TARIFF ORDER

TRUE UP FOR FY 2020-21

REVIEW FOR FY 2021-22

AND

DETERMINATION OF AGGREGATE REVENUE REQUIREMENT

&

RETAIL TARIFF FOR FY 2022-23

FOR

POWER & ELECTRICITY DEPARTMENT
GOVERNMENT OF MIZORAM

Petition (ARR & Tariff) No. 3 of 2022

JOINT ELECTRICITY REGULATORY COMMISSION

FOR MANIPUR AND MIZORAM

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ABBREVIATIONS

Abbreviation	Description
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
EA, 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

Abbreviation	Description
POSOCO	Power System Operation Corporation Limited
PPA	Power Purchase Agreement
PWW	Public Water Works
R&M	Repair and Maintenance
RAPDRP	Restructured Accelerated Power Development and Return Programme
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, 2nd to 5th Floor, Peter Street,
Khatla, Aizawl, Mizoram – 796001

Petition (ARR & Tariff) No. 3 of 2022

In the matter of

True up for FY2020-21, Annual Performance Review for FY 2021-22 and Determination of Aggregate Revenue Requirement (ARR) and Tariff for FY 2022-23 for P&ED, Mizoram.

FOR

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

Present

Mr. R. THANGA
CHAIRPERSON

Mr. LALCHHARLIANA PACHUAU
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 2020-21 and Annual Performance review for FY 2021-22 and determination of ARR and retail supply tariff for FY 2022-23 on **5th January 2022**.

2. **ARR and Tariff Petition for FY 2022-23**

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

The P&ED has filed the Petition for determination of ARR and tariff petition for FY 2022-23 along with true-up petition for FY2020-21 and Annual Review Petition for FY2021-22. In the petition P&ED estimated ARR and projected a gap of Rs. 353.34 Crores for FY 2022-23 at the prevailing Tariffs and with the additional revenue yielding expected due to proposed tariffs amounting to Rs.75.83crs the above deficit of Rs.353.34Crs would get reduced to Rs. 277.55crores as per its ARR filings, which is anticipated to be mitigated by Govt. subsidy amount during 2022-23, while the last year Govt. subsidy was 82.96Crs.

3. **Admission of Petition and Public Hearing Process**

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

P&ED was asked to submit the required additional information vide Commission's letter No.H.20013/38/21-JERC, Dt. 27.01.2022, 28.01.2022, & 03.02.2022. Pending receipt of additional information, the ARR and Tariff Petition was admitted on **19.01.2022** and marked as Petition (ARR & Tariff) **No.3 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.20013/38/21-JERC, dt: 19.01.2022. The P & ED department submitted its replies to

the additional information vide their Letter No.T-18020/01/15-EC(P)/**Com/93**, dt: 11.02.2022 and letter No.T-18022/01/15-EC(P)/**Com/85**, dt: 18.02.2022.

The notification of the proposed ARR and the proposed Tariff schedule for FY 2022-23 was published by the P&ED in the following newspapers.

Sl. No	Name of the newspaper	Language	Date of publication
1	Newslink	English	27h & 28th January 2022
2	Vanglaini	Mizo	27h & 28th January 2022

Through the public notice, the stakeholders/general public was invited to file their objections and suggestions on the petition on or before **20-02-2022.**

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 11.30 AM onwards at Aijal Club, Tennis Court, Aizawl on **03.03.2022**.

Sl. No.	Name of the News-paper	Language	Date of Publication
1	**The Aizawl Post**	**Mizo**	24th & 25th February 2022.
2	**Highlander**	**English**	24th & 25th February 2022.

5. **Public Hearing:**

Public hearing was held as scheduled on 03.03.2021 in the Aijal Club, Tennis Court, Aizawl. During the public hearing each objector was provided 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 02-03-2022 in the Aijal Club, Tennis Court, Khatla, Aizawl and discussed the ARR & Tariff proposal for FY 2022-23 of P&ED, Mizoram. There were no objections from any of the members participated in the SAC meeting held on 02.03.2021 with regard to the upward revision of the existing tariff by the Commission for the FY 2022-23. The minutes of the SAC meeting held and the list of participants are placed at **Annexure - I** to this Order by 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 2021-22 and noted that those directives felt complied with are now dropped 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 2020-21 and Annual Performance Review for FY 2021-22 besides approving of the new Tariff Order for Retail supply business in FY 2022-23 based on the submitted ARR filings of FY 2022-23 for electricity supply to retail consumers with in 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 2020-21**

The P&ED had submitted its true-up petition for FY 2020-21 together with approved audited annual accounts of FY 2020-21 by their Statutory Auditor issued on

dt: 22.12.2021. The Commission, its Tariff Order dated 26.03.2021 had approved the net ARR for FY 2020-21 to be Rs. 541.52 Crs. With the actual figures furnished by the P&ED based on the audited annual accounts for FY 2020-21, the true-up calculation resulted in net ARR of Rs. 612.35 as against Rs. 541.52 Crs was furnished by P&ED and the revenue surplus arrived at as Rs. 88.41Crs upon considering the total Revenue subsidy amount of Rs. 403.301 crs as against P&ED claimed ARR filing deficit Gap of Rs.169.41Crs by considering only Rs.160.67 Crs. revenue subsidy amount from state Government during FY 2020-21 itself. The State Government during the year have released an overall revenue subsidy amount of Rs.242.6305 Crs being the differential amount between 2020-21 to 2019-20 of **Revenue subsidies and grants from State Government** under **Schedule-33** and Rs.160.67crs figure as per Schedule- 4 (Revenue Subsidies and Grants) of Audited Balance Sheet of FY 2020-21 duly certified by the Statutory Auditors of their Organisation. Thereby, upon adjusting the actual revenue subsidy received from Government the above said revenue gap of the licensee (i.e., P&ED) results into a revenue surplus status by an amount of **Rs.108.40 Crs** which amount is 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 (**⅓rd**) of the surplus amount of **Rs.36.13Crs** is being passed on as rebate in the ARR for FY 2022-23 and the **remaining excess amount of Rs.72.27Crs** will be retained by the Licensee at its disposal to utilise it on their own accord.

10. **Annual Performance Review for FY 2021-22**

The P&ED have submitted review petition for FY 2021-22 based on its revised estimate afresh. The Commission has reviewed the earlier approved net ARR of Rs. 478.11 Crs in its Tariff Order dated 26.03.2021 with due reference the P&ED now revised APR figure of net ARR to Rs.601.86Crs before adjusting for any revenue realised at existing tariff and State Government revenue subsidy it had received so far in 2021-22 financial year.

11. **Aggregate Revenue Requirement & Retail Tariff for FY 2022-23**

The P&ED have submitted ARR petition for FY 2022-23 for an ARR amount of Rs.751.42Crs and with net revenue gap of Rs. 353.38 Crs after adjusting for projected

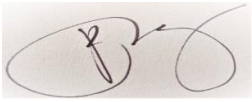
revenue realisation of Rs.398.04Crs but without any Government subsidy amount as it was still under consideration to announce. The Commission after detailed examination and analysis arrived at the net revenue gap of **Rs.133.72Crs** at the existing tariff revenue and outside sales income and without considering of the Government subsidy as stated in their **letter No.19018/9/2020-P&E, Dt.18.02.2022** 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 and Tariff petition for FY 2022-23
3. Chapter 3: Power Sector in Mizoram - An over view.
4. Chapter 4: Public hearing process.
5. Chapter 5: True-up of ARR for FY2020-21.
6. Chapter 6: Annual performance Review of ARR for FY 2021-22.
7. Chapter 7: Analysis of ARR for FY 2022-23 and approvals of the Commission.
8. Chapter 8: Tariff principles and design and determination of tariffs for FY2022-23.
9. Chapter 9: Wheeling charges for FY 2022-23.
10. Chapter 10: Fuel and Power purchase cost Adjustment.
11. Chapter 11: ARR of Transmission Function and Transmission charges for FY2022-23.
12. Chapter 12: ARR of Generation Function for FY2022-23.
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, 2022** and shall remain in force until the issue of next Tariff Order by the Commission.



(LALCHHARLIANA PACHUAU)
MEMBER

(R. THANGA)
CHAIRPERSON

Place: Aizawl
Date: 23/03/2022

1. Introduction

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 for FY 2022-23

2.1 Aggregate Revenue Requirement (ARR)

The P&ED Mizoram, in its petition has projected the Aggregate Revenue Requirement (ARR) and Tariffs for FY 2022-23 and expected revenue with the existing tariffs and resultant gap. The ARR and revenue gap are shown in Table below.

Table 2.1: Aggregate Revenue Requirement projected by P & ED for FY 2022-23

(`/ Cr)

Sl. No.	Item of Expense	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Cost of Fuel	0.01	0.01	0.00
2	Cost of Generation	9.65	3.15	-6.50
3	Cost of Power Purchase	228.82	468.61	239.79
4	Transmission Charges	58.48	56.78	-1.70
5	Intra State Transmission	38.88	51.45	12.57
6	Employee Costs	60.53	152.98	92.45
7	Repair & Maintenance Expenses	8.87	10.18	1.31
8	Administration and General Expenses	1.76	5.16	3.40
9	Depreciation	7.33	2.82	-4.51
10	Interest charges	0.25	0.46	0.21
11	Interest on Working Capital	6.05	6.53	0.48
12	Provision for bad debts	0.00	0.00	0.00
13	Return on NFA /Equity	0.00	0.00	0.00
14	Interest on Consumer Security Deposit	0.00	0.61	0.61
15	Contribution to Contingency RF	0.00	3.89	3.89
15	**Total Revenue Requirement**	**420.63**	**762.63**	**342.00**
16	Less: Non Tariff Income	3.03	11.20	8.00
17	**Net Revenue Requirement**	**417.43**	**751.42**	**333.99**
18	Less: Revenue from Sale of Power at existing Tariff	395.15	398.04	2.89
19	**Net Gap**	**22.28**	**353.38**	**331.10**

2.2 Tariff

The P&ED, Mizoram in its petition has submitted the existing and proposed tariffs for the FY 2022-23 as detailed in the table below.

Table 2.2: Existing V/s. Proposed Tariff for FY 2022-23

Sl. No.	Type of installation	Existing Tariff		Proposed Tariff	
		Energy Charge (`/Month)	Fixed Charge (In `))	Energy Charge (`/Month)	Fixed Charge (In `)
		A	B	A	B
1	**Kutir Jyothi**				
i)	First 20 kWh	2.50/kWh	25/Connection	2.90kWh	35/Connection
ii)	Balance above 20 kWh	3.15/kWh	25/Connection	3.80/kWh	35/Connection
2	**Domestic**				
	A. Low Tension				
i)	First 100 kWh	4.80/kWh	50/Contracted Load in kW	5.10/kWh	60/Contracted Load in kW
ii)	Next 100 kWh	5.50/kWh	50/Contracted Load in kW	7.50/kWh	60/Contracted Load in kW
iii)	Balance above 200 kWh	5.90/kWh	50/Contracted Load in kW	9.50/kWh	60/Contracted Load in kW
	B. High Tension	6.45/kVAh	50/Billing Demand in kVA	11.00/kVAh	60/Billing Demand in kVA
3	**Non-Domestic**				
	A. Low Tension				
i)	First 150 kWh	6.10/kWh	60/Contracted Load in kW	10.20/kWh	70/Contracted Load in kW
ii)	Balance above 150 kWh	6.25/kWh	60/Contracted Load in kW	10.60/kWh	70/Contracted Load in kW
	B. High Tension	6.30/kVAh	60/Billing Demand in kVA	11.20/kVAh	70/Billing Demand in kVA
4	**Commercial**				
	A.Low Tension				
i)	First 150 kWh	6.80/kWh	80/Contracted Load in kW	10.80/kWh	95/Contracted Load in kW
ii)	Balance above 150 kWh	7.05/kWh	80/Contracted Load in kW	11.10/kWh	95/Contracted Load in kW
	B. High Tension	7.10/kVAh	80/Billing Demand in kVA	11.20/kVAh	95/Billing Demand in kVA
5	**Public Lighting**	10.00/kWh	80/Contracted Load in kW	13.90/kWh	95/Contracted Load in kW
6	**Irrigation & Agriculture**				
	A.Low Tension	3.65/kWh	50/Contracted Load in kW	4.40/kWh	50/Contracted Load in kW
	B. High Tension	3.60/kVAh	50/Billing Demand in kVA	4.30/kVAh	50/Billing Demand in kVA
7	**Public Water Works**				
	A.Low Tension	9.90/kWh	90/Contracted Load in kW	13.90/kWh	100/Contracted Load/ kW
	B. High Tension	9.80/kVAh	90/Billing Demand in kVA	11.80/kVAh	100/Billing Demand in kVA
8	**Industrial**				
A	**A.Low Tension**				
	First 400 kWh	5.80/kWh	80/Contracted Load in kW	10.00/kWh	90/Contracted Load in kW
ii)	Balance above 400 kWh	6.35/kWh	80/Contracted Load in kW	10.40/kWh	90/Contracted Load in kW
	B. High Tension	7.05/kVAh	80/Billing Demand in kVA	10.80/kVAh	90/Billing Demand in kVA
9	**Bulk Supply**	7.10/kVAh	90/Billing Demand in kVA	8.00/kVAh	100/Billing Demand in kVA

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.

***

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 serves about 2,65,122 consumers of various consumer categories as on 31st of March, 2021.

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 2022-23 as furnished by P&ED is as in the Table below:

Table 3.1: Own Generating Stations output proposed for FY2022-23

Sl. No.	Station	Installed Capacity	Date of COD	Generation at 45% CUF	Auxl. Cons @1%	Net Energy
I	**Mini Hydel**	**(MWs)**	**Date**	**(MU)**	**(MU)**	**(MU)**
1	Tuipanglui --	3.00	17.12.2004	---	---	----
2	Serlui 'A'	1.00	24.04.84	--	----	--
3	Tuirivang --	0.30	14.08.89	1.183	0.012	1.171
4	Maicham-I	2.00	5.01.96	7.884	0.079	7.805
5	Lamsial	0.50	26.08.2008	1.971	0.020	1.951
6	Maicham-II	3.00	11.11.2009	11.826	0.118	11.708
	Sub-Total	9.80		22.864	0.229	22.635
7	Serlui 'B'	12.00	**In-Firm power**	**4.27**	**0.18**	**4.09**
	Total	**21.80**		**27.134**	**0.409**	**26.725**

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	1.38
2	Tuipui	0.50	1.01	0.64	0.64
3	Teirei	3.00	4.93	4.55	4.55
4	Kau-Tlabung	3.00	8.05	7.52	7.52
	Grand Total	**7.55**	**15.45**	**14.09**	**14.09**

P&ED has stated that they had now with the installed capacity of generation plants of 21.80 MWs. **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.

