not absolve P&ED from its liability and it shall remain as such till the same is paid/adjusted and accounted accordingly. Further, P&ED has not claimed any extra charges towards non-payment of interest on loan and no such charges shall be claimed in future. Hence, consumers are in no way burdened on that account. In view of the above, it is submitted that Hon'ble Commission may kindly consider and drop the directive.

**Commission's Comments:**

**As the reply made has no constructive assurance as to the clearing of dues referred in the above directive and any extra charge levied by the Lenders for the uncleared dues in future is again the lookout of the Commission in passing on to consumers or not. Hence, the P&ED shall address this issue repetitively with the Government for bring the issue to a logical end assiduously and the excuse given above cannot be entertained. The interest claimed in FY2021-22 is also disallowed for not making payment to the lender and only making the provision for liability.**

**Hence, the above Directive is treated as uncompiled with and will be in force until it is complied with the way it is suggested.**

**Directive No.3 Levy of penalties for non-payment of revenue dues**

The Commission feels, that the imposing of penalties/late payment surcharges is not happening at the level expected and unless penalties are strictly imposed the revenue collections is bound to be poor and the Organisation will have to face financial crunch on account of their own inaction. This is not a healthy practice and P&ED shall take serious note of the situation and order for intensive special revenue collections drive and see that these huge dues from sale of power comes down very soon by drawing an action plan and intimate the same to the Commission.

**Compliance:**

Reply: Penalties / Late Payment Surcharge is strictly imposed on consumers who defaulted in payment of bill within due date of the payment at the rate approved by the Commission. As the billing software use by the Department is incapable of separating the amount of surcharge paid by the consumers, the exact figures

could not be provided. The billing software is under improvement and hence those separate requisite information are expected to be able to be furnished in the near future.

**Commission's Comments:**

**The Progress achieved in this matter needs to be submitted to the Commission with figures of collections made in due course as the action reported is only descriptive in nature by P&ED. Therefore, the Directive is still treated as not complied and it is still in force.**

**Directive No.5 Levying of the applicable charges in the case of Mixed Loads services:**

Where any part of the connection given under one specific category, it shall not be utilized for any other purpose other than for which it is released that involves different higher applicable rate in the tariff schedule. A separate connection shall have to be taken invariably for such other loads/purpose under appropriate category, failing which the entire consumption (i.e., existing category consumption and additional consumption for different purpose) shall be billed in the category of consumption that corresponds to a higher applicable tariff for which any part of that connection is utilised.

**Compliance:**

As desired by the Hon'ble Commission, action is being taken and conversion of connection to appropriate category has been done. The action taken report taken by the Department is enclosed as Annexure-III

**Commission's Comments:**

**There appears, more of similar kinds of actions are required to be taken to set right the concealed defects and for raising more revenue in righteous way by the P&ED. Therefore, the Directive is still treated as not complied and it is still in force.**

**Fresh Directives in FY 2022-23 based on ARR submission**

**Directive -1: Functional wise submission of ARR with relevant Appendix prescribed.**

From FY 2023-24 onwards, the licensee shall file ARR submission for it each functional separately with corresponding Appendix and annexures strictly as per

the MYT Regulation guidelines without seeking any exemption for its compliance.

**Compliance:**

Reply: Submission of function wise ARR is compiled in the Tariff Petition for FY 2023-24 as per our understanding.

**Commission Comments:**

**The latest submission is a routine submission with same ole excuses made in the past and it is not treated as complied with and in force.**

**Directive -2: Submission of Non-domestic, Commercial and LT Industrial categories with no unit slabs from FY2023-24.**

There shall not be any multiple slabs in the case of Non-domestic, Commercial and LT Industrial consumer Categories and submit with single slab of usage.

**Compliance:**

Reply: As directed by the Commission unit slabs on LT Non-Domestic (renamed as Non-Profit Public Purpose), LT Commercial and LT Industrial categories have been reduced to single slab in this FY 2023-24 Tariff Petition.

**Commission Comments:**

**The submission made this year is more of the nature to favout the HT consumers but no pragmatic approach was seen in the submission. Hence, the slab submission now preferred by P&ED is not considered.**

**Directive -3: Contingency Reserve Fund (CRF) – Investments and Utilisation:**

The investment and maintenance of Contingency Reserve Fund (CRF) shall be strictly as per the provisions of Regulation 76.6 of MYT regulations, 2014 without any kind of deviation, except adopting 0.25% of Original Cost of Fixed Assets balance as on the beginning of the financial year for which filing is made. The fund shall be invested either in securities specified under Indian Trusts Act 1882 within six months of the close of the Financial year or deposit in a Non-drawable bank account with a condition to reinvest the interest accretions into the same account and submit to the Commission each year the details of balance available in the Contingency Reserve fund. Any withdrawal from this fund shall be made only with the prior permission/concurrence of the Commission and under no circumstances the amount shall be remitted into Government Treasury.

Compliance:

Reply: It is submitted that P&ED has not been able to invest the amount allowed towards creation of Contingency Reserve Fund in the securities specified under Indian Trusts Act, 1882 or as deposit in a non-drawable bank account. It is submitted that the entire revenue collected by the P&ED is deposited in the government treasury and creation of such fund requires approval of the Government. It is submitted that P&ED may propose for approval of the competent authority regarding creation of Contingency Reserve Fund so as to enable it to invest in securities as required. Hon'ble Commission may kindly consider & allow the same.

**Commission Comments:**

**Since, the P&ED is not in a position to invest without the cooperation of the Government financial wing, hence, the fund appropriation from FY onwards is discontinued**

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# TARIFF SCHEDULE



**APPENDIX****Tariff Schedule****1. General Conditions of Supply (For all categories of Consumers):**

**1.1 Rebate/Surcharge for availing supply at voltage higher/lower than base voltage:** In spite of feasibility/availability to given supply at the specified voltage for the corresponding load as stipulated in clause-3.2 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 (with up to date amendments.)

- (i) For consumers having contracted load up to 50 kW only, but the supply is given at higher voltage (HT/EHT level), then a rebate of 5% would be admissible on the energy and fixed charges applicable to that class of consumer for such period, he/she is so availing the supply at that voltage level.
- (ii) For consumers having contracted load above 50 kW, but the consumer desires to draw supply at a voltage lower than that of base voltage he/she is eligible avail for corresponding load as per clause of supply code mentioned above, the consumer shall be required to pay additionally an extra charge of 10% on the bill amount (Energy charge & Fixed charge) calculated at the applicable voltage category tariff to which he/she should have normally availed.
- (iii) All voltages mentioned above are normally available rated voltages as per clause 3.2 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013, with up to date amendments.

**1.2 Payment:** All payments shall be made by way of Cash/Banker's Cheque/by Demand Draft/through Money Order/E- transfer on line. While in the case of cash payments (the cash amount limit will be determined and notified by the Licensee in advance suiting his convenience).

**1.3. Validity of Existing Recharge Voucher:** In the case of a consumer with prepaid meter supply having purchased recharge voucher prior to the effective date of new tariff, the existing voucher shall be continued until such time the recharged voucher amount is fully exhausted without levying any extra charge to such consumer. Therefore, as far as possible the Licensee shall issue recharge voucher(s) cautiously in such a way that the



voucher validity period doesn't exceed the number of days beyond the effective date from which new tariffs comes into force.

**1.4. Due date:** In case monthly bill is being paid by cheques mode it shall be issued **three (3) days** in advance from the normal due date specified for that bill. While, in the case of payment through online bank transfer/credit card, it shall be **one (1) day** in advance from the normal due date specified for that bill. The licensee shall ensure that the bill is delivered to the consumer by hand/post/courier at **least ten (10) days** prior to the payment due date of the bill. (Clause 6.1 & 6.5 of the JERC for Manipur & Mizoram (Electricity Supply Code Regulations, 2013 with up to date amendments).

**1.5. Surcharge for late payment of bills:** If payment is not received within the stipulated due date, a surcharge @ **two percent (2%) per month** (at simple interest) will be levied upon the outstanding principal amount for the actual number of days of delay occurred for every successive period of thirty (30) days or part thereof or until such period of time the due amount is left unpaid in full.

**1.6. Single Point Delivery:** This tariff is based on the supply being given through a single point of delivery and metering at one voltage level. If Supply is also availed by the same consumer from another point at other/different voltage level, then such consumption shall be metered separately and be billed accordingly treating it as a separate connection.

**1.7. Voltage and frequency:** All voltages and frequency shall be as per the provisions of clause 3.1 and 3.2 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013 (with all latest amendments made).

**1.8. Power Factor Incentive / Surcharge: -**

- a) If the average monthly power factor of a HT consumer/LT 3Phase consumer /LT Industrial consumer increases above 95%, he shall be paid **an incentive** at the following rate:

Type of Event	Incentive
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 <b>“energy charge”</b>

- b) If the average monthly power factor of the HT consumer/LT 3Phase consumer / LT industrial consumer falls below 90%, he shall pay a **surcharge in addition** to his normal tariff, at the following rate:

Type of Event	Surcharge
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'

- c) If average monthly power factor of the HT consumer/LT 3- phase consumer /LT industrial consumer falls below 85%, he shall pay a **surcharge in addition** to his normal tariff at the following rate:

Type of Event	Surcharge
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'

- d) If the average monthly power factor of the HT consumer/LT 3Phase consumer /LT industrial consumer falls below 70%, then the Licensee shall have the right to disconnect supply to such consumer's installation after serving a notice of fifteen (15) days period. Supply may be restored only after steps have been taken to improve the power factor to desired level to the Utilities (licensees) satisfaction. However, this is without prejudice to the right to levying surcharge for such low power factor in the event of supply not being disconnected to such consumer.
- 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-digital figures after decimal point. Figure 5 or above, in the third place after decimal point be rounded-off to the next higher figure to make it to a two-digit figure after the decimal point.
- 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 release of connection, and later on if he maintains the average monthly power factor at level not less than 90% in subsequent three months, then the surcharge so

levied in the earlier bill on account of low power factor during the said period, shall be withdrawn and credited in the next month's consumption bill.

**1.9. Transformation loss:** The consumers availing their supply at HT side but metered on the LT side shall be charged with transformation loss in kWh as per the provisions of clause 5.7 JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 (**with up to date amendments**). 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:

$$\text{Average transformer loss} = \frac{730 \times 1.0 \times C}{100} \text{ kVAh per month}$$

where C = KVA rating of the transformer.