3.2.2 Power Purchase

The State is dependent on outside 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 of NEEPCO, NHPC and NTPC is 120.795 MW. Apart from this, P&ED is also getting 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 allocation to Mizoram from its share of power from the generating stations outside the State is 153.293 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
A	**Central Generating Stations**			
I	**NTPC**			
1	Bongaigaon TPS	750.00	5.415	40.613
2	Farakka STPS	1600.00	0.142	2.272

Sl. No.	Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
3	Kahalgaon STPS	840.00	0.142	1.193
4	Talcher STPS	1000.00	0.142	1.420
	NTPC-Total	**4190.00**		**45.497**
II	**NHPC**			
1	Loktak HEP	105.00	5.020	5.271
	NHPC-Total	**105.00**		**5.271**
III	**NEEPCO**			
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	5.250	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
	NEEPCO-Total	**1351.00**		**130.027**
IV	**TSECL**			
1	B'mura - IV	21.00	25.000	5.25
2	B'mura - V	21.00	25.000	5.25
	TSECL-Total	**42.00**		**10.50**
V	**OTPC**			
1	Palatana	726.00	3.030	22.00
	OTPC-Total	**726.00**		**22.00**
VI	**Other Stations/IPPs**			
1	Power exchange through IEX			
	Others-Total			
B	**State generating Stations**			
1	All Units	21.80	100.000	21.80
	State Generating Stations-Total	**21.80**		**21.80**
	Amazon Engineering (4HEPs)	**7.55**	100%	**7.55**
G	**GRAND TOTAL**	**6443.35**		**242.643**

(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 2020-21

Sl. No	Energy Source	MU Purchased / generated (ex-bus)
A	**Central Generating Stations**	
I	**NTPC**	
1	Bongaigaon TPS	83.43
2	Farakka STPS	15.42
3	Kahalgaon STPS	7.30
4	Talcher STPS	10.40
	NTPC-Total	**116.54**
II	**NHPC**	
1	Loktak HEP	30.47
	NHPC-Total	**30.47**
III	**NEEPCO**	
1	Kopili HEP	0.00
2	Kopili - II HEP	0.00
3	Khandong HEP	2.53
4	Ranganadi HEP	78.81
5	Doyang HEP	10.34
6	Pare HEP	29.82
7	Tuirial HEP	133.81
	Free Power from Tuirial	18.25
8	AGBPP (Gas)	56.59
9	AGTPP (Gas)	38.18
	NEEPCO-Total	**368.32**
IV	**TSECL – Tripura State Electricity Corp Ltd.**	
1	Baramura – IV (Gas)	23.47
2	Bar'mura – V (Gas)	23.47
	TSECL-Total	**46.94**
V	**OTPC – ONGC Tripura Power Corporation**	
1	Palatana (Gas)	126.00
	OTPC-Total	**126.00**
VI	**Other Stations/IPPs**	
1	Amazon Engineering (4 HEPs stns of P&ED)	15.45
2	Rooftop Solar generation	0.09
3	Solar Generation	1.24
	Others-Total	**16.78**
B	**State Own generating Stations**	
1	From all Generating Plants	13.81
	State Generating Stations-Total	**13.81**
C	**UI / Deviation**	5.09
	UI / Deviation-Total	**5.09**
D	**GRAND TOTAL Energy (MU)**	**723.95**

(Source: Format F1 of Petition)

3.3 Transmission and Distribution

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

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 31.03.2021 are given in Table below:

Table 3.4: Network Details as on 31.03.2021

Sl. No.	Particulars	FY 2020-21			
		At year beginning	Additions made	With-drawn services	At the end of year
1	**Length of lines (ckt-km)**				
	132 kV	798	0		798
	66 kV	117	0		117
	33 kV	1558	0		1,558
	11 kV	5,894	8		5902
	LT	3633	2		3635
	Total	**11999**	**10**	**-**	**12009**
2	**Number of 33/11 kV substations**	65	-		65
3	**No. of Power Transformers (33/11 kV)**	84	--	-	84
	Total MVA capacity of Power Transformers	255	0		255
3	**No. of Distribution Transformers**	2836	1		2837
	Total MVA capacity of Distribution Transformers	325	--		325
4	**Number of consumer meters**		-		
	LT (less than 0.5 accuracy class)	247900	15136		263036
	LT (better than 0.5 accuracy class)		-		
	HT (less than 0.5 accuracy class)	1,071	65		1,136
	HT (0.2 accuracy class)		-		
	HT (better than 0.2 accuracy class)		-		
	Total	**248971**	**15201**	**-**	**264172**
5	**Number of Interface meters**		-		
	0.5 accuracy class	0	-		0

Sl. No.	Particulars	FY 2020-21			
		At year beginning	Additions made	With-drawn services	At the end of year
	0.2 accuracy class	0	-		0
6	**Metered Sales (in MU)**		-		
	a. Low Tension sale (LT)	333.199		27.735	305.465
	b. High Tension sale (HT)	145.067		12.077	133.010
	c. Extra High-Tension sale (EHT)	--			--
	Total	**478.266**	**0**	**39.811**	**438.475**
7	**Metered Consumers (in Nos.)**		-		
	a. Low Tension (LT)	247,900	15,136		263036
	b. High Tension (HT)	1,071	65		1136
	c. Extra High Tension (EHT)		-		
	Total	**248,971**	**15,201**	**-**	**264,172**

3.4 Distribution losses

The distribution losses of P&ED system as filed were 29.05% during the year 2020-21. 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 2020-21 (Filing actuals)

Sl. No.	Category	Sales (MU)	No. of Consumers	Connected Load (MW)
1(a)	Kutir Jyoti - LT	7.19	19,790	3.865
1(b)	Domestic - LT	271.90	223,673	281.718
1(c)	Domestic - HT	4.35	25	5.702
2(a)	Non-Domestic - LT	8.20	6,914	14.712
2(b)	Non-Domestic - HT	0.25	11	0.436
3(a)	Commercial - LT	34.20	11,781	34.658
3(b)	Commercial - HT	10.07	280	9.936
4	Public Lighting - LT	2.11	1,244	0.912
5(a)	Irrigation & Agriculture - LT	0.06	35	0.107
5(b)	Irrigation & Agriculture - HT	0.10	2	0.170
6(a)	Public Water Works - LT	0.79	9	0.266
6(b)	Public Water Works - HT	81.66	70	79.291
7(a)	Industrial - LT	4.06	1,034	4.997
7(b)	Industrial - HT	5.54	23	5.425
8	Bulk Supply - HT	13.92	198	53.926
9	Temporary Connection & Theft -	0.53		
10	Outside State Sale - UI / Trading	69.72		
	TOTAL	**514.65**	**265,122**	**497.034**

(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 others is is 242.64 MW. The peak load demand of Mizoram during the FY 2020-21 of P&ED department is 132.23MWs and off-peak load is 35MWs.

The energy procured by P&ED during the year **2020-21** was 723.95 MU including own net generation of 13.81MU, Amazon Engineering supply of 15.45MU and 5.09MU of UI quantum deviations but excluding RPO obligation related energy purchases.

4 Public Hearing Process

4.1 Introduction:

On admitting the ARR and Tariff Petition for FY 2022-23, 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.

Ten 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 03.03.2021 as scheduled in the Aijal Club, Tennis Court, Tennis Court, Aizawl from 11:30 A.M. to 2:00 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 2022-23 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:

It was highlighted in the hearing that the overall proposed tariff hike of 21.05% from the existing Tariff Rates. As per the ARR proposals submitted, the average tariff will be Rs.7.27/unit without subsidy whereas it is Rs 5.61/unit with the proposed tariff revision, leaving a gap of Rs 1.53/unit awaits subsidy coverage.

It was further highlighted that Power Purchase Cost is significantly increased from Rs 364.34 Cr (True up figure of FY 2020-21) to Rs.444.47Crs in FY 2021-22 and increased to Rs 468.61Crs in FY 2022-23.

The Commission received Ten written objection with in 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

Objection:

i) Does the cost of fuel in Tariff Petition amounting to Rs.0.01 crore include generation fuel cost at Lengpui Airport utilized by few people?

ii) The total cost of power purchase is Rs.466.61 crore, is there approval of JERC for purchase of power from SHPs, viz. Khawiva, Tuipui, Teirei and Kau Tlabung being operated by Amazon Engineering like necessary approval obtained for purchase of power from outside the state?

iii) Is employee cost of Rs.152.98 crore inclusive of cost of employee in the construction of projects not yet commissioned under Serlui 'B' Hydel Project, Ngopa Hydel Division and Khawbung Division, and in the on-going works of lines and sub-stations? Detail of no. of employee i.e. regular and un-regular including those engaged on contract and MR basis and their emolument (salary & allowance, bonus, leave travel concession & honorarium, etc.) may be given.

iv) Is the loan actually availed for having interest charges of Rs.0.46 crore and interest on working capital of Rs.6.53 crore? If loans are actually taken, what are the names of bank with loan amount and interest?

Reply of P&ED:

i) No specific purpose was mentioned in the Tariff order with regards to Rs. 0.01 Crore utilized for cost of fuel. However, projection is made for Multi Year Tariff Period every year which is approved by the Hon'ble Commission vide Tariff Order dt. 12.03.2018. It can be utilized even for the diesel generator fuel at Lengpui Airport. It will be finalized after truing up of the tariff.

ii) Due to shortage of staff, Operation & Maintenance (O&M) works at Khawiva, Tuipui, Teirei and Kau-Tlabung SHP was outsourced to M/s Amazon Engineering. The cost for these Small Hydel Project (O&M) is met from the Power Station, the cost of O&M calculated per Power unit. No other fund is assigned. Since O&M fund is limited, expenditure for works under SHP O&M is met from the fund sanctioned for purchase of Power (Power Purchase Head). Approval from JERC (M&M) is not sought.

P&E Department does not purchase Power generated from these SHPs. It only pays for the cost of O&M works to Amazon Engineering from the fund sanctioned for purchase of Power (Power Purchase Head).

iii) Since P&E Department is not divided into Generation, Transmission and Distribution in function, Rs. 218.54 crore is projected for employee cost (salary and other expenditure) for all staff under the Department. From the total employee cost amounting to Rs. 218.54 crore, 70% (Rs. 154.98 crore) is projected for distribution function.

The number of employees, salary and Medical Treat expenses for all staff under P&E Department during 2020-21 is as under:

Sl. No.	Staff	No. of Employees	Salary (in crores)	Medical Treatment (Rs in Cr)
1	Regular Staff	1492	115.20	2.96
2	Contract Staff	49		
3	Workcharged Staff	455	32.50	
4	MR/PE Staff	2149	38.16	
Total		**4145**	**185.86**	**2.96**

Iv) Interest charge amounting to Rs. 0.46 crore projected for Tariff Petition for the FY 2022-23 ARR is the interest of loan from the following Financial Institutions:

Particulars	Gross Loan opening (in crore)	Additional drawal during the year (in crore)	Less repayment of Loan during the year (in crore)	Closing balance of Loan (in crore)	Average Loan (in crore)	Rate of Interest	Interest on Loan (in crore)
LIC Loans	1.00	0.00	1.00	0.00	0.50	8.00%	0.04
REC Loan	0.00	0.00	0.00	0.00	0.00	8.35%	0.00
REC (RGGVY)	4.80	0.00	2.40	2.40	3.60	11.67%	0.42
Total	**5.80**	**0.00**	**3.40**	**2.40**	**4.10**		**0.46**

A need may arise for Working Capital loan for different works carried out by the P&E Department. As admissible under the JERC (M&M) MYT Regulations, 2014, Interest on Working Capital (WC) is, therefore, projected in the ARR. The exact amount of Interest on Working Capital is confirmed after Truing up petition is filed.

Objector-2: PC Vanlalruata, Secretary General, Zoram People's Movement, General Headquarters

Objection:

i) 82.72% of the Aggregate Revenue Requirement (ARR) for the FY 2022-23 is for the purpose of power purchase and employee cost. 62.36% is for power purchase and 20.35% is for employee cost. The requirement of expenditure on these two items is required to be examined thoroughly by the State Government to give power supply at lower tariff. Non- availability of adequate own power generation has created tremendous problem for its people and the resource presently available is only Hydro generation. An action taken by the Govt. of Mizoram to increase hydro generation is not available to be seen. It is necessary to get at least large hydro power project to minimize annual expenditure for purchase of power. It is high time for the State Govt. to have meaningful plan for

having own adequate power generation to generate huge revenue in order to avoid financial difficulty for power purchase.

ii) As power has been purchased from public money, it is necessary to get it at affordable lower tariff. In the meantime, it is observed that some rates are very high which are shown in the table below. It is observed that 38.28% of power demand of Mizoram has been bought from the following four stations. The average rate of power purchase from these stations is Rs.8.36/- per unit whereas the average rate of power purchase from other 17 stations is Rs.4.66/- per unit. It is required to stop buying at very high rate to result in decreased retail tariff for the consumers.