For conversion of kVAh to kWh or vice versa, the applicable latest power factor as per JERC (M&M) (Electricity Supply Code) Regulations, 2013 with latest amendment shall be adopted.

- (2) The transformer loss so arrived at by the above formula shall be added to the energy consumption, even though the recorded energy consumption being **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 side demand.

**1.10. 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 as recorded by DISCOM official. Where the contracted load/billing demand found below 0.5 kW/ kVA shall be taken as 0.5 kW/kVA as the case may be. While all contracted load/billing demand recorded above 0.5 kW/kVA shall be taken as per actual recorded details available in the consumer historical profile data maintained by the Licensee. **The Licensee should update Contracted load/Billing demand as per the provisions of clause-4.108 of JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 (with up to date amendments).**

**1.11. Mixed Load:** - No part of the connection given for any specific purpose under defined category shall not be utilized for a different purpose(s) other than for which such service connection was released which attracts a tariff higher than already released service category. A separate additional connection shall have to be taken invariably for such loads/purpose under different applicable category, failing which the entire consumption (i.e., existing category consumption and additional energy consumed for different purpose) shall be billed in that applicable category corresponding to higher tariff rate for which any part of that service connection is utilised.

**1.12. 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 rounded-off individually to nearest rupee (fraction of 50 paise and above be rounded-off to the next higher rupee and fraction lesser than 50 paise be ignored). In case of non-availability/scarcity of small change of rupees lesser than Rs.10/-, the consumer may be permitted to tender next higher amount divisible by 10 and the excess amount so tendered shall be adjusted as credit in the next bill and interest on such excess will not be allowed or paid.

### **1.13. System of L.T Supply**

#### **1.13.1 Low Tension Supply**

- i) Alternating Current 50 Hz, single phase 230 Volts up to 8 kW.
- ii) Alternating Current, three phase, 400 Volts, for loads above 8 kW and up to 50 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.

**1.13.2. 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. with up to date amendment.

**1.14. The maximum demand:** 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.

**1.15. Billing demand:** As defined in Clause 2.3(12) of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendments. The clause reads as follows:

**“Billing Demand means highest of the following: -**

**(i) The Contract demand, or (ii) the maximum demand indicated by the meter during the billing cycle, or (iii) the sanctioned load wherever contract demand has not been provided in the supply agreement.”**

**1.16. Government Subsidy:** Section 65 of E.Act 2003 is hereby reproduced:

***“ Provision of subsidy by State Government:- If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under section 62, the State Government shall, notwithstanding any direction which may be given under section 108, pay, in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the licence or any other person concerned to implement the subsidy provided for by the State Government:***

***Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by the State Commission shall be applicable from the date of issue of orders by the Commission in this regard.”***

**Therefore, if the government subsidy is received promptly, the licensee shall adopt tariff ‘A’ (Subsidised Tariff) or in the event of non-receipt of said subsidy, the Licensee is at liberty to implement tariff ‘B’ (Full Cost Tariff i.e., without Subsidy) during the currency of period of its non-receipt.**

**There could be a situation, where the outstanding monthly subsidy due from Government was released with delay after passage of much time elapsing and thereby consumers are to be billed at full cost tariffs in that relevant month or**

months during which no subsidy was paid. Later on, if subsidy arrears were released and received by Licensee, the entire excess amount so charged to all consumers on account of full cost tariff adoption shall have to be refunded as deduction by treating such excess amount laying with Licensee **as advance payment** by the licensee **at one time** in the immediate monthly billing cycle where bills are being issued to respective consumers soon after receipt of such subsidy relating to the past month/months. If in case, the excess amount so refundable exceeds the monthly billing amount to be so adjusted to any consumer/ consumers, then such excess amount left unrefunded may be carried forward and be adjusted in the following monthly bill/bills to be issued to such consumer/ consumers until full refund settlement is made to consumer(s).

**1.17. Applicable Taxes or Duties:**

The tariff notified above does not include any taxes (including GST) or duties etc., on electrical energy that may be payable at any time in accordance with changes in any Law or Central Government/State Government Rules in force. Such charges, if any, shall be payable in addition to tariff charges by the consumer/user.

Accordingly, applicable GST shall be charged/levied on (i) **Application Fee** for releasing any Service connection (ii) Rental Charges against metering equipment, (iii) Testing Fee for meters/transformers, capacitor etc. and (iv) Labour Charges to be born by customers for shifting of meters or shifting of service lines.

**1.18. Contingency:** In case of any inconsistency between provisions of this Tariff schedule and the Electricity Supply Code Regulations 2013 issued by JERC for Manipur and Mizoram (with up to date amendments). the provision, meaning and content of the said Supply Code shall only prevails.

**A: SUBSIDISED TARIFF****2 : LT SUPPLY****2.1 LT Category-1: Kutir-Jyoti Service**

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

**Permitted Load:** Initially starts with one single light point connection which can be extended later on by one or two light points or as per norms specified by the competent authority from time to time.

**Rates: -**

a) Fixed charge	Rs 25.00 per month per Connection	
<b>b) Energy charge (per month)</b>		
i)	First 20 kWh	@ Rs 2.55 per kWh
ii)	All units above 20 kWh	@ Rs 3.55 per kWh

*Note: 1- if the total consumption of any consecutive three months is more than 45 kWh, the consumer shall be re-categorized/converted under normal domestic category permanently from the very 1<sup>st</sup>/2<sup>nd</sup>/3<sup>rd</sup> month of that consecutive three months. Whenever, total units consumed exceeds the specified limit of 45 kWh from that month instance the bill be served treating the consumer permanently under domestic category. (clause 4.90 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendments may be referred to)*

*Note 2: Where a Kutir Jyoti /BPL consumer was converted as domestic consumer, the re-categorised/converted consumer shall be required to deposit load security/meter security amount as applicable for a domestic consumer but it should not contravene the provisions of clause 5.9 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendments.*

## 2.2 LT Category - 2: Domestic Service

**Applicability:** Applicable for supply of energy exclusively for domestic purposes only in domestic premises. **The Domestic consumer is qualified to be in this category, if dwelling house has attached kitchen/kitchen facility.**

This is applicable for each floor for a multi storied building. 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.

### Rates:

a) Fixed charge	Rs. 50.00 per month per kW of contracted load	
<b>b) Energy charge (per month)</b>		
i)	First 100 kWh	@ Rs 4.90 per kWh
ii)	Next 100 kWh	@ Rs 7.10 per kWh
iii)	All units above 200 kWh	@ Rs. 8.20 per kWh

## 2.3 LT Category 3: Non-Profit Public Service (Non-Domestic previously)

**Applicability:** Applicable for supply of energy to all lights, all types of fans, heating devices, Television, VCR/VCP, Radio, Computers, Refrigerator, Air Conditioner, lift motors, water pump and all other electrical appliances **for the purpose of public interest including other small power.** This tariff includes power loads for Non-Profit Public purposes such as Government offices/ establishments / institutions, were rental charges are not being levied such as offices, hospitals, nursing homes, clinics, dispensaries, health centres, schools, colleges, libraries, research institutes, boarding / lodging houses, rest houses, tourist lodges, guest house, circuit house, rest house, Go-downs; Public building/hall, community halls/YMA halls (not for hiring), religious premises like churches, temples, mosques, gurudwaras, religious offices. This category shall include NGO's offices and any other establishment (Not setup for the purpose of undertaking some sort of trading/profit-making). This tariff is also applicable to orphanage/recognized charitable institutions where no



fees/rental of any kind whatsoever are charged/levied

**Rates:**

a) Fixed charge	Rs 60.00 per month per kW of contracted load	
<b>b) Energy charge (per month)</b>		
i)	First 150 kWh	@ Rs 7.60 per kWh
ii)	All units above 150 kWh	@ Rs 8.30 per kWh

#### 2.4 LT Category - 4: Commercial Service

**Applicability:** Applicable for supply of energy to all lights, all types of fans, heating devices, Television, VCR/VCP, Radio, Computers, Refrigerator, Air Conditioner, Lift motors, Water pump and all other appliances for private gains including other small power. This tariff includes power loads for commercial purposes like Semi- government/non-government offices, shops, book stalls / shops, parlours, hospitals, educational institutes, nursing homes, clinics, dispensaries, health centres, restaurants, bars, hotels, clubs, guest houses, rest houses, tourist lodges, picnic spots, resorts, farm/garden houses, clubs, markets, optical houses, stadiums, meeting/conference halls, all types of studios, tea stalls, professional chambers (like Advocates, chartered Accountants, consultants, Doctors, etc.), private trusts, marriage houses, public halls, show rooms, centrally air-conditioning units, commercial establishments, X-ray plants, diagnostic centres, pathological labs, carpenters and furniture makers, repair workshops, laundries, typing institutes, internet cafes, STD/ISD PCO's, FAX/photocopy shops, tailoring shops, Non- Government Institutions such as 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/Cable TV establishment with sub-operators' installations, printing presses, commercial trusts, societies, banks, financial institutions, theatres, cinema halls, circus, coaching institutes, common facilities in multi-storeyed 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 telecommunication system/towers, leased of Government property(ies) to

private party(ies) such as Guest house, tourist lodges, restaurants and others commercial applications those not covered under any other categories. It shall also include store/stock yard, parking lot, Storage godowns and any other applications for private/company/government gain. It will broadly apply to all offices/establishment so setup for the purpose of trading/profit making.

**Rates:**

a) Fixed charge	Rs 80.00 per month per kW of contracted load	
<b>b) Energy charge (per month)</b>		
i)	First 150 kWh	@ Rs 8.20 per kWh
ii)	All units above 150 kWh	@ Rs 8.45 per kWh

**2.5 LT Category - 5: Public Lighting Service (Street/thorough fare lighting)**

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

**Rates:**

a) Fixed charge	Rs 80.00 per month per kW of contracted load.	
<b>b) Energy charge (per month)</b>		
	For all units (kWh)	@ Rs 11.35 per kWh

**2.6 LT Category – 6: Public Water Works**

**Applicability:** Applicable to all public water supply system and sewerage pumping.

**Rates:**

a) Fixed charge	Rs 90.00 per month per kW of contracted load.	
<b>b) Energy charge (per month)</b>		
	For all units (kWh)	@ Rs 11.10 per kWh

**2.7 LT Category -7: Irrigation & Agriculture Service**

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

**Rates:**

a) Fixed charge	Rs 50.00 per month per kW of contracted load.	
<b>b) Energy charge (per month)</b>		
	For all units (kWh)	@ Rs 3.80 per kWh

## 2.8 LT Category – 8: Industrial Service

**Applicability:** Applicable for supply of energy for Industrial purposes, such as manufacturing/ processing / preserving of goods as such, cold storage plants/units, all types of workshops using electrical energy for such works, power looms, weaving houses, carpentry works, steel fabrication works, tyre re-treading works, black-smiths, Gold-smiths, saw mills, flour/rice mills, oil mills, re-rolling mills, motor body building works, coffee/ginger/turmeric processing units, winery plants, fruits processing plants, Ice candy units, fodder cutting units, poultry farming/ hatchery units, silk rearing/processing units, pisciculture, prawn culture units, mushroom production units, floriculture in green houses, sugarcane crushing, milk/meat processing units, bamboo processing units, paper/steel/aluminium recycling units, construction of power generating stations/substations and power supply to any generating stations.

**Rates:**

a) Fixed charge	Rs 80.00 per month per kW of contracted load.
<b>b) Energy charge (per month)</b>	
First 400 kWh	@ Rs 7.10 per kWh
All units above 400 kWh	@ Rs 8.05 per kWh

## 2.9 LT Category – 9: Electric Vehicle Charging Stations

**Applicability:** This tariff is applicable to those consumers who use electricity installations exclusively for charging Electric Vehicles (i.e., two-wheeler to four-wheeler) LT level possessed by the consumer for own transportation usage at and obtained a separate service connection for this purpose.

**Rates:**

a) Fixed charge	Rs 75.00 per month per kW of contracted load.
<b>b) Energy charge (per month)</b>	
All units consumed	@ Rs 8.20 per kWh

*Note: Consumers can charge their own Electric Vehicles at their respective premises, paying the charge applicable to the consumer category.*

**3: HT SUPPLY**

**Applicability:** - The tariffs are applicable for Consumer availing supply at voltage above 400Volts irrespective of connected load/contracted demand. It is mandatory to supply with voltage above 400V, to consumer having a contracted Load of above 50 kW or Contracted Demand of above **55.56 kVA**, as per clause 3.2 of JERC for M&M (Electricity Supply Code) Regulations, 2013, with up to date amendment.

**3.1 HT Category - I: Domestic Service**

**Applicability:** This tariff is applicable for the similar purposes as already defined in LT category- 2 above and rates are as follows:

**Rates:**

a) Demand charge	Rs 50.00 per month per kVA of Billing Demand.
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 8.65 per kVAh

**3.2 HT Category - 2: Non-Profit Public Service**

**Applicability:** This tariff is applicable for the similar purposes as already defined in LT Category-3 above and rates are as follows:

**Rates:**

a) Demand charge	Rs 60.00 per month per kVA of Billing Demand.
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 8.75 per kVAh

**3.3 HT Category - 3: Commercial Service**

**Applicability:** This tariff is applicable for the similar purposes as already defined in LT Category-4 above and rates are as follows:

**Rates:**

a) Demand charge	Rs 80.00 per month per kVA of Billing Demand.
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 8.90 per kVAh

**3.4 Category 4: Public Water Works (PWW)**

**Applicability:** This tariff is applicable for the similar purposes as already defined in LT Category- 6 above and rates are as follows:

**Rates:**

a) Demand charge	Rs 90.00 per month per kVA of Billing Demand.
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 9.85 per kVAh

**3.5 HT Category - 5: Irrigation & Agriculture Service**

**Applicability:** This tariff is applicable for the similar purposes as already defined in LT Category- 7 above and rates are as follows:

**Rates:**

a) Demand charge	Rs 50.00 per month per kVA of Billing Demand.
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 3.85 per kVAh

**3.6 HT Category -6: Industrial Service**

**Applicability:** This Tariff is applicable for all the similar purpose as already defined in LT Category – 8 above and rates are as follows:

A consumer may opt for change of existing option depending on their requirements by prior intimation to concerned billing unit working under P&ED.

Those who are willing to switch over to Option-2 shall invariably exercise the choice to swift to option-2 in writing to the Department concern else all the existing HT Industrial consumer would be treated as covered under existing category i.e., Option–1 only.

**Note:** A consumer once exercised his willingness to change may apply for change of option/reverting to old option will be allowed/entertained only after the expiry of one-year period from the date of such switching to the present option.

**Option-1 Rates: (No TOD tariff will be applied for)**

a) Demand charge	Rs 80.00 per month per kVA of Billing Demand
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 9.05 per kVAh

**Option-2 Rates: (upon switching from option-1, with TOD tariff)**

a) Demand charge	Rs 80.00 per month per kVA of Billing Demand
<b>b) Energy charge (per month)</b>	
(usage from 6Hrs upto 17Hrs)- Normal TOD	@ Rs 10.05 per kVAh
(Usage from 17Hrs upto 22Hrs) - Peak TOD	@ Rs 11.55 per kVAh
(usage from 22Hrs upto 6Hrs) - Off-Peak/Night TOD	@ Rs 8.55 per kVAh

### 3.7 HT Category - 7: Bulk supply within the State

**Applicability:** Applicable for HT Consumers having single point metering of mixed load of housing complex, multi-storeyed building, Military Engineering Service (MES), Border Road Task Force (BRTF), etc. where the supply is used predominantly for domestic purpose (**with domestic load not less than 85 % of the total load**) and internal maintenance of power supply is carried out by the bulk consumers themselves.

Tariff Rates are as follows:

**Rates:**

a) Demand charge	Rs 90.00 per month per kVA of Billing Demand.
<b>b) Energy charge (per month)</b>	
All kVAh	@ Rs 6.85 per kVAh

### 3.8 HT Category - 8: Electric Vehicle Charging Station

**Applicability:** This tariff is applicable to similar purposes defined in LT Category-9 as below.

This tariff is applicable to those consumers who use electricity installations exclusively for charging Electric Vehicles (i.e., two-wheeler to four-wheeler) at HT level possessed by the consumer for their own transportation usage and obtained a separate service connection for this purpose.

**Rates:**

a) Fixed charge	Rs 75.00 per month per kVA of contracted load.
<b>b) Energy charge (per month)</b>	
All units consumed	@ Rs 8.65 per kVAh

*Note: Consumers can charge their own Electric Vehicles at their respective premises, paying the charge applicable to the consumer category.*

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**B: FULL COST TARIFF (FCT) ( i.e., WITHOUT SUBSIDY)**

Sl. No.	Consumer Category	Approved Full Cost Tariff (FCT)	
		Energy Charges (Rs/month)	Fixed Charges (Rs.)
<b>1</b>	<b>Kutir Jyothi</b>		
i)	First 20 kWh	9.60/kWh	25/Connection
ii)	Balance above 20 kWh	11.94/kWh	25/Connection
<b>2</b>	<b>Domestic</b>		
A	<b>Low Tension</b>		
i)	First 100 kWh	8.29/kWh	50/kW of Contracted Load
ii)	Next 100 kWh	9.61/kWh	50/kW of Contracted Load
iii)	Balance above 200 kWh	10.17/kWh	50/kW of Contracted Load
B	<b>High Tension</b>	9.63/kVAh	50/kVA of Billing Demand
<b>3</b>	<b>Non-Profit Public Service</b>		
A	<b>Low Tension</b>		
i)	First 150 kWh	7.92/kWh	60/kW of Contracted Load
ii)	Balance above 150 kWh	9.35/kWh	60/kW of Contracted Load
B	<b>High Tension</b>	9.57/kVAh	60/kVA of Billing Demand
<b>4</b>	<b>Commercial</b>		
A	<b>Low Tension</b>		
i)	First 150 kWh	10.03/kWh	80/kW of Contracted Load
ii)	Balance above 150 kWh	10.98/kWh	80/kW of Contracted Load
B	<b>High Tension</b>	7.00/kVAh	80/kVA of Billing Demand
<b>5</b>	<b>Public Lighting</b>	10.05/kWh	80/kW of Contracted Load
<b>6</b>	<b>Public Water Works</b>		
A	Low Tension	10.64/kWh	90/kW of Contracted Load
B	High Tension	8.44 /kVAh	90/kVA of Billing Demand
<b>7</b>	<b>Irrigation &amp; Agriculture</b>		
A	Low Tension	10.03/kWh	50/kW of Contracted Load
B	High Tension	7.93/kVAh	50/kVA of Billing Demand
<b>8</b>	<b>Industrial</b>		
A	<b>Low Tension</b>		
i)	First 400 kWh	7.46/kWh	80/kW of Contracted Load
ii)	Balance above 400 kWh	7.49/kWh	80/kW of Contracted Load
B	High Tension (Op-1)	9.56/kVAh	80/kVA of Billing Demand
	High Tension (Op-2)	10.20/kVAh	80/kVA of Billing Demand
9	Electric Vehicle charging Stns (LT)	11.21/kWh	75/kW of Billing Demand
10	Electric Vehicle charging Stns (HT)	9.66/kVAh	75/kVA of Billing Demand
<b>11</b>	<b>Bulk Supply</b>	9.27/kVAh	90/kVA of Billing Demand

**4. Temporary 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 with latest amendments. If the applicant provides the materials for service line, it shall be treated as per clause 4.133 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendments. **If the licensee/Discom desired to delegate power to its various level of officers, it may be done so through an executive order issued by the licensee/Discom. However, in all cases, overall duration should not violate the supply code duration mentioned above.** If the service line is arranged by consumer, it shall be treated as per clause 4.133 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendments and be returned to the consumer after the period is over. Bill shall be served at the following rates:

**Rates:**

a) <b>Fixed /Demand charge:</b>	1.5 times the rate of fixed/demand charge of the applicable tariff category for which power supply is given.
b) <b>Energy charge per month:</b>	1.5 times the rate of the highest rated slab of the applicable tariff category for which energy is supplied.