Generating stations	Net energy delivered at state periphery (MUs)	Average power purchase rate (Rs per KWh)
Bogaigaon Thermal Power Station (NTPC)	126.09	13.59/-
Doyang Hydro Electric Power Station (NEEPCO)	7.10	7.07/-
Pare Hydro Electric Power Station (NEEPCO)	25.6	5.29/-
Tuirial Hydro Electric Power Station	115.42	7.51/-
Average purchase rate		**8.36/-**

iii) The power required to be purchased in this petition is higher than that of proposed in the Multi Year Tariff Order for FY 2018-19 to FY 2022-23 by 145.75 MU. In the meantime, the increase in energy sold is only 17.63 MU. Its difference is 133.12MU. This amount is about Rs.96.77 crore which is at the rate of Rs.7.27 per unit. If expected revenue can be made available to increase based on the rate for additional power purchase, it may result in tariff reduction.

iv) It is observed since sometimes back that Power trading has been under taken through Power Exchange for selling surplus power and purchasing additional demand which is benefited to minimize losses meaningfully. However, this rate in power exchange platform seldom exceed Rs.4/- per unit. In the meantime, energy 101.10 MU is available for sale through power trading during FY 2022-23

earning a revenue of Rs.38.34 crore. This means that selling rate is about Rs.3.79 per unit. However, the average power purchase rate for the consumers is about Rs.7.26/- per unit. It appears that there will be a loss of about Rs.3.47/- per unit by selling surplus power through power trading. The loss for 101 MU sale may be very high. It is suggested that the impact of power trading on revenue be examined thoroughly.

v) In the tariff petition for FY 2022-23, 20.35% of the ARR is for employee cost. The Electricity Act 2003 mandates that power sector should operates in different entities of Generation, Transmission and Distribution separately which is not yet implemented in Mizoram. Book Account is maintained for the whole department. The actual expenditure for distribution including employee cost can not be ascertained specifically for the above reason. At present the AT&C loss in Mizoram is very high which is 39.55% during the FY 2020-21 whereas as per Central direction, the loss shall be within 15%. It means that 40MW has been lost out of 100MW availability. Tariff can come down tremendously if AT&C loss can be brought down below 10% and even free power can be made available for some consumers consuming small amount of energy. It is expected to observe development worth mentioning in power sector of Mizoram if restructuring is carried out bifurcating the P&E Deptt. into Transmission and Generation (together) and Distribution. This shall enable fixing meaningful responsibility in power supply and detail function-wise expenditure and loss prone areas. It is therefore suggested that the State Government should go for restructuring at an early date.

vi) The net revenue requirement for giving power supply to the consumers during FY 2022-23 is Rs.333.99 cr, the net gap is Rs.331.10 cr and proposed tariff hike is 21.05%. P&E Deptt. had proposed tariff hike of 41.92% which had been turned down at 20.70% hike with subsidy support from the State Govt. in the FY 2021-22. The tariff hike of 21.05% in FY2022-23 shall be a burden for the consumers. It is suggested to continue the existing tariff without increasing it by giving subsidy of Rs.353.38 crore to fill up the gap keeping in mind necessity to uplift

the poor as we are living under the Government that has promised to provide Rs.3 lakhs to every households.

vii) It is suggested to takeaction for self-sufficiency in own power generation as power purchase from outside the state is the main reason for having high ARR which necessitates tariff hike.

viii) Tariff was hike in the last year 2021 when we were facing hardship due to Covid pandemic. We are not yet free from this pandemic and Covid positive rate is still very high. Some more time shall be required for performing normal activities.

ix) In the proposal of new tariff at Sl.No.2 the general people are in the category of domestic LT under the slab (i) (ii) (iii). Increase in tariff in these slabs is higher than other categories. Therefore, we feel that the Government is making huge burden for the people rather than relieving from their burden.

x) We do not understand the distribution loss of 17.90% to be recovered from the people and feel that this is due to inability of the Government to stand for its people.

xi) It is observed from the State budget that the budget has been prepared to relief the people from their hardship. However, the budget has never served its purpose in reality.

Reply of P&ED:

i) Power Purchase and Employee Cost are projected based on the actual amount spent on Power Purchase and Employee Cost during the preceding year. After truing up, corrections are made on the projection already made as per the Actual Account.

The Power Purchase cost cannot be minimized so long as the maximum quantum of Power Demand of Mizoram is procured from other States. Since the Power supply trend is increasing yearly, the Power Purchase cost increases which leads to hike in Tariff.

Currently there is shortage of man power especially in technical staff dealing with field works under P&E Department and there are more than hundred

villages / rural areas where there are no staff to dealt with power supply related issue.

As regards to Hydro Generation, the Department is trying its level best to make more Hydel Projects so as to meet its need.

ii) In order to purchase Power from Central Sector Power station, Power Purchase Agreement (PPA) which is usually for 25 years needs to be sign and these agreements are usually signed before the Power Project works started. The Power Purchase Rate is not known during signing of the PPA and the Power Purchase rate is only declared upon the approval of Tariff by Central Electricity Regulatory Commission (CERC) after Commissioning of Power Generating Station. The Power Purchase rate was declared only after the commissioning of four (4) Power Stations namely – Bongaigaon TPS, Doyang HEP, Pare HEP and Tuirial HEP. The purchase of power from this station may be minimized only if Power Stations with lower rate comes up. In case of Bongaigaon TPS several measures have been taken to reduce the purchase of power from this Plant.

iii) The Multi Year Tariff (MYT) Order for FY 2018-19 to FY 2022-23 is mainly for the purpose of projecting the upcoming years i.e FY 2018-19 to FY 2022-23. The power demand for FY 2022-23 as projected in the latest Tariff Petition is based on the year-wise increasing power demand trend and is likely to varied when compared with the MYT Order for FY 2022-23. The difference between the power demand projected 5 years ago i.e MYT for FY 2022-23 and current Tariff Petition for FY 2022-23 have no impact on the hike or drop in Tariff. This will be finalized during True Up of the current Petition.

iv) The PPA signed with Central Sector Power Station is in line with the share allocated by the Ministry of Power, Govt. of India. The allocated share of power is claimed on percentage basis base on the power generated by the Generating Station in 15 minutes time block scheduled by the Central Sector Generating Station. The share should be claimed in full even if the power allocated exceeds

the requirement of the state. Trading of power through power exchange is done for the period of time when the share amount of power allocated e

v) xceeds the requirement of the state (i.e. Power Demand) and is never done to disrupt the power supply within the State.

vi) Since Power & Electricity Department is not yet segregated into Transmission, Generation and Distribution function, the projection of the employee cost of Rs. 218.54 crore is done by taking the previous year's expenses into consideration. Rs 152.98 crores i.e 70% of the total employee cost is projected for Distribution function, Rs. 43.71 crore i.e 20% is used for Transmission function and the remaining 10% i.e Rs. 21.85 Crore is projected for Generation function. Since restructuring of staffs under the department is still in process, the employee costs for Generation, Transmission and Distribution function is not made separately as of now and the department hopes to complete the segregation of staffs shortly.

vii) As per section 14 of the Indian Electricity Act 2003, Power & Electricity Department being the deemed licensee, engaged in the business of generation, transmission and distribution of electricity within the state and as per regulation – 17.8 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014, the Commission mandates the distribution licensee to file its Tariff Petition for every year on or before 30th November of the preceding year. Out of the total revenue gap amounting Rs.353.38 crore, Rs. 277.55 crores is expected to be received as usual from the Government as subsidy, and the remaining amount which is Rs. 75.83 crore is expected to be received after tariff revision is done

From the total revenue gap of Rs. 277.55 crores, Rs. 109.22 crore will be given as Government Subsidy while the remaining amount of Rs. 168.33 crores will be given as grants in aids by the State Government, the quotations cited in Tariff Order for FY 2021-22, " **Subsidy portion for FY 2021-22 shall be restricted to Rs. 175.00 crore or 56.87% of the net revenue whichever is less"** pertains only to FY 2021-22 and is not relevant for the current Tariff Petition i.e for FY 2022-23.

viii) The main reason for the hike in tariff is due to the fact that most of the energy required within the state is met by purchasing of power from other states, in order to decrease the tariff, self-sufficient in power sector is mandatory and the most important steps to be taken by the Government. As long as 60% of the total ARR is used for purchasing power from other states, the tariff will always be in an increasing trend.

ix) As mention above in Sl.No.6 and as per the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014, the Department is directed to file Tariff Petition for every year on or before 30th November of the preceding year.

x) As per study of consumption of power from the previous years, the total amount of power to be consumed by the State is projected to be 494.99 MU, out of which 61.42% i.e 301.94 MU is consumed by Domestic LT Consumers which is more than 80% of the total Consumers within the State. Since the consumption of power from other categories is by far less than Domestic LT, the revenue requirement has to be met from consumers under the said Domestic Category. Even though this is such the case, the Department is trying its level best to reduce the hike in this Category as below:

First 100 kWh : 8.07 %
Next 100 – 200 kWh : 12.11 %
Above 200 kWh : 13.3 %

xi) The projected energy requirement to be available for the consumers within the State i.e 494.99 MU is after deducting 17.9% (107.91 MU) from the total energy available within the State periphery i.e 602.90 MU. The Distribution loss of 17.9% is already embedded in the revenue gap of Rs.277.55 crores, if the Government failed to provide subsidy to the Department and Full cost Tariff has to be implemented, the Distribution loss will be borne by the consumers.

xii) No Comment.

Objector-3: Vanlalruata, Sr. Vice President, Peoples Conference Party

Objection:

i) I am now holding the post of Senior Vice President in Peoples Conference Party, Aizawl, Mizoram and hereby submit this petition on behalf of the Party.

ii) I have seen Aggregate Revenue Requirement and Tariff Petition of FY 2022-23 from newspaper.

iii) Total Revenue requirements for 2022-23 is estimated as Rs.762.63 crore which is reduced to Rs.751.42 crore by estimating to earn Rs.11.20 crore from non-tariff income.

iv) By estimating to earn Rs.398.04 crore from sale of power at existing rate, revenue gap comes down to Rs.353.38 crore.

v) By estimating to earn another Rs.75.83 crore by hiking tariff, revenue gap comes down to Rs.277.55 crore which may met by Government of Mizoram from public money as subsidy.

vi) By the above-mentioned calculation, the Department of Power and Electricity proposed to recover the rest amount beyond Rs.277.55 crore i.e. Rs.473.87 crore (Rs.751.42 crore from Sl. No.2-Rs.277.55 from Sl. No.4) by collection of power tariff or electricity bill from general public.

vii) The calculation is in line with the system of present Electricity Act which requires corporatization of the Department.

viii) The Department calculated proposed public expenditures of Rs.640.09 crore for cost of fuel, cost of generation, cost of power purchase, employee cost, repair and maintenance expenses and administration and general expenses as their own expenditures.

ix) The above-mentioned proposed expenditure cannot be accepted and is in violation of the Act because Power and Electricity Department is not corporation and all their expenditures are met with public money.

x) The Department only requires Rs.122.54 crore for their own expenditures as Rs.640.09 crore out of Rs.762.63 crore expenditures may met from public money.

xi) The Department did not mention any hike in purchasing price of power.

xii) The abovementioned points clearly show not only there is no need to hike tariff, but also tariff can decrease.

xiii) Therefore, I hereby submit objection of Tariff Petition for FY 2022-23 on behalf of Peoples Conference Party, Aizawl, Mizoram.

xiv) Again, the abovementioned points clearly revealed that there is wilful and prolonged default in doing transmission of power by the Department of Power and Electricity, Government of Mizoram.

xv) Therefore, I request you to take action against Section 19 of the Electricity Act to the Department of Power and Electricity, Government of Mizoram.

Reply of P&ED

i) No Comment.

ii) No Comment.

iii) Yes Correct.

iv) No Comment.

v) Revenue gap amounting to Rs. 277.55 crore is to be financed by Government of Mizoram. Out of this, Rs. 109.22 crore will be given as tariff subsidy and the balance Rs. 168.33 crore as budgetary support committed by the Government letter No. B.19018/9/2020-P&E Dt. 18.02.2022 (copy enclosed).

vi) Power & Electricity Department is making the projection to recover the amount Rs.473.87 crore as below:-

(i) From general public within the state - Rs. 435.54 crore

(ii) From sale of energy outside the state - Rs 38.34 crore

vii) The Power & Electricity Department is deemed licensee in terms of Section 14 of Electricity Act 2013, engaged in the business of Generation, Transmission and Distribution function. So it is entitled to file Tariff Petition as mandated by Regulations 17 of the Joint Electricity Regulatory Commission for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014.

viii) All Power and Electricity expenditures are utilized from Public Money/Public fund. However, in order to make Public Fund available to meet public expenses, the Government has to collect fund from its revenue earning Departments. Power and Electricity Department is also one of the revenue earning department and collects tariff and non-tariff revenue and deposit it to the Consolidated Fund of the State Government. This is utilized by the Government as per its requirement for different purposes. Like any other Departments with Public fund expenditure, target is also fixed for P&E Department for deposit in Public account. In order to achieve the target fixed by the Government, Power and Electricity Department has to file tariff. This deposited fund is Public fund which provide provisions for other Departments to utilize. If tariff is not filed, there would hardly be fund available to meet the expenditure which in turn would affect the public.

ix) As above in Sl No. 7

x) As above in Sl No. 8

xi) Power from Central Sector Generating Stations and Inter State Generating Stations is purchased through Power Purchase Agreement (PPA). Power from these power stations is required to be procured as per allocated share of power by Ministry of Power. Projection of power purchase is made based on previous two years scheduled energy from these stations. No hike in purchasing price of power can be predicted by Power & Electricity Department.

xii) The Hon'ble Joint Electricity Regulatory Commission for Manipur and Mizoram is the only authority to make decisions for decrease or increase of tariff.

xiii) No comment

xiv) As above in Sl No. 7

xv) It is the discretion of the Hon'ble Joint Electricity Regulatory Commission for Manipur and Mizoram.

Objector-4: Samuel Lalhriatpuia, Ramthar Veng, Aizawl

Objection:

i) There are large number of families that are under the Below Poverty Line (BPL) who borrows money even for buying rice under the scheme of BPL and AAY, who cannot pay house rents and are unable to find proper job which results in extreme poverty. While they strive to buy one pocket of Daal for necessary consumption, increasing power bill may lead them to be disconnected and live without electricity, which is against the ambition of Government of India to provide electricity to all households in India. This will go against the Fundamental Right, Article 21 of the Indian Constitution which includes (mentioned in Menaka Case) Right to Electricity.

ii) The small-scale industries and service sector enterprises such as Computer Institutes will have to pay more for electricity, which will reduce their allocation of funds for their infrastructure development and thus their employment generation, since their electricity consumption is high.

iii) The government offices and institutions which consumes high amount of electricity will have to pay higher bills, which is a huge waste of tax payer's money.

iv) The people are facing a hard time due to the pandemic, and yet imposing higher tariff will reduce the demand side of the market indirectly, yet adversely affecting the state's economy and the market.

v) As seen in newspaper and social media, extra employees were hired and that the people pay their bills as charged by the JERC, yet the government fails to pay dues in time, which proves that the state government is the middle man, more or less like a zamindar. Further, I do not find any reason why the people should pay more when the government is not so wise at spending.

Reply of P&ED:

i) Power & Electricity Department, Mizoram is a deemed distribution Licensee as per Section-14 of the Electricity act 2003. As stated in the JERC for Manipur & Mizoram (Multi Year Tariff) Regulations,2014 Section-17 (sub section-17.8), all distribution Licensees are mandated to submit Tariff petition before 30th November. As such, Tariff petition for FY 2022-23 is submitted accordingly to the JERC for Manipur & Mizoram.

As all the distribution Licensees are expected to recover the cost of power purchase and other expenditure in a year projected in the Aggregate Revenue Requirement through tariff, this Tariff petition for FY 2022-23 is prepared with this objective. Meanwhile, in order to relieve burden of the consumers, the state of Mizoram has to sanction Rs 277.55crores in terms of subsidy and grant.

There is a plan for poorer family who are given electricity connection under KJ Category to be subsidized by 70% from the overall average cost per unit and also for Domestic LT category in which most of the family are given electricity connection, subsidy will be 57.93% from overall average cost of supply.

ii) All electrical distribution Licensees being under various Regulations have to be acting for self-sufficiency as insisted upon by the Regulations. Hence Power & Electricity Department, a deemed Licensee is also keeping pace towards earning of revenue without wholly dependent on the grant from the Government. With the increase in demand quantum of power every year with expansion of the infrastructures, it is much important to have an idea of possible higher bill and cope up with for efficient management.

iii) As above in Sl.No-2.

iv) As we all aware that Covid-19 pandemic hampered the normal life and hiking of tariff during this period may as viewed from the other angle be thought as one measure to prevent huge fall of the state economy.

v) The matter regarding staff position under P&E department that appeared in the Newspaper and social media are proof less.

Objector-5: Dr. Lalmalsawma Nghaka, President, Mizoram Pradesh Youth Congress Committee

Objection:

The State Government proposed to hike tariff by 41.92% in last year 2021. In view of proposal of very high increase, tariff was increased by 20.68%. It is difficult to understand that a proposal to hike tariff has been made even before a lapse of one year.

Having notice in Vanglaini newspaper inviting objection on the proposal of tariff hike by 21.05%, we, Mizoram Pradesh Youth Congress Committee can not accept this proposal of tariff hike considering the existing condition of the people, we also request JERC not to accept it.

Reply of P&ED:

Power & Electricity Department is a deemed Licensee in terms of Section-14 of the Electricity Act 2003, engaged in the business of generation, transmission and distribution of electricity in the State of Mizoram.

As mandated by the Joint Electricity Regulatory Commission for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014 Section-17 (Sub Section-17.8), the Distribution Licensee should submit its Tariff Petition on or before 30th November every year for the ensuing year. As such, Power & Electricity Department had submitted Tariff Petition for the FY 2022-23 to the JERC for Manipur & Mizoram which after obtaining approval of the Hon'ble Commission shall be effective from 1st April, 2022.

Objector-6: Lalthanpuia Chhangte, Electric Veng, Aizawl

Objection:

i) It is known that the P&E Department, Government of Mizoram has filed the Aggregate Revenue Requirement (ARR) for and Tariff application for FY 2022-23

for distribution and retail supply of electricity under Section 62 of the Electricity Act, 2003.

ii) I have understood the Aggregate Revenue Requirement and Tariff Petition for FY 2022-23.

iii) Section 62(1) (a) of the Electricity Act, 2003 states:

(a) Supply of electricity by a generating company to a distribution licensee: Provided that the Appropriate Commission may, in case of shortage of supply of electricity, fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in pursuance of an agreement, entered into between a generating company and a licensee or between licensees, for a period not exceeding one year to ensure reasonable prices of electricity

The Act states that there must be reasonable prices of electricity. If we look at the Aggregate Revenue Requirement and Tariff Petition for FY 2022-23, Serial No.6. The "Employee Costs" is proposed to be raised from 60.53 to 152.98, which is a 152.73% hike. This indeed is a draconian hike. A 20-30% hike might be reasonable.

iv) Further, if we look at the Aggregate Revenue Requirement and Tariff Petition for FY 2022-23, serial no 3. The "Cost of Power Purchase" is proposed to be raised from 228.82 to 468.61, which is a staggering 204.7% hike. This is not reasonable. Since the Act clearly wants to ensure reasonable prices of electricity, could this be a violation of the Electricity Act, 2003?

v) As it is mentioned under section 62(1) (d) of the Electricity Act, 2003:

(d) retail sale of electricity: provided that ion case of distribution of electricity in the same area by two or more distribution licensees, the Appropriate Commission may, for promoting competition among distribution licensees, fix only maximum ceiling of tariff for retail dale of electricity.

vi) The Act clearly endeavours to promote competition in case of two or more distribution licensees. In Mizoram we have only one distribution licensee. So, by default the P&E Department, under the Government of Mizoram, has clearly been monopolising the retail sale of electricity. Monopolies have the potential to create inflation. Could this awful hike be a result of a monopoly?

vii) With reference to the Editorial of Vanglaini Newspaper, Dated 1st February, 2022. It was stated that the price hike in the revised Aggregate Revenue Requirement and Tariff Petition for FY 2022-23 will be 21.05%.

viii) As mentioned in Section 62(1) (a) of the Electricity Act, 2003 last sentence "to ensure reasonable prices of electricity" and section 62(1) (d) of the Electricity Act, 2003 "for promoting competition". The 21.05% hike is not reasonable to the public.

ix) The hike in the price of Electricity has a direct impact on me, you and the entire community. Therefore, I would like to propose a hike of not more than 3%.

I hereby submit an objection to the Tariff Petition for FY 2022-23.

Reply of P&ED:

i) No comment

ii) No comment

iii) The Electricity Act 2003, Section 62(1)(a) appears to be complied only by Power Generating Companies supplying electricity to a distribution licensee.

Employee cost which is mentioned to increase from Rs. 60.53 crore to the projected amount of Rs. 152.98 crore seems to be a misunderstanding. JERC (M&M) Multi Year Tariff Order for FY 2018-19 published on Dt 12.03.2018 projected the employee cost for FY 2022-23 as Rs. 60.53 crore while the projected employee cost is Rs. 152.98 crore in Tariff Petition for FY 2022-23. The employee cost proposed by the Department in Tariff Petition for FY 2021-22 is Rs. 149.60 crore while the JERC M&M approved cost is Rs. 141.00. The increase in employee cost projected for FY 2022-23 (Rs. 152.98 cr – Rs 141.00) is Rs. 11.98 crore only i.e 8.5% which is quite low as compared to 20%-30%.

iv) As cited above, the increase in cost of power purchase mentioned is the difference between the cost of power purchase i.e Rs. 228.82 crore approved in the JERC M&M Multi Year Tariff Order for FY 2018-19 Dt. 12.03.2018 and Rs.468.61 crore projected in the current petition. It is simply the difference between the projected figures from Multi Year Tariff Order Dt.12.03.2018 and

the projection for current Tariff Petition for FY 2022-23 and not the hike from FY 2021-22 to 2022-23.

v) No Comments

vi) Power & Electricity Department never consider making profit from sale of power to consumers by increasing the tariff. Since the Department is one of the revenue earning Departments under the State Government, the Department tried to earn expenditure through tariff equivalent to that spent by the Government for the P&E Department. Despite provision for revenue subsidy and grants received from the Government, the total revenue realized by P&E Department is still less than that required for the Department.

vii) No comment.

viii) After careful study of section 62(1)(a) and Section 62(1)(d) of Electricity Act, 2003 the current Tariff hike of 21.05% does not contradict with the said Electricity Act, 2003.

ix) No comment

Objector-7: C. Lalremsiama, Engineer-in-Chief, PHE Department, Govt. of Mizoram

Objection:

i) Urban Water Supply Pumping: Payment of bill has been made from fund allocated by the Government of Mizoram. It is suggested not to hike tariff as the increase may cause burden on the Government.

ii) Rural Water Supply Scheme: Payment of electricity bill of water pumping in rural areas has been made from contribution from the beneficiaries. It is suggested not to hike the tariff as it is may be difficult to make payment of bills from their contribution.

Reply of P&ED:

i) All the revenue earned from sale of power by Power & Electricity Department is remitted into the Government Treasury. As Public Health Engineering Department (PHED) is also one of the Department under the State Government, their cost of energy for operation of water pumping system which they received

from the State Government is remitted into the Government Treasury by Power and Electricity Department. Hence, there seems to be no financial loss for the Government.

ii) The energy cost for Water Pumping Scheme under PHED as well as Street lighting are fully borne by the State Government. Therefore, in order to decrease the burden of consumers under BPL, the tariff for Public Water Works and Street Lightings are increased so as to enable a reduction in the tariff for Domestic Category.

If Rural Water Supply Scheme is acknowledged and approved by the Government then a separate tariff for Rural Water Supply Scheme may be necessary to be proposed to the Hon'ble Commission.

Objector-8: Lalhriatpuia, Secretary, Mizoram Industry Owners Association, Gen. Hqrs.

Objection:

Payment for recovery of distribution loss of 17.90% is found to be made besides existing transmission loss recovery with this proposal of tariff hike, this shall result in higher production cost causing burden for the consumers and therefore, it is requested not to hike tariff.

Irregular power supply is causing difficulty to the Mizoram Industry Owners and frequent shutdown of 2 to 3 times within an hour results in very high loss to the tune of thousands of rupees. While scheduled shutdown programme notice was made in other states, we have never received such information in advance. Mizoram Industry Owners Association Executive Committee is against the proposal of tariff hike and do want to withdraw this proposal of tariff hike.

Reply of P&ED:

As mandated by the Joint Electricity Regulatory Commission for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014 Section-17 (Sub Section-17.8), the Distribution Licensee should submit its Tariff Petition every year for the ensuing

year. As such, Power & Electricity Department had submitted Tariff Petition for the FY 2022-23 to the JERC for Manipur & Mizoram.

As stated in Section 5.7 of JERC for Manipur and Mizoram (Electricity Supply Code) Regulations, 2013, if consumers with High Voltage/Tension electric connection placed their meters on low voltage/tension side of the transformer, Transformation Loss should be added to the electricity bill.

The distribution loss of 17.90% highlighted in the Tariff Petition for FY 2022-23 will not be borne by the consumers but the gap will be filled as subsidy and grants from the State Government.

In case of planned shutdown, intimations are made in advance to the consumers through social media and local TV channel as far as possible, however in case of unforeseen circumstances or emergency cases that are beyond the control of the Department, the consumers cannot be notified in advance. Power & Electricity is trying its level best to ensure regular power supply that is the main objective of the Department.

Objector-9: Prof. Lalnuntluanga, General Secretary, Central YMA

Objection:

i) Central YMA feel it hard to accept steep hiking of tariff occurring since recently. The existing tariff is also causing burden to higher number of people. There are lots of poor households who depends only on daily wages from hard work and everybody needs electricity for lighting purpose.
The existing pandemic has been affecting our economy. We are facing hardship to generate income and basic daily needs and YMA is not agreeable to the proposal for steep hiking of tariff and hereby submits our willingness to continue with the existing tariff.

Reply of P&E D:

Power & Electricity Department being a deemed Licensees as specified in Section-14 of the Electricity Act 2003, and as the Joint Electricity Regulatory

Commission for Manipur & Mizoram (Multi Year Tariff) Regulations, 2014 Section-17 (Sub Section-17.8), mandated all the Electrical distribution Licensees under its jurisdiction to submit Tariff Petition every year, the Power & Electricity Department had accordingly submitted its Tariff Petition for the FY 2022-23 to the JERC for Manipur & Mizoram.

Power & Electricity Department is one of the Departments under the State Government expected to earn revenue. The revenue earned from sale of electricity belongs to the Government for utilization as the public money.

This Tariff Petition, if approved by the Hon'ble Commission will be effective from 1st April, 2022.

Objector-10: Prof. Chawngsailova, President, Mizoram Consumers' Union

Objection:

1. EMPLOYEE COST & EXPENSES

i) Employee Cost and Provision: As per Tariff Petition for the FY 2022-23 at page no. 86 Form No F6 in the table, the high amount of Rs.152.93 crore (i.e.20.35% of the total ARR requirement) for Net Employee expenses is included in the calculation of Aggregate Revenue Requirement (ARR). Detailed employee strength, with numbers, categories etc. be furnished as per prescribed Appendix.

ii) Employee Strength in the table Form No F6. It is mentioned that the total employee strength are as follow: for FY 2020-21 - 4145 Nos, for FY 2021-22 - 4037 Nos, and for 2022-23 - 4042 Nos.

iii) Sub-Total of Employee Strength: The P&ED has to file the categories of total strength employees in each category in FY wise- such as (1) Regular (2) work charge (3) Contract and (4) Muster Roll/P.E employees. The Hon'ble Commission to direct the P&ED to furnish the above information please.

iv) A Separate Form for- Employee Strength-categories of employees such as (a) Technical & Officers nos, Staff, (b) Non-Technical-Officers, Staff, (c) Accounts and Finance Total-Officers, Staff, Others (specify staff-for FY 2020-21, 2021-22 & 2022-23.

v) (a) Administration & General Expenses Form No F7, in page 88&89

The Administration & General expenses for

FY 2020-21	FY 2021-22	FY 2022-23
Rs. 2.81 Crore	**Rs.4.88 Crore**	**Rs.5.16 Crore**

(b) A separate Table or Form detail Employee expenses for salaries (basic), D.A, House rent, SCA, T.A etc. GPF etc. be provided in year wise i.e. with Total Net employee expenses for 2020-21, 2021-22 and 2022-23.

It is clear that the employee cost and expenses for administration & general are the main factors for the increase of Annual revenue requirement, in Tariff Petition for FY 2022-23.

It is therefore, prayed that the Hon'ble Commission will direct P&ED to furnish all the above required vital information to the Tariff Petition filed for FY 2022-23.

2. POWER PURCHASE FROM P&ED's OWN GENERATION FOR FY 2022-23:

As per Tariff Petition filed, the P&ED's own generation of energy from (1) Khawiva SHP, (2) Tuipui SHP, (3) Teirei SHP & (4) Kau-Tlabung SHP has been projected/proposed to generate 6.27 Million Units (MUs). According to the same petition, the said energy generated has to be purchased by P&ED. As mentioned in the said Petition these SHPs have been operated and managed by Amazon Engineering. P&ED stated that the Installed Capacity & energy generation does not include its own generation. P&ED has to purchase its own energy generated from these SHPs.

These SHPs are Assets of P&ED and have been constructed and run from State Govt's. funds/money. The Amazon Engineering is the contractor under the P&ED & has been operated and manage by P&ED and all the expenditure for repair and maintenance cost etc. are paid by P&ED. The installed capacity and generation charge may be negligible as the Govt. pays the bills of Amazon Engineering. Therefore, the energy generated from these Hydel Projects should be deemed to be the benefits of the State Govt. This being the case, it is hard to understand

why the Govt. has to purchase 6.27 MUs of energy at the average rate of purchased of Rs.7.27 per unit. As such, it is hard to understand that the Govt. has to spend Rs.77 lakhs for purchasing 6.27MUs generated from its own SHPs in so far as the said power generated is already their asset.

We submit that Rs.77 lakhs should not be included in the Annual revenue requirements. By not including Rs.77 Lakhs in the Annual revenue requirement, the electricity bills of customers will be reduced and consequently benefiting the Consumers/Public.

We, therefore, pray that the Hon'ble Commission will consider our justification and direct P&ED to take necessary action.

3. ON GOING PROJECTS OF SHPs

All the SHPs undertaken by P&ED (State Govt.) may also be included in the Tariff Petition as all the Projects operating costs etc. are to be include in the Tariff Petition when the situation arise.

The detailed Project works has to be included in the Tariff Petition FY 2022-23. It is our prayer to Hon'ble Commission to direct the P&ED to include the ongoing SHPs in the Tariff Petition 2022-23.