**5. Computation of un-metered energy:**

**5.1 Street light billing: - (1) As per Section 55 of Electricity Act 2003 and also as per clause 5.1 of the JERC for Manipur & Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendments, no installation should be serviced without appropriate and correct meter. Keeping in view, the elapse of many more years from E. Act 2003 promulgation and also after several years elapsed from the supply code effective date, the formula for computation of energy consumed for unmetered supply in crude way is felt unnecessary and hence withdrawn. **P&ED should install meters for all street lighting supply at all points along with DT metering and bill them accordingly.****

**5.2 P&ED has achieved 100% metering of all consumers as per report in the 18<sup>th</sup> State Advisory Committee meeting.** Hence, separate computation methodology is no longer required and hence deleted fully & withdrawn forthwith. **(5.1 above shall not be applicable).** Billing under defective, burnt, lost meter shall be made as per the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013 with latest amendment.

**5.3 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. **with up to date amendment.** 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 instances:** - 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 instances:** - Six (6) times of the rate of the applicable tariff (fixed and variable charges) for which the stolen energy was utilized.

**6. Miscellaneous Charges (Part of Non-Tariff Income)**

**6.1 Meter Rent for (non-Smart/Smart) meters:** Monthly charges for hiring of the meter, indicator shall be as follows:

**6.1.1 LT Metering: (Non-Smart) meters**

a) AC, Single phase Energy meter whole current	Rs.20.00 per month
b) AC, Three phase Energy meter, whole current	Rs.35.00 per month.
c) AC, Three phase Energy meters, <b>CT operated</b>	Rs.50.00 per month
d) Any other type of meter/indicator	Rs.100.00 per month

<b>For Smart Meters rental charges</b>	
a) AC, Single phase Energy meter whole current	Rs.50.00 per month
b) AC, Three phase Energy meter, whole current	Rs.60.00 per month.

**6.1.2 HT Metering: (Non-Smart meter rental)**

a) AC, three phase Energy meter, CT & PT operated	Rs.200.00 per month.
b) Any other type of meter/indicator	Rs.300.00 per Month.

**For Smart Meter Rentals for HT**

AC, three phase Smart Energy meter, CT & PT operated	Rs.250.00 per month.
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## 6.2. Pole/Tower usage charge per month

### 8.2.1 For supporting of internet/media/telephone cables:

This charge shall be borne by Operator/Distributor of visual media network.

- a) Rs.10.00 per pole per cable per month in case of internet cable/ media cables/visual media cables
- b) Rs.20.00 per pole per month per cable in case of landline telephone cable. (a cable having up to 5 pair of lines shall be taken as one cable for this purpose) Telephone cable having more than 5 pairs shall be considered as 2, 3 etc, by dividing actual number of pairs by 5 to arrive at equivalent number of cables. Any fraction shall be rounded to next higher integer.

## 6.3. Other charges for meter:

### (a) Meter shifting charge:

- i) Rs.200.00 per shifting if it resulted from reconstruction/ modification of building by consumer or at consumer's request. Material to be borne by interest party.
- ii) Free of cost if shifting is done in the interest to licensee. Required material to be borne by licensee.

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

### (b) The cost of replacement and execution charge:

Utility shall have stock of energy meter as per clause 5.51 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. with up to date amendment. 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.

### i) Execution charge for re-installation/installation of meter:

- a) For existing consumer, it shall be Free of cost.
- b) For disconnected consumer with meter removed: Rs.100.00
- c) For new consumer, it shall be included in the cost of service connection under the nomenclature **execution charges**.

### ii) Cost of Energy Meters supplied by Licensee:

If the consumer prefers to buy meter from the Licensee for new connection or for replacement for a faulty meter, the price will be at the Licensee's purchase rate if supplied by the Licensee after collection of Rs.100/- towards storage charges (*Prima facie energy meters installed for usage shall be of those approved or tested & approved by the Licensee*).

However, when the cause leading to subsequent replacement instance either due to manufacturing defect or fault on the part of licensee then, **it shall be done free of cost.**

**c) Testing charge of Meter at the request of consumers:** (Testing charge is inclusive of costs of meter re-sealing materials/equipment).

Sl.No	Type of Meter for testing	Charges payable
i)	For AC, Single phase LT energy meter	Rs.75.00 per meter per testing.
ii)	For AC, Three phase LT energy meter whole current	Rs.100.00 per meter per testing.
iii)	For AC, Three phase LT energy meter, CT operated	Rs.200.00 per meter per testing.
iv)	For energy meter, AC Three Phase, CT & PT operated	Rs.300.00 per meter per testing.
v)	For any other type of meter HT supply	Rs.300.00 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. with up to date amendment.

#### 6.4 Testing charge of Consumer's Installation:

The first test and inspection will be carried out free of cost as per Clause 4.47 of JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. Should any further test or inspection be 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.150.00** per test, payable in advance, shall be levied. In the event of the consumer failing to pay the testing charge in advance within stipulated time, the Licensee will be at liberty to disconnect the consumer's premise from the supplier's main.

#### 6.5 Disconnection and Reconnection:

(1) **Disconnection:** -Disconnection of an installation in all cases will be **free of charges**.

(2) **Reconnection:** - Reconnection charge shall be as follows: -

(i)	For AC single phase LT supply	Rs.100.00
(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 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. with up to date amendment.

**6.7 Mutation Fee:** -Mutation fee i.e. fee for change of name shall be Rs 50.00 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 with up to date amendment.

#### 6.8 Charges for Replacement of Connection Wire, Cut-out, Fuse, meters etc.:

Cost of replacement after initial fixation of connection wire, cut-out, fuses, meters etc. will be borne by the consumers and shall be payable by the consumer in advance. If the Licensee supplies the materials, or the consumer may arrange required materials as per the required specifications of the Licensee. The execution charges shall be as follows:

**(1) For Cable and wire (if meter cost borne by consumer):**

(a)	Single phase connection:	Rs. 400.00 per connection.
(b)	Three phase connection:	Rs. 600.00 per connection.
(c)	HT three phase connection:	Rs. 900.00 per 100 meters of the HT line.

**Note: - In case if meter is provided by Licensee, the additional cost payable by consumer(s) will be as specified by the Licensee along with applicable Taxes if any.**

**2) For Cut-Out & Fuse: -**

1) per Cut-Out - Rs 10.00
2) per Fuse - Rs 3.00

**1) For Replacement of meters**

a) Single Phase: Rs.40/- b) Three Phase: Rs.60/- c) CT operated: Rs.80/- d) CT & PT operated: Rs.80/-
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**Works shall be executed only on production of payment receipt from concerned office.**

#### **6.9 Re-rating charge of Consumer's Installation:**

This charge is for meeting expenses toward spot verification of load and other connected recording works. Charge for re-rating of the consumer's installation at the request of the consumer shall be Rs.150.00 per rerating per connection. Inspection for re-rating should be carried out only on advance payment in the concerned office and on production of such payment receipt.

*The aforesaid charges do not include the charges payable by the consumer for other works connected due to change of connected load (like additional load security, etc. However excess security paid by consumer should be returned by way of adjustment in monthly bill in one instalment). 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. with up to date amendment.*

#### **6.10 Security Deposits: -**

##### **(i) Meter Security (if Licensee's meter is used):**

The amount of Security deposit for meter security shall normally be the price of the meter as fixed by the licensee from time to time *in line with section 55 of Electricity Act 2003.*

##### **(ii) Load Security:**

The amount of load 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 with up to date amendment. ***However, consumer with prepaid meter shall not be required to pay load security deposit.***

#### **6.11- Charges for Replacement of tamper proof Meter Housing Box:**

For AC single phase LT or three phases LT without CT or with CT, the energy meter box if replaced from Licensee's store: The charge will be as per Licensee's purchase rate.

**The execution charges shall be as follows:**

- |  |
|--|
| a) Single Phase: Rs.20/- b) Three Phase: Rs.30/-<br>c) CT operated: Rs.40/- d) CT & PT operated: Rs.40/- |
|--|

#### **6.12- Charges for Testing of Transformer Oil:**

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

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

**6.13- Service Lines & Service Connection:**

**(a) 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 JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. with up to date amendment.

**(b) Cost of Service Connection:** As stipulated in Clause 4.37 & 4.131 of the JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013. If the consumer desires to arrange service connection materials, the Licensee (not below rank of Junior Engineer concerned) will check all the materials.

**6.14 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. with up to date amendment.





## **ANNEXURES**



## ANNEXURE-I

**MINUTES OF 25<sup>th</sup> MEETING OF  
THE STATE ADVISORY COMMITTEE OF MIZORAM**

**Date: 20<sup>th</sup> MARCH, 2023 Time :11:00 A.M.  
Venue: AIJAL CLUB, TENNIS COURT, AIZAWL.**

The list of Members and Participants who attended the Committee is appended.

The Chairman of the Committee and Chairperson of the Commission, Mr. Lalcharliana Pachuau was on the chair and he started the programme by welcoming Members of the State Advisory Committee and the Special Invitees. He invited Mr. H.Thanthianga, Chief (Engg.) of JERC (M&M) to initiate item-wise discussion of the agenda and discussion was started.

**Agenda 1: Confirmation on the Minutes of the SAC Mizoram held on 2<sup>nd</sup> March, 2022.**

The Chief (Engg.), JERC (M&M) requested the Members of the Committee whether the minutes of the Meeting were correctly minuted and after due affirmation from the Members, the minutes was declared as confirmed.

**Agenda 2: Review of action taken on the Minutes of the 24<sup>th</sup> Meeting of SAC, Mizoram.**

**i. Public awareness and vigilance report.**

The E-in-C, P&E Department informed the Meeting that In regard to Public awareness relating to pilferage, theft and tempering of electricity as regard to awareness generation Power & Electricity Department had conducted a talk shows in the All India Radio (AIR) and Doordarshan Kendra (DDK) (The latest talk show was broadcasted on 22<sup>nd</sup> April, 2022). Apart from the said mention point the Department also conducted public awareness on the following venue and date:

Sl No.	Venue	Date
1	Khawdungsei	10.02.2023
2	Kawlkulh	15.02.2023
3	Ngopa	08.02.2023
4	Vairengte	02.03.2023
5	Bilkhawthlir	15.03.2023
6	Bukpui	09.03.2023
7	I&PR Auditorium, Champhai	13.02.2023
8	Saikhumphai	16.02.2023
9	Kawrtethawveng	02.03.2023
10	Darlawn	23.02.2023
11	Sakawrdai	23.02.2023
12	Tlungvel	04.02.2023
13	Sesawng	20.02.2023

Sl No.	Venue	Date
14	Thingsulthliah	03.03.2023

Power & Electricity Department from the Head office and Field offices had taken various step to mitigate power theft, the number of case imposed and the amount realized against the power theft is enclosed in the Annexure-I.