4. DISTRIBUTION LOSS

As per statement in the Tariff Petition by P&ED, the actual values of the distribution loss for the FY 2020-21 arrived in accordance with actual energy sales and energy purchase.

As per Accounts (FY 2020-21) Distribution loss was 29.05%, but the approved Distribution loss was 19.64% in T.O date 26.3.2021 which was reduced to 18.16% in the review for FY 2021-22.

Now the distribution loss of 17.90% for FY 2022-23 has been proposed/approved by P&ED. The distribution loss is one of the main two factors (with employee cost).

As per Central authority, the Aggregate Technical & Commercial Losses (AT&C losses) i.e total loss to be identified. As such the function-wise Segregated Cost

and Account i.e Generation. Transmission and Distribution entities is urgent and must be made. So that improvement of operating & efficiency may be made.

As per Central Authority's guidelines for computation of AT&C losses, the P&ED's AT&C loss for 2020-21 was 39.55%. That means every 100MW of AT&C loss about 40MW is getting loss/wasted and needs to checked in a phase manner. The Central authority fix the AT&C losses at 15%. The seriousness is that all this loss has been included in the Aggregate Revenue Requirement (ARR) and the main factor to increase Tariff Petition which to be paid by the Electricity Consumers.

We may pray the Commission that:

(i) It is the opinion of the Mizoram Consumers' Union (MCU) that the said proposed Distribution loss be fixed at 15% (not at 17.90%) and the ARR calculation be reduced incorporated proportionally in the calculation.

(ii) It is also prayed that the Hon'ble Commission may direct P&ED to take steps for function-wise account and ask the plan for the separation/segration of Generation, Transmission and Distribution so as to identified the actual loss by the Distribution, Transmission and to mitigate and reduce the AT&C losses in the operation.

(iii) It is also pray the Commission to direct P&ED the amount involved in terms of Rupee with the Distribution loss of 17.90% at the average of purchase or sale.

5. OUTSIDE STATE-TRADING

Energy Sales FY 2022-23 (in MUs)

As per Tariff Petition the energy sales and outside State Trading vis-à-vis the sale approved by the Hon'ble Commission as follows:

FY 2020-21		FY 2021-22		FY 2022-23	
Approved in T.O Dt. 26.3.2021	As per Accounts	Review Approved	As per revised Account	As approved in T.O 12.3.18	Proposed by P&ED
Outside State Trade-110.07 (M.Us)	69.72 (M.Us)	28.28 (M.Us)	38.34 (M.Us)	29.31 (M.Us)	101.10 (M.Us)

Outside State Trading has been practiced by the P&ED that some Million Units were sale to outside State to big company through Indian Energy Exchange (IEE) Platform in a completive bid. As per record the sales of energy is much lower (below Rs.4 per units) than the purchased average rate is about Rs.5.32 per unit. That means at the outside energy sale/trading or sales the P&ED is getting loss and Annual Revenue Requirement Energy Sales Table as per Tariff Petition 2022-23 for the FY 2022-23 & Energy Balance Table the proposed outside State trading is 101.10 MUs and Revenue proposed Tariff Table 3.2 is Rs.38.34 crore.

By analyzing the sales and purchase of energy it is concluded that at the said outside State Trading of energy the average energy purchased is Rs.5.32 per unit and the selling rate is Rs.3.79 per unit with the proposed 101.10 MUs to be traded outside. The State Govt./P&ED will incur loss of Rs. 1.53 per unit sale of energy. By selling 101.10 MUs State exchange will incur loss a total loss of about Rs.15.44 crore (i.e the average purchase rate is Rs.5.32 per unit and the total amount of 101.10 MUs the P&ED will spend Rs.53.78 crore the same MUs will be sold at Rs.3.79 per unit and the total revenue earned from trading will be Rs.38.34 crore).

In Mizoram, the energy demand during the peak load (at about 6:00 PM) about 140 MW (approx) and lowest consumption period is about 40 MW (approx) at 4:00 AM.

In this connection, it may be pointed out that the demand for purchase of energy is hourly/every hour may be put in place. In short, the proposal for outside trading of energy sale of 101.10 MUs may drop to save public money of Rs.15.44 crore. This will impact to the ARR calculation and may reduce proportionally to ARR calculation (i.e it will reduce revenue gap).

We, the MCU, pray for the Hon'ble Commission to direct P&ED not to purchase 101.10 MUs of energy for Outside State Trading for the benefit of public.

6. PROVISION OF DEBTS/OUTSTANDING BILLS

As per review of ARR FY 2021-22 the provision for debts/debtor has been shown as zero. As per reliable information from different sources, one of the factors to increase annual revenue requirement (ARR) the Power Tariff is that a large amount of outstanding bill/balance are not realized by P&ED. If this outstanding bill/balance is realize the Net Revenue Gap may be reduced.

It is our opinion that a list of categories of consumers- Nos of individual consumers, Departments, Organization etc. with their outstanding balance of bill/debts be shown in the Tariff Petition.

In this connection what are the steps taken by the P&ED to realize this outstanding bills may also be included in the Tariff Petition.

It is, therefore, prayed that Hon'ble Commission may direct the P&ED to take appropriate action.

7. CONNECTED LOAD AND CONTRACTED LOAD

As per Tariff Petition, review of category-wise growth in number of consumers FY 2021-22 the total number of consumers was 265,122 and the consumer category-wise growth in Connected load FY 2021-22 was also given.

It may be pointed out that the growth in Contracted load was not given. The Contracted load is the main criteria for Fixed Charge of Tariff and not the connected load. If Fixed Charge (FC) has been charge from the Connected load, which is normally higher than the Connected load the consumers may have a chance to pay more. The agreement between the consumer & P&ED has to sign on the basis of Contracted load which is always less than the Connected load. As for instance at the time of connection a consumer may make a future plan to have 3 KW Connected load which not utilized all. The actual use of connection may be 2 KW only. As per JERC regulation an agreement will be signed for Contracted load for the basis of Fixed Charge.

Therefore, the Contracted load be enforced for fair Tariff i.e Fixed Charge (instead of Connected load). It is prayed that the Hon'ble Commission may direct the P&ED so as to prevent from paying higher Fixed Charge.

8. GOVT. SUBSIDY AND GRANT-IN-AID

The Power & Electricity Department is functioning as one of the Govt. Departments. As such, the cost of operation, management, repair & maintenance expenses, Administration and general expenses and employee cost are very high. Unless and until the P&ED is put under Corporation as mandated by Electricity Act, 2003 the annual revenue requirement will be constantly high and needs to be borne by the Govt. not by the consumers. As such a large subsidy amount or grant-in –aid from the Govt. is to be given which is justified from the view point of consumers.

Therefore, all the expenses for operating and running and management of Power & Energy Sector should be met from the Govt. revenue as grant or subsidy. As per Tariff Petition FY 2022-23 the "Net Revenue Requirement" is Rs.333.99 crore the "Net Revenue Gap"/or deficit is Rs.331.10 crore. This 'Net Gap' may be met from the Govt. grant-in-aid of the Govt. and in terms of subsidy. Especially considering the fact that due to Covid-19 pandemic during 2020,2021 & till date, it has not been possible for the consumers to have a steady income in order to meet the proposed rise of tariff.

The proposed Tariff Petition for FY 2022-23 may be kept in abeyance for re-consideration by the Govt. due to covid-19 pandemic, employment, business, entrepreneurs and framers, daily labourers and all sectors have been adversely affected as such, to relieve the hardship and suffering of the people the Govt. of Mizoram may borne most of the ARR. The following items of expenditure may be suggested to reduce the Net Gap of ARR:

1.	Cost of power purchase for Outside State Trading to be discontinued/stop and Govt. will save.	Rs. 15 crore
2.	Transmission charge to reduce by	Rs. 6.78 crore
3.	Inter State Transmission to reduce by	Rs. 1.45 crore
4.	Employee costs (due to pension etc) to reduce by	Rs. 2.98 crore
5.	Repair & Maintenance expenses to reduce by	Rs. 1.18 crore
6.	Administration & General expenses to reduce by	Rs. 1.16 crore
	Total	Rs.28.55 crore
	Less Non-Tariff income Rs.11.20 crore + additional income 3.8 crore	Rs.15 crore.
	Therefore, Rs.28.55 + 3.8 = 32.35 crore	

Thus, the net revenue gap may be reduced to Rs.298.75 crore (from Rs.331.10 crore).

The above draft calculation is only to have an idea to reduce some item of expenses/to earn additional income so as to narrow down revenue gap.

9. **NOT TO CONSIDER THE TARIFF PETITION FOR 2022-23 AND USE EXISTING TARIFF** 2021-22

The overall increase of Tariff 2021-22 dated 26.3.2021 was 25% (against P&ED's proposal 41.92% increase). Consider the Covid pandemic and the economic condition of common people, the existing Tariff 2021-22 should be allowed to continue.

All the Fixed Charge in different categories may be used as Tariff 2021-22 as stated that Connected load and Contracted load are not properly differentiated.

All the net revenue gap of ARR Rs. 331.10 crore be met/fill up from Govt. subsidy (last year subsidy amount of Rs.160.67 crore) or additional grant-in-aid may be given of this full amount of Rs.331.10 Crore.

Reply of P&E D:

1. No comment
2. Due to shortage of staff, Operation & Maintenance (O&M) works at Khawiva, Tuipui, Teirei and Kau-Tlabung SHP was outsourced to M/s Amazon Engineering. The cost of O&M for these Small Hydel Project is paid in terms of power generated from these Stations. Since O&M fund is limited, expenditure for O&M works is met from the fund under Power Purchase Head.

   P&E Department does not purchase power generated from these SHPs. It only pays for the cost of O&M charge to Amazon Engineering from the fund under Power Purchase Head.
3. No Comments
4. (i) After deducting 17.9% (107.91 MU) from the projected energy requirement to be available for the consumers within the State i.e 602.90 MU, the tariff for consumers is derived out from the remaining quantum of power i.e 494.99 MU, hence the distribution loss will not be borne by the consumers, but the gap will

be filled from the subsidies and grants received from the State Government. If the State Government fails to provide subsidy and grants to the Department, the Full cost Tariff will be implemented and then only Distribution loss will be borne by the consumers.

(i) Restructuring of Power & Electricity Department is under process and a task group for this particular task is already established.

(ii) No comment

5. The sale of power outside state/power trading through Unscheduled Interchange and energy exchange platform involves elaborate and complex procedures/mechanisms and different regulations. So the Department is doing its best through State Load Despatch Centre (SLDC), Mizoram for the maximum benefit for the public

6. As per JERC (M&M) Supply Code Regulation, 2013 the Department is trying its level best to recover the unpaid outstanding bills.

7. Circular to ensure the contracted load and connected load had been distributed to the consumers by P&E Department in the year 2017. It is clearly written in the circular that the connected load of those consumers who did not make any response to the Department shall be treated as their contracted load. Hence, the figures that appear as connected load in the current Tariff Petition should be read as contracted load.

8. The Annual Revenue Requirement mentioned in the Tariff Petition for FY 2022-23 is Rs.751.42 crore (not Rs.333.99 crore) and the Revenue Gap is Rs.277.55 crore (not Rs. 331.10 crore). However, out of the exact amount of Revenue Gap i.e Rs.277.55 crore, Rs.109.22 crore shall be provided by the Government as revenue subsidy and the remaining amount i.e Rs.168.33 crore shall be given as grant (Budgetary provision) as committed by the State Government vide Letter No.B.19018/9/2020-P&E Dt.18.02.2022. (copy enclosed)

9. No Comment

Commission's Comments:

The objections raised by the Stakeholders/Public and replies of the P&ED are noted.

5 True-up of ARR for 2020-21

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 2020-21 vide order dated 26.03.2021. The actual figures for the FY 2020-21 are now available. As required by the Regulations, P&ED is submitting the Audited Annual Accounts for the FY 2020-21 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.

5.2 Energy sales

The actual sales vis-à-vis the sales approved by the Hon'ble Commission in its Tariff Order dated 26.03.2021 for the FY 2020-21 is as summarized below:

Table 5.1: Energy Sales approved by the Commission for FY 2020-21 after true-up

(MU)

Sl. No.	Category	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
	LT Consumers			
1	Kutir Jyoti	7.78	7.19	-0.59
2	Domestic	298.4	271.90	-26.53
3	Non-Domestic	9.49	8.20	-1.29
4	Commercial	36.21	34.20	-2.01
5	Public Lighting	2.22	2.11	-0.11

Sl. No.	Category	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
6	Public Water Works	0.95	0.79	-0.16
7	Agriculture	0.09	0.06	-0.03
8	Industrial	3.10	4.06	0.96
	Total LT	**358.2**	**328.50**	**-29.77**
	HT Consumers			
9	Domestic	9.84	4.35	-5.49
10	Non-Domestic	0.56	0.25	-0.31
11	Commercial	14.50	10.07	-4.43
12	Public Water Works	66.55	81.66	15.11
13	Agriculture	0.06	0.10	0.04
14	Industrial	8.36	5.54	-2.82
15	Bulk Supply	57.51	14.45	-43.06
	Total HT	**157.3**	**116.42**	**-40.96**
16	Outside State - Trading	**110.0**	**69.72**	**-40.35**
	Total	**625.7**	**514.65**	**-111.07**

Commission analysis:

The Commission approves energy sales of LT & HT category within the State at 514.65 MU based on the actuals for FY 2020-21 for true-up purpose as they are matching with the audited financial account figures.

5.3 Distribution Loss

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.

Distribution Loss for FY 2020-21

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Distribution Loss	19.64%	29.05%	9.41%

Commission's analysis

The Commission in its Tariff Order dt:26.03.2021 had approved Distribution Loss at 19.64% for FY2020-21 based on the available data then submitted through ARR filings petition. Right now, the P&ED had claimed actual distribution losses at 29.05% with a stunning hike of 9.41% (i.e.,29.05%-19.64%) distribution losses over approved losses value. While, it is a fact that for FY2019-20, the distribution losses claimed in true-up was only 20.663% therefore, it is still unconvincing to see losses shot-up to 29.05% in the next year (2020-21) in which sales quantum and Outside State sales have decreased drastically over 2019-20 figures. This is a very serious matter and it needs at most attention to sort out the reasons and to plug the loop-hole from its recurring. The abstract of all comparative details for **both years** are tabulated for a glance:

Year	Retail Sales (MU)	IEX sales (MU)	Purchases (MU)	Dist. Loss (MU)	Dist.Loss (%)
2020-21	444.91	69.72	723.95	182.14	29.050%
2019-20	486.39	249.41	880.19	126.68	20.663%
Variance	(41.48)	(179.69)	(156.24)	+55.46	+8.387%

As seen from the above, despite lesser power purchase, retail sales and IEX sales, the losses (Distribution) are higher than FY2019-20 significantly by 55.46MU. <u>There was no convincing explanation was attempted to provide in the ARR filing submission for this abnormal distribution loss it sustained</u>. Hence, the Commission infers that during COVID pandemic the vigilance by P&ED staff was not effective resulting in increase of Commercial losses in the state such as theft, pilferage and demand bills not issued properly but not because of Technical losses. Had the department timely disposed of the excess quantum power through IEX sales to the tune of 66.26MU, the Dist. Losses would have been around 20.663% besides earning of additional revenue on account of IEX sales to tune of Rs.18.95Crs @ Rs.2.86/kWh in FY 2020-21. This is all attributable to the P&ED's in action resulted in squandering the excess energy in the form of losses and also missed additional revenue at the same time. This kind of situation shall not be

allowed to be repeated anymore and hence, Commission wants to off-load the burden on consumers by recovering an amount of Rs.18.95Crs in the form of efficiency gain as one-time settlement in the true-up of FY 2020-21 to properly justify the consumers financially and also to alert the Licensee to swing in to action with due diligence in future under such eventuality.

Table 5.1: T&D loss calculation Approved by the Commission for FY 2020-21 after true-up

S.No.	Energy Balance details - FY 2020-21	Approved
A	**State Grid Energy requirement for Distribution activity**	**(MU)**
1	**Retail Sale of energy (LT & HT) - (Input data)**	**444.92**
2	Distribution Loss (%) - (Derived)	29.05%
3	Distribution Loss (MU) - **(4-1)**	182.14
4	**Energy at Distribution Periphery -- (ARR filed actuals)**	**627.06**
5	State Transmission Loss (%) - (ARR filed)	**2.00%**
	State Transmission Loss (MU) - **(6 - 4)**	12.80
6	**Total Grid Energy requirement at State periphery (from Row-22)**	**639.86**
B	**Sources of Energy Availability**	**(MU)**
7	Purchases from Eastern Region (ER) - Input)	33.11
8	a) Inter-State Losses on ER Energy (%)	1.95%
	b) Inter-State Losses on ER Energy (MU)	0.65
9	**Net ER Energy after Losses (7 - 8b)**	**32.47**
10	**Purchases from North Eastern Region (Excl. Tuirial HEP energy)**	**503.11**
11	UI Energy Purchase (Net)	5.09
12	RPO obligation met from Outside the State	-
13	**Energy handled at NER grid (9 to 12)**	**540.67**
14	Inter-State Trans. loss in NER (%)	2.54%
	Inter-State Trans. loss in NER (MU)	13.73
15	**Net energy available at NERLDC for Mizoram (13-14b)**	**526.94**
16	Energy purchases from Tuirial HEP	133.81
17	Free Power from Tuirial HEP	18.25
18	State Owned Small HEPs Generation exported to Grid	13.81
19	Gross Solar Plants & RTS Metering System energy export to Grid	1.33
20	Amazon Engineering supply from 4 HEPs	15.45
21	**Gross energy available at Mizoram from all sources (15 to 20)**	**709.59**
22	**Available energy at State Periphery - [21-(23+27)]**	**639.86**
23	**Energy Surplus (+)/Deficit (-)**	**69.72**
24	Sale from Energy through Trading/Banking	-
25	Sale of energy at IEX (Input data)	69.72
26	Net Metered gross generation from RTS	-

S.No.	Energy Balance details - FY 2020-21	Approved
27	Total energy consumption in Distribution area (1+26)	444.92

The above figures energy balance for FY2020-21 are approved based on actual values furnished in the audited accounts and the filing submissions. But the cost adjustment would be made for the high loss as stated above.

5.4 Energy Requirement

The energy requirement approved by the Commission for FY 2020-21 in its order dated 26.03.2021, actuals furnished by P&ED in its true-up petition of FY 2020-21 and now approved by the Commission are detailed in table below:

Table 5.2: Distribution Energy Requirement for FY 2020-21 approved after true-up

Sl. No.	Energy Balance (FY 2020-21)	Approved in T.O. dated 26.03.2021	As per Accounts	Commission approved
A	**Distribution Energy Requirement**	(1)	(2)	(3)
1	Energy Sales (MU)	515.65	444.92	**444.92**
2	Distribution Loss (%)	19.64%	29.05%	**29.05%**
3	Distribution Loss (MUs)	126.05	182.14	**182.14**
4	**Distribution Energy Input total (MU)**	**641.70**	**627.06**	**627.06**

5.5 P&ED's Own Generation

The P&ED's own generation approved for the FY 2020-21 and actual value of own generation made by the P&ED for the FY 2020-21 is provided in the table below:

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Total Generation (Net)	50.78	13.81	-36.97
	T	**50.78**	**13.8**	**-36.97**

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 does not include in Own Generation. However, P&ED has procured the energy generated from the above SHPs and has incorporated the same in the power purchase for the year.

5.6 Purchase of Power

The power purchase approved for the FY 2020-21 and actual units of power purchase made by the P&ED for the FY 2020-21 is provided in the table below:

Table 5.3: Power Purchase from all sources for FY 2020-21filed & approved by Commission

Sl. No	Source	Approved in T.O Dt. 26.03.2021	Actuals furnished by P&ED	Approved by the Commission
A	**Central Generating stations**			
I	NTPC- **ER**			
1	Farakka STPS	15.35	15.42	15.42
2	Kahalgaon STPS	7.44	7.30	7.30
3	Talcher STPS	9.85	10.40	10.40
	NTPC-Total	**32.64**	**33.11**	**33.11**
II	**NTPC - ER**			
4	Bongaigaon TPS	135.75	83.43	83.43
	Sub-Total Bongaigaon	**135.75**	**83.43**	**83.43**
III	**NHPC**			
5	Loktak HEP	21.46	5.27	5.27
	Sub-Total	**21.46**	**5.27**	**5.27**
IV	**NEEPCO - Hydro**			
6	Kopili HEP	7.95	0.00	0.00
7	Kopili - II HEP	2.04	0.00	0.00
8	Khandong HEP	2.03	2.53	2.53
9	Ranganadi HEP	79.68	78.81	78.81
10	Doyang HEP	10.85	10.34	10.34
11	Pare HEP	25.90	29.82	29.82
12	Tuirial HEP	141.41	133.51	133.51
	Free Power of Tuirial	18.42	**18.25**	**18.25**
	Sub Total –NEEPCO Hydro	**288.28**	**273.56**	**273.56**
	NEEPCO – Gas Based			
13	AGBPP	65.64	56.59	56.59
14	AGTPP	43.68	38.18	38.18
	Sub-Total	**109.32**	**94.76**	**94.76**
V	**TSECL**			
15	B'mura - IV	45.37	46.94	46.94
16	B'mura - V			
	Sub-Total	**45.37**	**46.94**	**46.94**
VI	**OTPC**			
17	Palatana	103.27	126.00	126.00
	Sub-Total	**103.27**	**126.00**	**126.00**
VII	**Purchases thro IEX**			
	UI Deviation	--	5.09	5.09
VIII	**State Own Generation**	**50.78**	**13.81**	**13.81**

Sl. No	Source	Approved in T.O Dt. 26.03.2021	Actuals furnished by P&ED	Approved by the Commission
IX	Other Sources of power			
	1) Amazon Engineering		15.45	15.45
	2) Rooftop solar & Other		1.34	1.34
	Grand Total (I to VIII)	786.86	723.96	723.96
IX	Over all energy purchased	786.86	723.96	723.96

Commission's Analysis

The Commission approves power purchase of 723.96MU including UI deviation (Overdraw) of 5.09 MU but before considering the free power from Tuirial of 18.25 MU received during FY 2020-21 for true-up purpose based on actuals. With free power from Tuirial the gross actual power purchase quantum would be at 723.96MU in FY 2020-21. Out of 723.96MU, if Own Generation of 13.81MU is excluded the balance energy purchased is from other sources figures to 710.15MU.

5.7 Energy Balance

The actual energy balance for the FY 2020-21 and the approvals accorded are compared in the table provided below:

Table 5.4: Energy Balance for FY 2020-21 filed by the P&ED

Sl. No.	Energy Balance	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
A	**Energy Requirement**			
1	Energy Sales	515.65	444.92	-70.73
2	Distribution Loss (%)	19.64%	29.05%	9.41%
3	Distribution Loss (MUs)	126.05	182.14	56.09
4	**Total Energy Requirement**	**641.70**	**627.06**	-14.64
B	**Energy Availability**			
5	Own Generation	50.78	13.81	-36.97
6	Energy Purchase from ER	32.64	33.11	0.47
7	Less: ER Pool Loss (%)	1.95%	1.95%	0.00
8	Less: ER Pool Loss (Mus)	0.64	0.65	0.01
9	Net Energy for ER	32.00	32.46	0.46
10	Energy Purchase from NER (Exl. Turial HEP)	543.62	503.11	-40.51
11	UI / Deviation	0.00	5.09	5.09
12	Sub Total	575.62	540.66	-34.96
13	Less: NER Pool Loss (%)	2.54%	2.54%	0.00
14	Less: NER Pool Loss (MUs)	14.62	13.73	-0.89

Sl. No.	Energy Balance	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
15	Net Energy at NERLDC	561.00	526.93	-34.07
16	Energy purchases from Tuirial HEP	141.41	133.81	-7.60
17	Free Energy from Tuirial HEP	18.42	18.25	-0.17
18	Amazon Engineering	0.00	15.45	15.45
19	Rooftop Solar Generation	0.00	0.09	0.09
20	Solar Generation	0.00	1.24	1.24
21	Energy Available	771.61	709.58	-62.03
22	Less: Outside State - Trading	110.07	69.72	-40.35
23	Total Energy Available	661.54	639.86	-21.69
24	Less: Intra State Tr. Loss (%)	3.00%	2.00%	-0.01
25	Less: Intra State Tr. Loss (MUs)	19.85	12.80	-7.05
26	Net Energy Available	641.70	627.06	-14.64
27	**Less: Energy requirement at State Periphery**	**641.70**	**627.06**	**-14.64**
28	**ENERGY SURPLUS/(DEFICIT)**	**0.00**	**0.00**	**0.00**

Commission's Analysis

Actual distribution losses were considered to be **29.05%** as calculated vide **Table 5.3 Supra** similar to what was submitted by P&ED, besides adopting NERLDC losses at 2.54% based on its website data. Considering the above the Surplus power for Outside state sales worked out to be 69.72MU matching with the P&ED ARR filing figures as well as that indicated in the audited accounts report.

Table 5.5: Energy Balance approved by the Commission for FY 2020-21 after true-up

Sl.No.	Particulars for FY 2020-21	MU
A	**Grid Energy Requirement for Distribution purpose**	
1	Energy Sales to Retail consumers (LT & HT)	444.92
2	Distribution Loss (%)	29.05%
3	Distribution Loss (MU)	182.14
4	**Energy Input at Distribution periphery (as filed)**	**627.06**
5	Intra- State Transmission Loss (%) (**derived**)	2.00%
	Intra-State Transmission Loss (MU) (derived)	**12.80**
6	**State Grid Energy requirement (from Row-22)**	**639.86.**
B	**Available Energy sources**	
7	Energy purchase from Eastern Region	33.11
8	Inter-State Losses on ER Energy (@ 1.95%)	0.65
9	ER Energy after Losses (1-2)	32.46
10	Energy from NER Stations (exl. Energy from Tuirial HEP)	**503.11**

Sl.No.	Particulars for FY 2020-21	MU
11	UI Energy Purchase	5.09
12	RPO met from outside the State	--
13	**Energy available at NER grid (9 to 12)**	**540.66**
14	Inter-State Trans. loss in NER (@ 2.54%)	13.73
15	**Net energy available for Mizoram at NERLDC (13-14)**	**526.93**
16	Energy purchase from Tuirial HEP	133.81
17	Free Energy from Tuirial HEP	18.25
18	Energy export to Grid from State Owned small HEPs	13.81
19	Energy export to Grid from Gross metering system of Solar plants & RTS	16.78
20	Energy export to Grid from Net metering system of RTS	0.00
21	**Total energy available for Mizoram (15 to 20)**	**709.58**
22	**Net Energy available for State Usage - [21-(23+27)]**	**627.06**
23	**Energy Surplus (+)/Deficit (-) → (24+25+26)**	**69.72**
24	Energy sale through trading/banking	0.00
25	UI/DSM Energy sale through IEX (22-23)	69.72
26	Gross generation from Net metering RTS	0.00
27	**Total retail sale of energy with in State (1+26)**	**444.92**

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 26.03.2021 for the FY 2020-21. 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 2020-21:

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Cost of Fuel	0.01	0.00	-0.01
	Total	**0.01**	**0.00**	**-0.01**

The Commission thereby prefers to approve NIL fuel cost for FY 2020-21 for the true-up purposes.