In this regard more awareness campaign is felt necessary that even in Aizawl city there is unauthorized hooking as informed by Pu Lallunghnema. The P&E Department informed the Committee that special vigilance drives has been held in the department's quarters at Electric Veng and Zuangtui. Pu Vanlalruata, Member informed the Committee that street lights are also put on on during day time at Aizawl. In this regard, the P&E Department replied that Aizawl street lights are under the purview of AMC including maintenance etc. and that the Department has not say in this matter. Pu Lalchharliana Pachuau, Chairman stated that co-ordination between P&E Department and AMC on street lights is necessary but it is not clear who will be a coordinator in this issue.

Pu Vanlalruata also elaborated that a proper forwarding letter be prepared and be sent to AMC on maintenance of street lights. Pu Thanglura also commented why street lights are handed to AMC when they do not have competent staff, this is a serious issue and should be taken quickly.

(ii) The Engineer-in-Chief P&ED Pi Lalhmingliani Hmar gave a detailed report on updating contracted and connected load and up to date outstanding dues of the P&E Department as:

In regard to updated report data (latest data) in respect of number of consumers, connected load and contracted load under up to date latest compilation (as on January, 2023) is enclosed as Annexure II. Also, the up to date outstanding dues of the Government as on 28<sup>th</sup> February, 2023 is shown below:

Sl No.	Particulars	Dues as on 28.02.2023 (Rs in crore)
1	Public Health Engineering	32.14
2	Local Administration Department	4.45
	Total	36.59

In regards to rerating of contracted load, action has been taken already in the year 2018 in which all the consumers under the Power & Electricity Department were intimated to

update their contracted load. Accordingly, as contracted load updated by the consumers the Department reflected the same in the consumer bill.

In addition to above, the contracted and connected load of the consumer have been registered as fill up by the applicant for new electricity connection.

Pu Thanglura, Member commented that more way forward action is to be taken on contract and connected load and suggested to conduct awareness on this matter together by MCU and P&E Department. The Engineer-in-Chief agreed to this suggestion.

(iii) The Engineer-in-Chief, P&E Department gave report on the latest status of installation of prepaid metering system as prepaid billing engine is already integrated in production server of SAP billing solution and meter data management system (MDMS) is also collecting data from Smart Meter successfully. But for communication between data server of SAP Billing Solution and MDMS data server due to different architecture set up, we are facing some issues regarding configuration of server IPs and URL address in the API. Communication is finally done on dt. 17<sup>th</sup> March, 2023 but bug fixing and rectification is ongoing by accessing meter data from SAP data server to MDMS data server online which is expected to complete soon. Mr. Lalrinmawia, Sr. Executive Engineer, P&E Department gave a report of pilot project at Zarkawt Feeder which has been completed.

(iv) The E-in-C gave a report on quarterly report of energy audit and case study of transmission loss at 132kV level and 33kV level as Quarterly Report of Energy Audit is prepared and furnish to Bureau of Energy Efficiency as per prescribe format with effect from 2<sup>nd</sup> quarter of 2021-22. However, some queries are received from BEE and clarification thereof had been submitted. Since then, no approval nor rejection is conveyed to them. The same copy of Energy Audit under scrutiny can be furnished to Joint Electricity Regulatory Commission (Manipur & Mizoram) if desired.

As per the report given by the concerned Superintending Engineer, SLDC Mr. J.H. Laithangliana in regard to detail report in respect of transmission line loss at 132kV and 33kV level during FY 2022-23, the transmission loss worked out with the energy meter reading of the metering system even at 132kV level is still doubtful. However, he stated that improvement of metering system is in progress under SAMAST to obtain reliable and accountable data for the Circle-wise energy accounting and it is expected to be able

to furnish the line loss at all 132kV and 33kV lines covered under SAMAST before end of next Financial year.

(v) The Engineer-in-Chief, P&E Department gave the latest status on installation of meter testing as Power & Electricity Department approached Legal Metrology Department regarding requirement for installation of 3<sup>rd</sup> party testing facilities. Pursuance to this legal metrology Department submitted the requirement – meter testing bench (1 no.) and portable meter testing unit for 13 towns including requirement of Lab Technician to the Government. However, no positive response has been received from the State Government. Meantime, the Department procured 6 numbers of portable energy meter testing kit and installed at Aizawl, Lawngtlai, Tuipang, Lungsen, Darlawn and West Phaileng. The members felt that the P&E Deptt shall take effort to install more testing kits at various places for easy access by the consumers.

(vi) The Engineer-in-Chief informed the Committee that Power & Electricity Department wrote to the Government (Finance Department) regarding provision of function wise Budget Head. However, in reply to this the Finance Department observed that Power & Electricity Department is gearing up to restructure into function wise strategic business unit as per Department Operation Co-ordination Committee (DOCC) Minute of Meeting dated 22<sup>nd</sup> February, 2023. Without segregation into function wise activity, segregation of Budget head could not be provided realistically. Superintending Engineer (Commercial) Mr. Benjamin L.Tlumtea supplemented that action is being taken within the Department for function-wise segregation. Pu Thanglura felt that the P&E Department shall be corporatized / unbundled soon for improvement in different duties and activities.

(vii) The up to date status on enhancement of street lights and installation of street lights meters report was given by E-in-C, P&E Department as The Department approached Local Administration Department (LAD) for preparation of estimate for enhancement of street light and metering system in the villages. Based on this, Local Administration Department (LAD) submitted approved number of street light location in various villages. The Power and Electricity Department prepared and estimate uniformly covering various villages as per the input from field offices, the same is being

scrutinized in the head quarter office and submit to LAD after finalization for seeking fund. The members felt that only license holder shall be utilized to install and repair street lights.

**Agenda 3. Employment of new type of Energy Meter.**

Pu Lalchharliana Pachuau, Chairman informed the Committee that it is a fact that consumer bill can vary depending on the date of actual meter reading and hardly match perfectly with dates of calendar month that this is due to humanitarian problem or technical issue, to avoid this variation he requested P&E Department to install / introduce meters for new connections and replacement that can have meter reading of at least 3 months or more in its memory of the meter box which can be read / recorded by the meter reader by pressing the key button. The members recommended that P&E Department should install / introduce this kind of meters capable of storing and showing readings for the last three months or more from June, 2023 onwards for new connections and mal-functioning replacement of meters. The E-in-C informed the Committee that they will seriously look into this matter and that they will try to introduce this kind of meters from June, 2023. P&E Department will impart method of taking reading from memory of meter to all concerned staff.

**Agenda 4. Agenda submitted by Pu Lallunghnema, Member, SAC, Mizoram.**

Pu Lallunghnema, Member has submitted agenda in which he informed the Committee that there are lots of power theft in Mizoram and there should be ways and means to stop this issue. The P&E Department replied that continuous vigilance from power theft is being done and on power theft defaulters has been fined and that this will be a continuous process. Pu Lallunghnema also informed that as per Electricity (Rights of Consumers Rules 2020) proper Consumer Grievances Redressal Forum (CGRF) should be constituted. The P&E Department informed that CGRF has been formed and that members are also being constituted, however, members service conditions shall be looked into for further necessary action. The SAC members further recommended that each composition of all CGRF with names and designation be published in the newspaper having wide circulation by the P&E Department.

**Agenda 5. Determination of Retail Tariff of P&E Department for FY 2023-24**

Mr. H.Thanthianga, Chief (Engg.) informed the Committee that as required by Sections 61, 62 and 64 of the Electricity Act, 2003 and as per the Multi Year Tariff (MYT) Regulations, the Power & Electricity Department, Government of Mizoram has filed

recently the Multi Year ARR for the FY 2023 – 24 to FY 2027 – 28 and Tariff Petition for the FY 2023 – 24 with the Commission and the same is now under vetting. Executive summary of the Petition has also been published in local newspapers for information of general public.

Power Point Presentation was made by P&E Department on their Petition. The Department informed the Committee in this Petition they have changed the category and introduce new category like time of date (TOD) tariff etc.

Pu Fabian Lalfakawma, representing, CYMA informed the Committee that the Association is of the view that corporatization of the Department is high time now where-in the company can run successfully and reduce unnecessary spending. Pu Vanlalruata said that collection and billing efficiency is very low it is seen that nearly 64% of bills is not collected. Pu C.N.Tluanga, Sr. Vice President, Mizoram Chamber of Industries and Commerce stated that the present tariff is high for the industries and increasing the tariff again will hit the industries very badly. AMFU also stated why Irrigation and Agriculture tariff proposed rates are too high and it is not acceptable for them. Pu Lalchharliana Pachuau, Chairperson, JERC informed the members that power supply to irrigation and agriculture is for water pump to irrigate agriculture land for more harvesting of agricultural product and not for house / residence at agricultural land. If no water pump is install, it cannot be treated as irrigation and agriculture category of consumer. P&E Department may look into it.

The Meeting ended at 3:30 pm with vote of thanks from the Chair.

Sd/-  
LALCHHARLIANA PACHUAU  
Chairperson

**Memo No.H.11019/27/21-JERC, Dated Aizawl, the 28<sup>th</sup> March, 2023**

Copy to:

1. P.S to Hon'ble Chief Minister, Gov't of Mizoram for kind information to the Hon'ble Chief Minister.
2. P.S to Hon'ble Minister, i/c P&E Department Gov't of Mizoram for kind information to Hon'ble Minister, i.c P&E Department.
3. PS to Secretary, P&E Department, Gov't of Mizoram for kind information to the Secretary and for taking necessary action on the Minutes of the Meeting.
4. P.S. to Commissioner, Finance to submit function wise Budget head of account as in Agenda 6.
5. All Members / Invitees of the State Advisory Committee for kind information and for taking necessary action on the Minutes of the Meeting.
6. Sd/-Guard File.