5.7.2 Power Purchase Costs

Petitioner's submission

The Hon'ble Commission in the Tariff Order dated 26.03.2021 for the FY 2020-21 had approved a power purchase quantum of 786.86 MUs at a total cost of

`378.42 Crores. P&ED has actually procured 710.15 MUs during the FY 2020-21 at a total cost of `364.84 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 5.8: Actual Power Purchase Cost submitted by P & ED during FY 2020-21

Sl No	Energy Generation Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW	MU Purchased/ generated (ex-bus)	Total Charges (Rs./Crores)	Total Charge per unit (Rs/kWh)
A	**Central Generating Stations**						
I	**NTPC**						
1	Bongaigaon TPS	750.00	5.415	40.61	83.43	100.98	12.10
2	Farakka STPS	1600.00	0.142	2.27	15.42	5.84	3.79
3	Kahalgaon STPS	840.00	0.142	1.19	7.30	2.46	3.38
4	Talcher STPS	1000.00	0.142	1.42	10.40	3.06	2.95
	NTPC-Total	**4190.00**		**45.49**	**116.54**	**112.35**	**9.64**
II	**NHPC**						
1	Loktak HEP	105.00	5.020	5.27	30.47	9.70	3.18
	NHPC-Total	**105.00**		**5.27**	**30.47**	**9.70**	**3.18**
III	**NEEPCO**						
1	Kopili HEP	200.00	4.610	9.22	0.00	0.00	--
2	Kopili - II HEP	25.00	6.040	1.51	0.00	0.00	---
3	Khandong HEP	50.00	3.940	1.97	2.53	0.68	2.67
4	Ranganadi HEP	405.00	5.700	23.09	78.81	17.33	2.20
5	Doyang HEP	75.00	5.410	4.06	10.34	5.54	5.36
6	Pare HEP	110.00	5.765	6.34	29.82	14.91	5.00
7	a) Tuirial HEP	60.00	100.00	60.00	133.51	82.35	6.15
	b) Free Power share				18.25	0	
8	AGBPP	291.00	5.410	15.74	78.68	23.85	4.21
9	AGTPP	135.00	6.00	8.10	43.40	15.68	4.11
	NEEPCO-Total	**1364.00**		**130.03**	**368.32**	**160.33**	**4.35**
IV	**TSECL**						
1	B'mura - IV	21.00	25.000	5.25	46.94	15.82	3.37
2	B'mura - V	21.00	25.000	5.25			
	TSECL-Total	**42.00**		**10.50**	**46.94**	**15.82**	**3.37**
V	**OTPC**						
1	Palatana	726.00	3.030	22.00	126.00	46.55	3.69
	OTPC-Total	**726.00**		**22.00**	**126.00**	**46.55**	**3.69**
VI	**Amazon Engineering**						
	1.Khawiva HEP	1.05	100	1.05	1.46	0.19	1.30
	2.Tuipui HEP	0.50	100	0.50	1.01	0.15	1.50
	3.Teirei HEP	3.00	100	3.00	4.93	0.58	1.18
	4.Kau Tlabung HEP	3.00	100	3.00	8..05	0.98	1.21
	Others-Total	**7.55**		**7.55**	**15.45**	**1.90**	**1.23**
B	**State generating Stations**						
	All Units	22.30	100.000	22.30	13.81	0.00	0.00
	Owned Generation Total	**22.30**		**22.30**	**13.81**	**0.00**	**0.00**

Sl No	Energy Generation Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW	MU Purchased/ generated (ex-bus)	Total Charges (Rs./Crores)	Total Charge per unit (Rs/kWh)
C	**UI / Deviation**				5.09	1.74	3.41
	UI / Deviation-Total				**5.09**	**1.74**	**3.41**
D	**Other RE Energy**						
	1.Rooftop solar Generation				**0.09**	**0.01**	**1.11**
	2.Solar Generation				**1.24**	**0.03**	**2.42**
E	**RPO Obligation / REC Certificate**					2.27	
F	**LC Enhancement/Renewal charges**					0.39	
G	**Bilateral Power Purchase**						
1	Utility 1						
2	Utility 2						
	Bilateral-Total				**0.00**	**0.00**	**0.00**
H	**GRAND TOTAL**	**6456.85**		**243.15**	**723.95**	**364.84**	**5.04**

Commission's analysis

Further to the discussions made at Para 5.8, the power purchase cost works out to be Rs.364.84 Crore tallying with that furnished by P & ED as detailed in the table below.

Table 5.9: Actual Power Purchase Cost approved for FY 2020-21 by Commission

Sl. No	Source	Plant Capacity (MW)	Capacity Share (%)	Share (MWs)	Ex-Bus Energy Purchased (MU)	Total Cost (Rs. Crs)	Per Unit Cost (Rs./kWh)
A	**Central Generating Stations**						
I	**NTPC**						
1	Bongaigaon TPS	750.00	5.415	40.61	83.43	100.98	12.10
2	Farakka STPS	1600.0	0.142	2.27	15.42	5.84	3.79
3	Kahalgaon STPS	840.00	0.142	1.19	7.30	2.46	3.38
4	Talcher STPS	1000.0	0.142	1.42	10.40	3.06	2.95
	NTPC-Total	**4190.0**		**45.49**	**116.54**	**112.35**	**9.64**
II	**NHPC**						
1	Loktak HEP	105.00	5.020	5.27	30.47	9.70	3.18
	NHPC-Total	**105.00**		**5.27**	**30.47**	**9.70**	**3.18**
III	**NEEPCO**						
1	Kopili HEP	200.00	4.610	9.22	0.00	0.00	--
2	Kopili - II HEP	25.00	6.040	1.51	0.00	0.00	---
3	Khandong HEP	50.00	3.940	1.97	2.53	0.68	2.67
4	Ranganadi HEP	405.00	5.700	23.09	78.81	17.33	2.20
5	Doyang HEP	75.00	5.410	4.06	10.34	5.54	5.36

Sl. No	Source	Plant Capacity (MW)	Capacity Share (%)	Share (MWs)	Ex-Bus Energy Purchased (MU)	Total Cost (Rs. Crs)	Per Unit Cost (Rs./kWh)
6	Pare HEP	110.00	5.765	6.34	29.82	14.91	5.00
7	Tuirial HEP	60.00	100.00	60.00	133.51	82.35	5.42
	Free Power share				18.25		
8	AGBPP	291.00	5.410	15.74	56.59	23.85	4.21
9	AGTPP	135.00	6.000	8.10	38.18	15.68	4.11
	NEEPCO-Total	**1351.00**		**130.03**	**368.32**	**160.33**	**4.35**
IV	**TSECL**						
1	B'mura - IV	21.00	25.000	5.25	46.94	15.82	3.37
2	B'mura - V	21.00	25.000	5.25			
	TSECL-Total	**42.00**		**10.50**	**46.94**	**15.82**	**3.37**
V	**OTPC**						
1	Palatana	726.00	3.030	22.00	126.00	46.55	3.69
	OTPC-Total	**726.00**		**22.00**	**126.00**	**46.55**	**3.69**
VI	**Amazon Engineering**						
	1.Khawiva HEP	1.05	100	1.05	1.46	0.19	1.30
	2.Tuipui HEP	0.50	100	0.50	1.01	0.15	1.50
	3.Teirei HEP	3.00	100	3.00	4.93	0.58	1.18
	4.Kau Tlabung HEP	3.00	100	3.00	8..05	0.98	1.21
	Others-Total	**7.55**		**7.55**	**15.45**	**1.90**	**1.23**
B	**State generating Stations**						
1	All Units	21.80	100.000	21.80	13.81	0.00	0.00
	Owned Generation Total	**21.80**		**21.80**	**13.81**	**0.00**	**0.00**
C	**UI / Over Drawl**				5.09	1.74	-
	UI/Under Drawl				--	-3.14	
	UI / Deviation-Total				**5.09**	**-1.40**	**0**
D	**Other RE Energy**						
	1.Rooftop solar Generation				**0.09**	**0.01**	**1.11**
	2.Solar Generation				**1.24**	**0.03**	**2.42**
E	**RPO Obligation / REC**					2.27	
F	**LC Enhancement/Renewal**					0.39	
G	**Bilateral Power Purchase**						
1	Utility 1						
2	Utility 2						
	Bilateral-Total				**0.00**	**0.00**	**0.00**
H	**GRAND TOTAL**	**6456.35**		**242.65**	**723.95**	**361.70**	**4.996 (*)**

(*) Average per unit cost is arrived at before applying any losses in the system and it will appear higher if losses are considered for units purchased.

As can be seen from the above power purchase table, it is noted that the P&ED is

procuring more power than its requirement and later on resorting to selling of such excess as Outside-state sales of 69.72MU often to dispose of such kind of excess energy **to the tune of 9.6% of overall purchase quantity**. Such as act would impacts higher power procurement cost than needed invariably due to inadvertent/inefficient power procurement strategy. This item constantly burdening the retail consumers since a very long time though it can be obviated with little awakening care if taken. This kind of indiscriminate energy purchases has to be curtailed and monitored assiduously to cut-down higher quantum of power purchases from the Bongaigaon TPS, Doyang HEP, and Pare HEP stations whose average cost of supply far above the average power purchase cost leaving aside the Tuirial power. The advantage with Tuirial is due to saving in transmission losses considering its proximity geographically to Mizoram state.

However, the Commission now approves the actually incurred power purchase cost of Rs.361.70 Crore for FY 2020-21 for procurement of 723.95 MUs of power (vide Table 5.5 & 5.9 supra) based on thorough scrutiny of actual cost for true-up purpose. The treatment of UI Under Drawl receipt amount of `3.139crs as Outside State Sales revenue is grossly wrong and hence the reply given by P&ED in additional replies is ignored. Besides, the RPO obligation REC certificates worth Rs.2.27Crs were not procured so far and the amount still not spent by Licensee as per their additional information replies is disallowed. The Power purchase cost paid to Amazon Engineering amounting to Rs.1.898 Crs is also disallowed due to not submission of satisfactory reply for paying cost for energy from their own stations. Therefore, the finally the Power Purchase allowed is only Rs.357.543Crs after above adjustments to PP Cost filed.

5.7.3 Inter State Transmission Charges

Petitioner's Submission

The Hon'ble Commission in the Tariff Order dated 26.03.2021 for the FY 2020-21 had approved transmission charges of `35.69 Crores. The actual transmission charges for the FY 2020-21 is `50.80 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 2020-21

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Transmission Charges	35.69	50.80	15.11
	Total	**35.69**	**50.80**	**15.11**

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.357.54Crs at Para 5.7.2 above and the interstate (PGCIL) transmission charges are considered at Rs.50.80 Crores. Thus, the total purchase cost including inter-state transmission charges would be Rs. 408.34 Crore (i.e., 357.54Crs + 50.80Crs) for FY 2020-21. The Inter-State transmission cost incurred is more by Rs.15.11 Crs than approved T.O APR figure of Rs.35.69Crs.

The Commission approves Inter State Transmission Charges (PGCIL Charges) at Rs.50.80 Cr for FY 2020-21 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.8.76** Cr for FY 2020-21. The P&ED in its True up Petition **has 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 are also 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 2020-21 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 ` 123.05 Crores for the FY 2020-21 vide Tariff Order dated 26.03.2021. The employee cost approved as above only relates to the distribution function. However, the audited accounts for department is 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 2020-21.

The approved employee cost and actual value of employee cost for FY 2020-21 is provided in the table below:

Table 5.11: Employee Cost furnished by P&ED for FY 2020-21

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dtd. 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Employee Cost	123.05	188.82	65.77
	To	**123.05**	**118.22**	**65.77**

Commissions Analysis:

Though, as per the earlier APR filed figures by the P&ED for 2020-21 was for Rs.123.05 Crs 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.123.05crs as the probable employee cost for FY2020-21. While in reality the employee cost incurred as per audited accounts is at Rs.188.82 Crs which is abnormally higher than what was projected in APR filings and in 2019-20 the actuals incurred were only Rs.118.22Crs for the same indicated strength of 4145 as that now indicated as existing even in FY2020-21 also. It is apparently clear that some more abnormal expenditure had been booked under employee cost in 2020-21 which licensee has not attempted to discuss & reason out anywhere in their ARR submission for the incurred higher cost. In normal parlance, this much of Rs.65.77Crs additional amount cannot be allowed as pass-through in true-up. Since P&ED had received an additional revenue subsidy of `242.63Crs as per Balance Sheet **Schedule-33** in addition to the Tariff subsidy of `160.67Crs (shown in **schedule-4**), the abnormal additional employee expenditure amount of Rs.65.77Crs is hence fully considered for true-up due to additional subsidy cushion now available for adjustment in FY2020-21 and more so **it would not burden the consumer in any way**. Accordingly, the Commission too approves the same amount of Rs.188.82Crs for true-up relating to FY 2020-21 **towards entire P&ED utility as a whole.**

b) Repairs & Maintenance

Petitioner's submission:

The Hon'ble Commission had approved repair & maintenance expenses of ` 10.44 Crores for the FY 2020-21 vide Tariff Order dated 26.03.2021. Repair &

maintenance expenses approved as above only relates to the distribution function. However, the audited accounts for department is 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 2020-21.

The approved repair & maintenance expenses and actual value of repair & maintenance expenses for FY 2020-21 is provided in the table below:

Table 5.12: Repair and Maintenance Expenses furnished by P&ED for FY 2020-21

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Repair & Maintenance expenses	10.44	21.48	11.04
	Total	**10.44**	**21.48**	**11.04**

Commission Analysis:

Earlier, in the APR filing submission the Licensee (P&ED) had submitted for revision of R&M expenses to an amount of Rs.10.44 Crs and the same was allowed to by the Commission in the APR figure for FY 2020-21**.** 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.21.48Crs 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 2020-21 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.11.04crs 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 `242.63crs 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.21.48 Crore for the FY 2020-21 for True-up purpose, which is lesser compared to last year's Rs.22.39crs actually incurred.**

c) Administration & General Expenses

Petitioner's submission

The Hon'ble Commission had approved Administration & General Expenses of ` 4.57 Crores for the FY 2020-21 vide Tariff Order dated 26.03.2021. Administration & General Expenses approved as above only relates to the distribution function. However, the audited accounts for department is 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 2020-21. The approved Administration & General Expenses and actual value of Administration & General Expenses for the FY

2020-21 is provided in the table below:

Table 5.13: Administrative & General Expenses furnished by P&ED for FY 2020-21

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Administration & General Expenses	4.57	2.81	-1.76
	Total	**4.57**	**2.81**	**-1.76**

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 FY2020-21. 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.2.81 Crores for entire department as a whole for the FY 2020-21 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 2020-21 after true-up

(Rs. Cr)

Sl. No	Particulars (FY 2020-21)	Amount
1	Employee Cost	188.82
2	R&M Expenses	21.48
3	Administration and General expenses	2.81
4	**Total O&M Expenses approved**	**213.11**

5.7.6 Depreciation

The Hon'ble Commission had approved Depreciation of `1.98 Crores for the FY 2020-21 vide APR Tariff Order dated 26.03.2021. The approved Depreciation and actual value of Depreciation as per the Fixed Asset & Depreciation Register for the FY 2020-21 is provided in the table below:

Table 5.15: Depreciation furnished by P&ED for FY 2020-21

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dt: 22.03.2019	As per Accounts	Deviation
1	2	3	4	5
1	Depreciation	1.96	4.49	2.53
	Total	1.96	4.49	2.53

Commissions Analysis

As seen from the audited accounts of FY 2020-21 the total depreciation during FY 2020-21 is Rs.44.90 Crores and 10% of the depreciation is Rs.4.49 Crore since P&ED argues that 90% of its expenditure is funded with grants received from Government is the intention behind P&ED claiming for the above depreciation. But, whatever the additions of `85.14crs made in 2020-21 is done totally out of grants from Government and no Own funds to invest. Therefore, the new additions to assets will not be considered under Regulatory accounting basis. The depreciation is a **non-cash** item and any reduction in this amount will no way affects the P&ED financially.

Therefore, Commission accordingly approves depreciation at Rs. 1.96 Crores for the FY 2020-21, as was approved in APR Order Dt 26.03.2021.