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## Annexure-I

REPORT ON THEFT OF ENERGY UPTO 3<sup>RD</sup> QUARTER FY 2022-23

Office : Engineer-in-Chief

Department : Power &amp; Electricity Department

Sl No.	Items of Report	CE (SO)	CE (D)	PC-II	Grand Total
1	2	3	4	5	6
1	No of cases where inspection were carried out	6,540	6,428	463	13,431
2	No of cases where theft or misuse was detected				
	a) Meter by-pass	360	429	-	789
	b) Hooking	33	43	-	76
	c) Meter Interference	-	3	-	3
	d) Contract Load exceed	-	461	-	461
	Total (a+b+c = d)	393	936	-	1,329
3	Estimate quantity of Energy considered as pilfered (kWh)	12,613	20,783	-	33,396
4	No of cases where sentence were imposed	457	78	-	535
5	Quantity of Energy for which cost were recovered (KwH)	12,613	20,783	-	33,396
6	Total loss amount assessed (Rs)	4,40,027.0 0	80,570.00	0.00	5,20,597.00
7	<b>Amount realized (Rs)</b>	<b>4,40,027.00</b>	<b>80,570.00</b>	<b>0.00</b>	<b>5,20,397.00</b>

## Annexure-II

**Updated report of no. of consumer, contracted load and connected load under Power & Electricity Department (as on January, 2023)**

Sl. No.	Category	No. of consumers	Contracted Load (in kW)	Connected Load (in kW)
1	KJS	18,056	5,311.45	5,579.62
2	Dopmestic	240,956	314,479.32	3,91,204.24
3	Non-Domestic	8,156	23,874.16	25,277.78
4	Commercial	13,800	60,784.85	62,758.89
5	Industrial	1,053	14,632.42	15,087.02
6	PWW	81	56,401.25	67,540.50
7	Bulk Supply	170	19,107.82	19,730.29
8	Public Lighting	698	2,554.99	2,554.99
9	Irrigation	57	222.47	230.39
	Grand Total	283,027	497,368.73	589,963.72
			<b>497.37 MW</b>	<b>589.96 MW</b>

**List of Members and Participants attended**  
**25<sup>th</sup> Meeting of the State Advisory Committee of Mizoram**

**Date & Time : 2nd March, 2022 (Wednesday) 11:00 a.m.**

**Venue: Aijal Club, Tennis Court Hall, Aizawl**

Sl. No.	Name	Designation
1	Pu Lalchharliana Pachuau	Chairperson, JERC(M&M)
2	Pi Lalhmingliani Hmar	Engineer-in-Chief, P&ED
3	Pu Richard Zothankima	Secretary, JERC (M&M)
4	Pu H.Thanthianga	Chief (Engg.), JERC (M&M)
5	Pu R.Laltanzuala	Jt. Director, Commerce & Industries Deptt.
6	Pu Ngursailova Sailo	Director, ZEDA
7	Pu H.Laldikliana	President Mizoram Consumers Union
8	Pu Fabian Lalfakawma	President, CYMA
9	Pu Lalbuatsaiha	Asst. Secretary AMFU
10	Pu Lalhmachhuana	Gen. Secretary AMFU
11	Pu RK Thanga	Vice President, MUP
12	Prof. H.Lalramngihglova	Dept. of Environment Sciences, MZU
13	Pu Lallunghnema	Republic Veng, Aizawl
14	Pu Vanlalruata	Tuikual, Aizawl
15	Pu Thanglura	Venghlui, Aizawl
16	Dr. Zonuntluanga	Bethlehem Vengthlang
17	Pu Lalrammawia	Chief Engineer, PHE
18	Pu C.N.Tluanga	MCCI Sr. Vice President
19	Pu H. Zonunsanga	C.E. (R.E.) P&E
20	Pu J.H. Laithangliana	SE (SLDC)
21	Pu Benjamin L.Tlumtea	SE, Commercial
22	Pu H.Lalnunsanga	EE (Comm.) P&ED
23	Pu P.C. Lalremruata	AE (Commercial) P&E Department
24	Pu Lalrinmmawia	Sr. EE P&ED
25	Pu David Lalnunpuia	JE (Comm) P&ED
26	Pu Lalremruata Sailo	PAO, JERC (M&M)
27	Pu Sanjeib Majhi	Consultant, P&ED
28	Pi Lalsawmliani	JE, Commercial
29	Pu BC Lalremruata	CO, Commercial

## ANNEXURE-II

**LIST OF PARTICIPANTS ATTENDED THE  
PUBLIC HEARING ON ARR & TARIFF PETITION FOR FY 2023-24  
SUBMITTED BY POWER & ELECTRICITY DEPARTMENT, GOVT. OF MIZORAM**

Venue : Aijal Club, Tennis Court, Aizawl, Mizoram.

Date & Time: 22<sup>nd</sup> March, 2023 (Wednesday) at 11.00 a.m. to 1.00 pm

Sl. No.	Name	Designation
1.	Mr. LALCHHARLIANA PACHUAU	CHAIRPERSON, JERC (M&M)
2.	Mrs. LALHMINGLIANI HMAR	ENGINEER-IN-CHIEF, P&ED
3.	Mr. K. HARI PRASAD	CONSULTANT, JERC (M&M)
4.	Mr. RICHARD ZOTHANKIMA	SECRETARY, JERC (M&M)
5.	Mr. H. THANTHANGA	CHIEF (ENGINEERING), JERC (M&M)
6.	Mr. LALLUNGHNEMA	MEMBER, SAC
7.	PROF. CHAWNGSAILOVA	PRESIDENT, MCU
8.	Mr. THANGLURA	VICE-PRESIDENT, MCU
9.	Mr. K. THANMAWIA	MUP
10.	Mr. VANLALRUATA	MEMBER, SAC
11.	Mr. LALMUANPUIA PUNTE	GS, ZPM
12.	Mr. LALTHAZUALA RAWITE	GS, ZPM
13.	Mr. R. LALHMINGMAWIA	GS, MPYCC
14.	Mr. ZOHMINGTHANGA TLAU	SECRETARY, MPCC
15.	Mr. LALMUANKIMA	DESPATCH RIDER, JERC (M&M)
16.	Mr. LALCHANCHINMAWII	ASSISTANT SECRETARY, JERC (M&M)
17.	Mr. LALREM RUATA SAILO	PAY & ACCOUNTS OFFICER, JERC (M&M)
18.	Mr. H. NANDO SINGH	PE, JERC (M&M)
19.	Mr. C. LALRUATPUIA	AIZAWL POST
20.	Mr. LALRAMDINSANGA	LPS
21.	Mr. H. LALLAWMZUALI	MCU
22.	Mr. H. LALDIKLIANA	MCU
23.	Mr. V.K. REMSANGPUII	JE (COMMERCIAL)
24.	Mr. H. LALNUNSANGA	EE (COMMERCIAL)
25.	Mr. BENJAMIN L. TLUMTEA	SE (COMMERCIAL)
26.	Mr. H. ZONUNSANGA	CE (RE)
27.	Mr. PC. LALREM RUATA	AE (COMMERCIAL)
28.	Mr. SANJIB MAJHI	CONSULTANT, P&ED
29.	Mr. B.C. LALREM RUATA	COMPUTER OPERATOR
30.	Mr. DAVID LALNUNPUIA	JE (COMMERCIAL)
31.	Mr. LALSAWMLIANI	JE (COMMERCIAL)
32.	Mr. C.N. THANGA	SR. VICE PRESIDENT, MIZORAM CHAMBER OF COMMERCE & INDUSTRIES
33.	Mr. LALREM RUATI	STENO, JERC (M&M)
34.	Mr. C. LALLAWMKIMI	CLERK, JERC (M&M)

Annexure-III

Commission approved Revenue with existing Tariff & New categories w.e.f 1.04.2023 in FY 2023-24														
Sl. No.	Consumer Category (FY 2023-24)	Consumer s	Connected Load (in kW)	Annual energy Sales (in MU)	Sales/ Consumer /Month (in kWh)	Fixed Charge ( /kW)	Energy Charge ( /kWh)	Annual Revenue		Annual Revenue ( Crs)	Avg. per unit ( /kWh)	Cat. Subsidy % among ABR & FCT	Subsidy % of FCT- ACS	Full Cost Tariff (ACS)
								Fixed Charges ( Crs)	Energy Charge/ ( Crs)					
1	2	3	4	5	6	7	8	9	10	11=(9+10)	12=11/5	13	14	15
1	<b>KJ(Domestic)</b>					Conc/k W	( /kWh)	( /kWh)						
i)	First 20 kWh	13276		2.21	13.86		2.55	0.40	0.56	0.961	4.35	61.82%	55.82%	11.40
ii)	Above 20 kWh	10796		4.00	30.89		3.55	0.32	1.16	1.485	3.71	66.95%	62.34%	11.23
	<b>Sub Total</b>	<b>24072</b>	<b>5925.94</b>	<b>6.21</b>		<b>25</b>	<b>0.72</b>	<b>1.72</b>	<b>2.447</b>	<b>3.94</b>	<b>65.11%</b>	<b>60.02%</b>	<b>11.29</b>	
2	<b>Domestic</b>					/CL/k W	( /kWh)							
i)	First 100 kWh	140769	105817.5	97.49	57.71		4.90	6.35	47.77	54.118	5.55	37.94%	43.67%	8.95
ii)	101 - 200 kWh	65391	100371.4	92.47	117.84		7.10	6.02	48.39	54.412	5.88	35.66%	40.29%	9.15
iii)	Above 200 kWh	45964	125243.4	115.38	209.19		8.20	7.51	70.35	77.860	6.75	30.14%	31.53%	9.66
	<b>Sub Total</b>	<b>252124</b>	<b>331432.26</b>	<b>305.34</b>		<b>50</b>	<b>19.89</b>	<b>166.50</b>	<b>186.390</b>	<b>6.10</b>	<b>34.19%</b>	<b>38.06%</b>	<b>9.28</b>	
3	Domestic HT	24	4975.58	3.62		50	8.65	0.33	3.48	3.814	10.53	9.41%	-6.81%	11.62
	<b>Total Domestic</b>	<b>252148</b>	<b>336407.85</b>	<b>315.17</b>				<b>20.94</b>	<b>171.71</b>	<b>192.651</b>	<b>6.11</b>	<b>34.57%</b>	37.98%	<b>9.34</b>
4	<b>Non-Profit Public Service</b>													
i)	First 150 kWh	6636	7596.44	3.93	49.29		7.60	0.55	2.98	3.530	8.99	3.48%	8.74%	9.32
ii)	Above 150 kWh	1900	11260.72	5.82	255.24		8.30	0.81	4.59	5.401	9.28	6.30%	5.81%	9.91
	<b>Sub Total</b>	<b>8536</b>	<b>18857.16</b>	<b>9.74</b>		<b>60</b>	<b>1.36</b>	<b>7.57</b>	<b>8.931</b>	<b>9.17</b>	<b>5.21%</b>	<b>6.99%</b>	<b>9.67</b>	
5	<b>Non-Profit PS HT</b>	19	3094.72	14.15	62936.14	60	8.75	0.25	13.76	14.009	9.90	8.39%	-0.43%	10.80
	<b>Total Non-Profit PS</b>	<b>8554</b>	<b>21951.88</b>	<b>23.90</b>				<b>1.61</b>	<b>21.33</b>	<b>22.940</b>	<b>9.60</b>	<b>7.18%</b>	<b>2.60%</b>	<b>10.34</b>
6	<b>Commercial</b>													
i)	First 150 kWh	8147	18193.33	14.13	144.49		8.20	1.75	11.58	13.33	9.44	16.23%	4.25%	11.26
ii)	Above 150 kWh	5305	29418.81	22.84	358.83		8.45	2.82	19.06	21.89	9.58	18.91%	2.77%	11.82
	<b>Sub Total</b>	<b>13452</b>	<b>47612.14</b>	<b>36.97</b>		<b>80</b>	<b>4.57</b>	<b>30.65</b>	<b>35.219</b>	<b>9.53</b>	<b>17.92%</b>	<b>3.34%</b>	<b>11.61</b>	
7	<b>Commercial HT</b>	374	18996.08	14.10	0.00	80	8.90	2.03	13.95	15.973	11.33	-22.94%	-14.92%	9.21
	<b>Total Commercial</b>	<b>13826</b>	<b>66608.21</b>	<b>51.07</b>				<b>6.60</b>	<b>44.60</b>	<b>51.192</b>	<b>10.02</b>	<b>8.42%</b>	<b>-1.71%</b>	<b>10.94</b>
8	Public Lighting	1453	1418.92	2.61		80	11.35	0.14	2.96	3.096	11.87	-12.27%	-20.47%	10.57
9	PWS LT	12	1057.30	6.84		90	11.10	0.11	7.59	7.705	11.27	-4.27%	-14.33%	10.81
10	PWS HT	77	60801	84.22		90	9.85	7.30	92.17	99.470	11.81	-15.33%	-19.85%	10.24
11	Agl LT	41	88	0.06		50	3.80	0.01	0.02	0.026	4.76	56.68%	51.71%	10.99
12	Agl HT	3	228	0.10		50	3.85	0.02	0.04	0.058	5.81	43.82%	41.02%	10.35
13	<b>Industrial LT</b>													
i)	First 400 kWh	996	8373.65	1.86	156.10		7.10	0.80	1.32	2.13	11.41	3.05%	-0.16	11.77
ii)	Above 400 kWh	132	4200.99	0.94	589.33		8.05	0.40	0.69	1.10	11.72	0.53%	-0.19	11.78
	<b>Total Industrial LT</b>	<b>1128</b>	<b>12574.65</b>	<b>2.80</b>		<b>80</b>	<b>1.21</b>	<b>2.02</b>	<b>3.224</b>	<b>11.51</b>	<b>2.21%</b>	<b>-0.17</b>	<b>11.77</b>	
14	Industrial HT (Opt-1)	14	5731.70	5.77	0.00	80	9.05	0.61	5.80	6.410	11.12	4.84%	-0.13	11.68
	Industrial HT (Opt-2)	2	764.23	2.50	0.00	80	10.52	0.08	2.92	3.004	12.01	-3.09%	-0.22	11.66
15	EV charging Stns (LT)	4	1203.00	2.00		75	8.20	0.11	1.64	1.748	8.74	25.64%	0.11	11.76
16	EV charging Stns (HT)	2	745.42	0.75		75	8.65	0.07	0.72	0.795	10.61	9.53%	-0.08	11.72
17	Bulk Supply HT	218	17652.49	14.80	0.00	90	7.55	2.12	12.42	14.534	9.82	16.25%	0.00	11.73
	<b>Grand Total</b>	<b>301555</b>	<b>533159</b>	<b>512.58</b>				<b>40.91</b>	<b>365.94</b>	<b>406.853</b>	<b>7.94</b>	<b>19.46%</b>	<b>9.86</b>	<b>9.86</b>

Annexure-IV

P&ED Full Cost Tariff based Revenue w.e.f 1.04.2023 in FY 2023-24 (FCT Tariff- without subsidy)													
Sl. No.	Consumer Category (FY 2023-24)	Consumers	Connected Load (in kW)	Annual energy Sales (in MU)	Sales/ Consumer /Month (in kWh)	Fixed Charge (₹ /kW)	Energy Charge (₹ /kWh)	Annual Revenue		Annual Revenue (₹ Crs)	Avg. per unit (₹ /kWh)	ABR to ACS	Cross subsidy from ACS
								Fixed Charges (₹ Crs)	Energy Charge/ (₹ Crs)				
1	2	3	4	5	6	7	8	9	10	11=(9+10)	12=11/5	13	14
1	<b>KJ(Domestic)</b>					<b>Conc/kW</b>	<b>(₹ /kWh)</b>	<b>(₹ /kWh)</b>					
i)	First 20 kWh	13276		2.21	13.86	25	9.60	0.40	2.12	2.52	11.40	115.70%	--
ii)	Above 20 kWh	10796		4.00	30.89	25	11.94	0.32	4.17	4.49	11.23	113.97%	--
	<b>Sub Total</b>	<b>24072</b>	<b>5925.94</b>	<b>6.21</b>		<b>25</b>		<b>0.72</b>	<b>6.29</b>	<b>7.01</b>	<b>11.29</b>	<b>114.59%</b>	<b>--</b>
2	<b>Domestic</b>					<b>₹ /kWh</b>	<b>(₹ /kWh)</b>						
i)	First 100 kWh	140769	105817	97.49	57.71	50	8.29	6.35	80.86	87.21	8.95	90.77%	9.23%
ii)	101 - 200 kWh	65391	100371	92.47	117.84	50	9.61	6.02	78.55	84.57	9.15	92.80%	7.20%
iii)	Above 200 kWh	45964	125243	115.38	209.19	50	10.17	7.51	103.94	111.45	9.66	98.01%	1.99%
	<b>Sub Total</b>	<b>252124</b>	<b>331432.26</b>	<b>305.34</b>		<b>50</b>		<b>19.89</b>	<b>263.34</b>	<b>283.227</b>	<b>9.28</b>	<b>94.12%</b>	<b>5.88%</b>
3	Domestic HT	24	4975.58	3.62		50	9.63	0.33	3.88	4.211	11.62	117.91%	--
	<b>Total Domestic</b>	<b>252148</b>	<b>336407.85</b>	<b>315.17</b>				<b>20.94</b>	<b>273.51</b>	<b>294.450</b>	<b>9.34</b>	<b>94.80%</b>	<b>5.20%</b>
4	<b>Non-Profit Public Service</b>												
i)	First 150 kWh	6636	7596.44	3.93	49.29	60	7.92	0.55	3.11	3.66	9.32	94.55%	5.45%
ii)	Above 150 kWh	1900	11260.72	5.82	255.24	60	9.35	0.81	4.95	5.76	9.91	100.52%	--
	<b>Sub Total</b>	<b>8536</b>	<b>18857.16</b>	<b>9.74</b>		<b>60</b>		<b>1.36</b>	<b>8.06</b>	<b>9.421</b>	<b>9.67</b>	<b>98.11%</b>	<b>1.89%</b>
5	<b>Non-Profit PS HT</b>	19	3094.72	14.15	62936.14	60	9.57	0.25	15.05	15.293	10.80	109.63%	--
	<b>Total Non-Profit PS</b>	<b>8554</b>	<b>21951.88</b>	<b>23.90</b>				<b>1.61</b>	<b>23.11</b>	<b>24.714</b>	<b>10.34</b>	<b>104.93%</b>	<b>--</b>
6	<b>Commercial</b>												
i)	First 150 kWh	8147	18193.33	14.13	144.49	80	10.03	1.75	14.17	15.91	11.26	114.30%	--
ii)	Above 150 kWh	5305	29418.81	22.84	358.83	80	10.98	2.82	24.17	26.99	11.82	119.90%	--
	<b>Sub Total</b>	<b>13452</b>	<b>47612.14</b>	<b>36.97</b>		<b>80</b>		<b>4.57</b>	<b>38.33</b>	<b>42.906</b>	<b>11.61</b>	<b>117.76%</b>	<b>--</b>
7	<b>Commercial HT</b>	374	18996.08	14.10	0.00	80	7.00	2.03	10.97	12.992	9.21	93.47%	6.53%
	<b>Total Commercial</b>	<b>13826</b>	<b>66608.21</b>	<b>51.07</b>				<b>6.60</b>	<b>49.30</b>	<b>55.898</b>	<b>10.94</b>	<b>111.06%</b>	<b>--</b>
8	Public Lighting	1453	1418.92	2.61		80	10.05	0.14	2.62	2.758	10.57	107.30%	--
9	PWS LT	12	1057.30	6.84		90	10.64	0.11	7.27	7.389	10.81	109.64%	--
10	PWS HT	77	60801	84.22		90	8.44	7.30	78.95	86.248	10.24	103.91%	--
11	Agl LT	41	88	0.06		50	10.03	0.01	0.06	0.061	10.99	111.48%	--
12	Agl HT	3	228	0.10		50	7.93	0.02	0.09	0.103	10.35	104.99%	--
13	<b>Industrial LT</b>												
i)	First 400 kWh	996	8373.65	1.86	156.10	80	7.46	0.80	1.39	2.20	11.77	119.43%	--
ii)	Above 400 kWh	132	4200.99	0.94	589.33	80	7.49	0.40	0.70	1.10	11.78	119.52%	--
	<b>Total Industrial LT</b>	<b>1128</b>	<b>12574.65</b>	<b>2.80</b>		<b>80</b>		<b>1.21</b>	<b>2.09</b>	<b>3.297</b>	<b>11.77</b>	<b>119.46%</b>	<b>--</b>
14	Industrial HT (Opt-1)	14	5731.70	5.77	0.00	80	9.56	0.61	6.12	6.736	11.68	118.53%	--
	Industrial HT (Opt-2)	2	764.23	2.50	0.00	80	10.20	0.08	2.83	2.914	11.66	118.27%	--
15	EV charging Stns (LT)	4	1203.00	2.00		75	11.21	0.11	2.24	2.351	11.76	119.28%	--
16	EV charging Stns (HT)	2	745.42	0.75		75	9.66	0.07	0.80	0.879	11.72	118.94%	--
17	Bulk Supply HT	218	17652.49	14.80	0.00	90	9.27	2.12	15.24	17.355	11.73	118.99%	--
	<b>Grand Total</b>	<b>301555</b>	<b>533159</b>	<b>512.58</b>				<b>40.91</b>	<b>464.24</b>	<b>505.151</b>	<b>9.86</b>	<b>100%</b>	

Annexure-V

Abstract of Full Cost Tariff, Subsidised Tariff and Category wise subsidy allocated in FY2023-24											
P&ED Department (FY 2023-24)	Energy Annual Sales (MU)	Full Cost Tariff				Subsidised Tariff				Govt. Subsidy	
		Fixed Charge	Energy Charge	Annual Revenue (` Crs)	Avg. per unit (` /kWh)	Fixed Charge	Energy Charge	Annual Revenue (` Crs)	Avg. per unit (` /kWh)	Subsidy Amount (` Crs)	Avg. per unit (` /kWh)
<b>1 KJ(Domestic)</b>		Conc/kW	(` /kWh)			Conc/kW	(` /kWh)				
i) First 20 kWh	2.21	25	9.60	2.52	11.40	25	2.55	0.961	4.35	1.56	7.05
ii) Above 20 kWh	4.00	25	11.94	4.49	11.23	25	3.55	1.485	3.71	3.01	7.52
<b>Sub Total</b>	<b>6.21</b>			<b>7.01</b>	<b>11.29</b>			<b>2.447</b>	<b>3.94</b>	<b>4.57</b>	<b>7.35</b>
<b>2 Domestic</b>		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i) First 100 kWh	97.49	50	8.29	87.21	8.95	50	4.90	54.12	5.55	33.09	3.39
ii) 101 - 200 kWh	92.47	50	9.61	84.57	9.15	50	7.10	54.41	5.88	30.16	3.26
iii) Above 200 kWh	115.38	50	10.17	111.45	9.66	50	8.20	77.86	6.75	33.59	2.91
<b>Sub Total</b>	<b>305.34</b>			<b>283.23</b>	<b>9.28</b>			<b>186.39</b>	<b>6.10</b>	<b>96.84</b>	<b>3.17</b>
		(` /kVA/BD)	(` /kVAh)			(` /kVA/BD)	(` /kVAh)				
<b>3 Domestic HT</b>	<b>3.62</b>	<b>50</b>	<b>9.63</b>	<b>4.21</b>	<b>11.62</b>	<b>50</b>	<b>8.65</b>	<b>3.81</b>	<b>10.53</b>	<b>0.40</b>	<b>1.09</b>
<b>Total Domestic</b>	<b>315.17</b>			<b>294.45</b>	<b>9.34</b>			<b>192.65</b>	<b>6.11</b>	<b>101.80</b>	<b>3.23</b>
<b>4 Non-Profit Public Service</b>		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i) First 150 kWh	3.93	60	7.92	3.66	9.32	60	7.60	3.53	8.99	0.13	0.32
ii) Above 150 kWh	5.82	60	9.35	5.76	9.91	60	8.30	5.40	9.28	0.36	0.62
<b>Sub Total</b>	<b>9.74</b>			<b>9.42</b>	<b>9.67</b>			<b>8.93</b>	<b>9.17</b>	<b>0.49</b>	<b>0.50</b>
<b>5 Non-Domestic HT</b>	<b>14.15</b>	<b>60</b>	<b>9.57</b>	<b>15.29</b>	<b>10.80</b>	<b>60</b>	<b>8.75</b>	<b>14.01</b>	<b>9.90</b>	<b>1.28</b>	<b>0.91</b>
<b>Total Non-Domestic</b>	<b>23.90</b>	(` /kVA/BD)	(` /kVAh)	<b>24.71</b>	<b>10.34</b>	(` /kVA/BD)	(` /kVAh)	<b>22.94</b>	<b>9.60</b>	<b>1.77</b>	<b>0.74</b>
<b>6 Commercial</b>		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i) First 150 kWh	14.13	80	10.03	15.91	11.26	80	8.20	13.33	9.44	2.58	1.83
ii) Above 150 kWh	22.84	80	10.98	26.99	11.82	80	8.45	21.89	9.58	5.10	2.23
<b>Sub Total</b>	<b>36.97</b>			<b>42.91</b>	<b>11.61</b>			<b>35.22</b>	<b>9.53</b>	<b>7.69</b>	<b>2.08</b>
<b>7 Commercial HT</b>	<b>14.10</b>	<b>80</b>	<b>7.00</b>	<b>12.99</b>	<b>9.21</b>	<b>80</b>	<b>8.90</b>	<b>15.97</b>	<b>11.33</b>	<b>-2.98</b>	<b>-2.11</b>
<b>Total Commercial</b>	<b>51.07</b>	(` /kVA/BD)	(` /kVAh)	<b>55.90</b>	<b>10.94</b>	(` /kVA/BD)	(` /kVAh)	<b>51.19</b>	<b>10.02</b>	<b>4.71</b>	<b>0.92</b>
		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
8 Public Lighting	2.61	80	10.05	2.76	10.57	80	11.35	3.10	11.87	-0.34	-1.30
9 PWS LT	6.84	90	10.64	7.39	10.81	90	11.10	7.70	11.27	-0.32	-0.46
10 Agl LT	0.06	50	10.03	0.06	10.99	50	3.80	0.03	4.76	0.03	6.23
		(` /kVA/BD)	(` /kVAh)			(` /kVA/BD)	(` /kVAh)				
11 PWS HT	84.22	90	8.44	86.25	10.24	90	9.85	99.47	11.81	-13.22	-1.57
12 Agl HT	0.10	50	7.93	0.10	10.35	50	3.85	0.06	5.81	0.04	4.53
<b>13 Industrial LT</b>		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i) First 400 kWh	1.86	80	7.46	2.20	11.77	80	7.10	2.13	11.41	0.07	0.36
ii) Above 400 kWh	0.94	80	7.49	1.10	11.78	80	8.05	1.10	11.72	0.01	0.06
<b>Total Industrial LT</b>	<b>2.80</b>			<b>3.30</b>	<b>11.77</b>			<b>3.22</b>	<b>11.51</b>	<b>0.07</b>	<b>0.26</b>
		(` /kVA/BD)	(` /kVAh)			(` /kVA/BD)	(` /kVAh)				
14 Industrial HT (Opt-1)	5.77	80	9.56	6.74	11.68	80	9.05	6.41	11.12	0.33	0.56
Industrial HT (Opt-2)	2.50	80	10.20	2.91	11.66	80	10.52	3.00	12.01	-0.09	-0.36
EV charging Stns (LT)	2.00	75	11.21	2.35	11.76	75	8.20	1.75	8.74	0.60	3.01
EV charging Stns (HT)	0.75	75	9.66	0.88	11.72	75	8.65	0.80	10.61	0.08	1.12
15 Bulk Supply HT	14.80	90	9.27	17.35	11.73	90	6.85	14.53	9.82	2.82	1.91
<b>Total</b>	<b>512.58</b>			<b>505.15</b>	<b>9.86</b>			<b>406.85</b>	<b>7.94</b>	<b>98.30</b>	<b>1.92</b>

CL- denotes Contracted Load BD- denotes Billing Demand

NER Losses indicated in their Compendium for FY 2021-22

## CH-5: MARKET OPERATIONS

### 1. REGIONAL TRANSMISSION LOSS OF NER DURING FY 2021-22

#### 1. Monthly Average Regional Transmission Loss in %:



Average Regional Transmission Loss for FY 2021-22 is 2.36%

#### 2. Week-wise National vs. Regional Transmission Loss in %:



Note

- I. Regional Loss Calculation Method =  $\frac{[\text{Injection} + \text{Import}] - [\text{Drawal} + \text{Export}]}{[\text{Injection} + \text{Import}]} \times 100$
- II. National Loss Calculation Method =  $\frac{(\text{In} - \text{Dr})}{\text{Ir}} \times 100$

Here,

In = sum of injection into the ISTS at regional nodes

Dr = sum of drawal from the ISTS at regional nodes

Ir = sum of injection into the ISTS at regional nodes by projects covered under Clause 13(1)

उ.पु.क्षे.भा.प्रे.के वार्षिक साह-संग्रह 2021-22  
NERLDC ANNUAL COMPENDIUM FY 2021-22



**Annexure-VII**

**IMMEDIATE**

**GOVERNMENT OF MIZORAM  
POWER & ELECTRICITY DEPARTMENT**

*No.B.19018/9/2022-P&E* : *Dated Aizawl, the 10<sup>th</sup> Jan, 2023*

To

The Engineer-in-Chief,  
Power & Electricity Deptt.,  
Mizoram : Aizawl.

*Subj : Filing of Tariff Petition for FY 2023-2024 and Multi Year Tariff (MYT) Petition for the 3<sup>rd</sup> Control period i.e. 2023-24 to 2027-28. True up petition of FY 2021-2022 and APR for the FY 2022-2023.*

*Ref : No. T.23012/02/22-EC(P)/Com/24 dt.22.12.2022*

Sir,

With reference to above, I am directed to convey concurrence of Finance Department, Govt. of Mizoram vide their I.D. No. FIN(EA) :1684/2022-23 dt. 10.01.2023 as reproduced below, for your information and immediate necessary action:

Concurrence of Finance Department(EA) is hereby conveyed for the Draft Tariff Petition for the FY 2023-24, True up Petition for the FY 2021-22, Multi Year Tariff (MYT) Petition for the 3<sup>rd</sup> control period, i.e. 2023-24 to 2027-28 and Annual Performance Review (APR) for the year 2022-23 for which the State Government may give subsidy amounting to ₹ 157.90 crore or 20.50% of the reduced ARR whichever is less and the necessary funds depicted at Sl. No. 7-13 of the Table 3.28 – Annual Revenue Requirement may be provided as per actual requirement.

This issues with the approval of the Hon'ble Chief Minister on 07.01.2023.

One copy of the above Petitions is enclosed herewith.

Yours faithfully,



( LAURENTLUANGA )

Under Secretary (Tech) to the Govt. of Mizoram  
Power & Electricity Department

Enclo : As above



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**JOINT ELECTRICITY REGULATORY COMMISSION**  
**FOR MANIPUR AND MIZORAM**

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