5.7.7 Interest & Finance Charges

The interest & finance charges approved for the FY 2020-21 and actual value of interest & finance charges made by the P&ED for the FY 2020-21 is provided in the table below:

Table 5.16: Interest and Finance Charges furnished by P&ED for FY 2020-21

(Rs. Cr)

Sl. No	Particulars	Approved in T.O. dt. 26.03.2021	As per Accounts	Deviation
1	2	3	4	5 = (3-4)
1	Interest & Finance Charges	1.18	1.18	0.00
	Total	**1.18**	**1.18**	**0.00**

Commissions Analysis

The Interest and Finance charges of P&ED during FY 2020-21 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 total Interest amount dues on the loans obtained is to the tune of Rs.28.01 crores to the end of FY 2019-20 and this year interest amount of Rs.1.18Crs was added to increase the liability in the balance sheet as book adjustment. The relevant details were provided in the table below:

Table 5.17: Loan amount & Interest and Finance Charges details of P&ED for FY 2020-21

Rs. Crores

		Principle Loan				Yearly Interest		Outstanding Interest		
Sl. No	**2020-21**	**Opn. Loan**	**Paid in 2020-21**	**Clsn. Loan**	**Avg. Loan**	**Intr. Rate**	**Intr. amnt**	**Opng. Dues**	**Int. for 2020-21**	**Clsn Dues**
A	LIC Loan	3.000	1.00	2.00	2.50	7.99%	0.200	7.050	0.200	7.250
B	RGGVY Loan	9.591	2.40	7.194	8.39	11.63%	0.976	18.729	0.976	19.706
C	REC Loan	-		-			-	2.227	-	2.227
	Grand total	12.591	3.398	9.194	10.89	10.80%	**1.176**	28.006	1.176	29.182

As seen from the above table 5.17, the P&ED is deliberately keeping the Outstanding Interest of Rs.2.227crs kept unpaid on REC Loan, though the principle portion was fully repaid long ago. The outstanding interest amount of Rs.2.227 crores is pending since FY 2016-17 and there seems no actions being taken to clear-off these old dues. Therefore, there is a possibility of REC levying penal charge on such outstanding loan interest in future can't be ruled out. Besides, the current year interest amount of Rs.1.176 Crores was also left unpaid and shown as outstanding as a book adjustment in their books of account in addition to the already pending interest obligation of Rs.28.006Crs thus making overall outstanding interest unpaid is Rs.29.182Crs as on 31.03.2021. by doing so the P&ED is recovering interest amount each year promptly from consumers but not paying it to lenders.

The Commission, keeping in view the above fact of unpaid Interest & Finance charges pending for payment, **after allowing interest amount of Rs.1.176 crs for 2020-21 in true-up**, *directs the P&ED to clear-off all the outstanding arrears to the respective lenders immediately as all those interest charges were recovered from the consumers till date and hence licensee got them reimbursed through in the true-up process already*. **If the same situation is noted in next true-up of 2021-22, the Commission**

will straight-away disallow the interest amount in true-up as the licensee did not take any action when the same thing was pointed out categorically.

It is also noted from the **Schedule-33** of audited Annual Accounts of 2020-21, the revenue subsidies & grants received during this year was Rs.242.63 crs (i.e., Rs.2063.64crs – Rs.1821.00crs) in addition to revenue subsidy amount of Rs.160.67Crs **shown under Schedule-4 and also shown in P&L A/c**. Thus, put together the overall revenue subsidy receipts is amounting to Rs.403.30Crs in FY 2020-21. While the net ARR true-up gap assessed by the Commission for FY 2020-21 is Rs.293.07Crs (as per Commission analysis) before the adjustment of above subsidy of Rs.403.30Crs. Hence, there is a clear revenue surplus readily available for FY 2020-21 with the Licensee to the tune of Rs.110.23Crs. Thus, the 2/3rd of such surplus be retained by P&ED from FY2018-19 onwards up to FY2020-21 accumulated to an amount of Rs.230.48Crs (i.e.,38.28crs+118.710crs+73.49Crs). *This much of retained surplus is quite adequate to repay overall Interest and financial charge dues to banks (as on 31.03 2021) to the tune of meagre Rs.29.182crs and there is no reason why these liabilities are still kept pending in spite of having the ability to repay. This situation cannot be allowed to continue anymore.* **The directions given in FY 2019-20 to clear these dues not attended to by the Licensee and maintaining the status-quo is being view very seriously despite issuance of directions.**

If these dues found uncleared even after 31st march 2022, the entire interest portion left unpaid will be clawed back at the time while truing-up for FY 2021-22 finally as these were passed on to consumers earlier but left unpaid and this is only a leeway to take suitable action as a last resort.

5.7.8 Interest on Working Capital

Petitioner's submission

The Interest on Working Capital as approved for the FY 2020-21 and actual value of Interest on Working Capital for the FY 2020-21 is provided in the table below:

Table 5.18: Interest on working capital furnished by P&ED for FY 2020-21

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per P&ED	Deviation
1	2	3	4	5= (3-4)
1	Interest on Working Capital	0.00	7.09	7.09
	Total	**0.00**	**7.09**	**7.09**

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 observed that P&ED had not drawn any working capital loan during the entire financial year of 2020-21 or was there any history of such loans being drawn. Moreover, while working out the Interest on working Capital, the P&ED is ignoring the Consumer security deposit (CSD) possessed by them to the tune of Rs.20.28crs in FY 2020-21 (Schedule-27 of Audited Balance sheet), though the regulation provides for it but still it prefers to claim higher amount in the form of interest on working capital ignoring CSD. Therefore, Commission feels that admitting of Interest on working capital is **only an additional burden on all consumers and there is no need noted for allowing this cost element as they are fully dependent and was availing funding from the State government and not from any other source of funding for**

their day to day routine operations. Hence, no calculation need be made afresh for this purpose in FY 2020-21 and no amount is allowed for true-up under this head.

5.7.9 Provision for Bad Debts

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. **The Commission also approves NIL bad debts provision for FY 2020-21, besides it was also noted that the dues from Consumers have come down by 36.253Crs during 2020-21. This outstanding amount as a percentage of total sales in FY 2020-21 is 36.82% (i.e.,96.55/262.23) and the outstanding amount is equivalent to more than 4 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 in current year 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. One-fifth of the sales (54.95/262.23=20.95%) made in FY2020-21 was left uncollected by the department for inexplicable reasons. It is an alarming situation the Mizoram Electricity sector is presently wading through.

5.7.10 Return on Equity

The Hon'ble Commission did not approve return on equity for FY 2020-21. No provision for the return on equity was also made in the Accounts by the P&ED for FY

2020-21.

The Commission also approves NIL provision for bad debts for FY 2020-21.

5.7.11 Non-Tariff Income/Other Incomes

Petitioner submission:

The Other Income approved for the FY 2020-21 and actual value of other income made by the P&ED for the FY 2020-21 is provided in the table below:

Table 5.19: Non-Tariff Income for 2020-21 furnished by P&ED

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Accounts	Deviation
1	2	3	4	5
1	Non-Tariff Income	3.50	10.02	6.52
	Total	**3.50**	**10.02**	**6.52**

Commission Analysis:

The Commission in its Order dated 26.03.2021 had approved Rs. 3.50 Crore as Non-tariff Income for the FY 2020-21. But the P&ED has reported that their Non-tariff Income is at Rs.10.02Crs in FY 2020-21 as per their audited accounts.

The Commission accords approval for Rs.10.02 Crore towards Non-tariff Income for the FY 2020-21, as per actuals while these charges should have been even at higher level in the prevailing condition.

5.8 Revenue from approved tariffs

Petitioner Submission:

The revenue from sale of power approved for the FY 2020-21 vide Tariff Order dated 26.03.2021 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 2020-21 furnished by P&ED

(Rs. Crores)

Sl. No.	Category	Approved in T.O. dt: 26.03.2021	As per Accounts	Deviation
	LT Consumers			
1	Kutir Jyoti	2.49	2.21	-0.28
2	Domestic	126.36	125.42	-0.94
3	Non-Domestic	5.08	4.66	-0.42
4	Commercial	22.01	22.96	0.95
5	Public Lighting	2.31	2.00	-0.31
6	Public Water Works	1.31	0.84	-0.47
7	Agriculture	0.03	0.03	0.00
8	Industrial	2.00	1.72	-0.28
	Total LT	**161.59**	**159.85**	**-1.74**
	HT Consumers			
9	Domestic	5.93	1.94	-3.99
10	Non-Domestic	0.33	0.20	-0.13
11	Commercial	10.33	6.31	-4.02
12	Public Water Works	77.90	78.13	0.23
13	Agriculture	0.01	0.05	0.04
14	Industrial	5.67	5.52	-0.15
15	Bulk Supply	39.50	10.20	-29.30
	Total HT	**139.68**	**102.34**	**-37.33**
16	Outside State	39.77	20.08	-19.69
	Total	**341.04**	**282.27**	**-58.76**

Commission's Analysis:

The average revenue realisation from sale of surplus power is Rs.2.4298/KWh (as against FY2018-19 rate of Rs.3.34/kWh) while net average purchase cost is Rs.5.7018/KWh in FY2020-21 which don't include the Inter-State Transmission charge of Rs.50.80Crs results in per unit cost of Rs.0.81. On account of surplus sales transaction, the licensee is incurring a loss of Rs.4.08/kWh for each unit it is sold outside state (i.e.,5.7018+0.81-2.4298) and loss will be **Rs.4.082** along with inter-state transmission charge cost and this transaction is an undesirable deal causing additional loss to organisation for each unit it is being sold outside state on accounts of excess/indiscriminate purchases to the tune of **27.70% in overall purchases**. It is therefore, suggested to regulate monthly purchase quantity from costly power station

namely Bongaigaon, Doyang HEP, Pare HEP and lastly from Loktak HEP to limit purchases to the actual requirement and minimise the surplus power by having proper coordination and planning with SLDC.

This year, in deviation from earlier years the Outside-state sales quantum was only 69.72MU resulted in shooting up of Distribution Losses from 20.663% (in 2019-20) to 29.05% on account of retaining the excess energy to the tune of 66.26MU without disposing them off in IEX in order to gain a revenue of Rs.16.10Crs in addition to already **received Rs.16.94Crs of OSS sales**. As a result, the organisation AT&C loss performance dwindled down with high Distribution losses and also suffered financially with the decreased Category wise retails & Surplus energy sales. Hence, the Commission wishes **to add Rs.16.10Crrs to the existing Efficiency Gains amount of Rs.5.30Crs for final gap (surplus/deficit) determination**.

However, the Commission approves the same revenue amount from sale of energy from all sources at Rs.279.13 Crores during FY 2020-21 based on the details made available for Commission scrutiny for true-up purpose.

5.9 Summary of actuals filed by P&ED for true up & approved by Commission

Table 5.21: Aggregate Revenue Requirement for FY 2020-21 approved for true-up

(Rs. Cr)

Sl. No.	Item of Expense	Approved in T.O. dated 26.03.2021	As per Accounts	Commission Approved
1	2	3	4	5
1	Cost of Fuel	0.01	0.00	0.00
2	Cost of Generation	5.38	0.00	0.00
3	Cost of Power Purchase	378.42	364.84	357.54
4	Transmission Charges	35.69	50.80	50.80
2	Intra-state transmission Charges	8.76	0.00	0.00
3	Employee Costs	123.05	188.82	188.82
4	R&M Expenses	10.44	21.48	21.48
5	Administration& General Expns	4.57	2.81	2.81
6	Depreciation	1.96	4.49	1.96
7	Interest charges	1.18	1.18	1.18
8	Interest on Working Capital	0.00	7.09	0.00
9	Provision for bad debts	0.00	0.00	0.00

Sl. No.	Item of Expense	Approved in T.O. dated 26.03.2021	As per Accounts	Commission Approved
10	Return on NFA /Equity	0.00	0.00	0.00
11	**Total Revenue Requirement**	**569.46**	**641.51**	**624.59**
12	Less: Non-Tariff Income	3.50	10.02	10.02
13	Less: Net true-up surplus from 2018-19	19.14	19.14	19.14
14	Less: Efficiency Gains (for uncollected arrears & others)	5.30	0.00	(#) 21.40
15	**Net Revenue Requirement**	**541.52**	**612.35**	**574.03**
16	Less: Revenue from Retail Sale	341.04	262.19	262.19
17	Less: Outside State Sales		20.08	16.94
18	**Total Revenue Income (16+17)**	**341.04**	**282.27**	**279.13**
19	**Gross Revenue Deficit (15-18)**	**200.48**	**330.09**	**294.90**
18	Less: Tariff Subsidy from Govt.		160.67	160.67
19	Less: Govt. Revenue subsidy			242.63
20	**Net Revenue Deficit/(surplus)**	**200.48**	**169.42**	**-108.40**

(#) – includes Rs.16.10 Crs imposed by the Commission for the poor performance due to steep spike in distribution loss level by 9.41% (i.e.,29.05%-19.64% MYT approved) in 2020-21.

5.10 Revenue gap/surplus after true up

As seen from the above the P&ED has omitted the Government revenue subsidy of Rs.242.63 Crs received by it as per Schedule-33 of Audited Annual Accounts for FY 2020-21. The above amount is so arrived at by taking the difference between 2020-21 (current year) figure and that of 2019-20(Previous year) figure of schedule-33 of 2020-21 audited balance sheet. It is interesting to note that the P&ED had only considered the subsidy amount of Rs.160.67 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.169.42Crs by not disclosing in the filing about additional subsidy amount of Rs.242.63Crs 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.108.40Crs **(Rs.294.90Crs-Rs.160.67Crs-Rs.242.63Crs)** which was not duly reflected in their ARR filings. Same was the kind of display exhibited in the FY2019-20 ARR true-up submission made earlier.

After setting-off net gap with that of Government subsidy during FY 2020-21, the P&ED achieved revenue surplus of **Rs.108.40Crs**. As per regulation 13.1(i) of the JERC for M&M (MYT) Regulations, 2014, one-third **(⅓rd)** of the gain amount shall be passed on as a rebate to the consumers in the tariff fixation of FY 2022-23.

Eventually, **Rs. 36.13 Crs being one third (1/3rd) of surplus amount of Rs.108.40Crs is now passed on as a rebate in the ARR mount for FY 2022-23 as per the above cited Regulation. The balance surplus is kept at the exclusive disposal of the P&ED to the tune of Rs.72.27Crs to utilise for any useful purpose by retaining it with them instead of remitting it back to Government Treasury where in it loses its identity to trace back.**

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6 Annual Performance Review for 2021-22

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;

d. 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 2021-22.

P&ED requests the Hon'ble Commission to carry out the Review for the FY 2021-22 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 2021-22.

Commission Analysis:

The Commission in its Order dated 26.03.2021 had approved the ARR for FY 2021-22 based on the data projections submitted by the P&ED. Now, the P&ED in its review petition for FY 2021-22 has submitted data as per Revised Estimate for FY 2021-22. There are differences in certain expenditure items as well as revenue between the approvals granted by the Commission in 2021 and revised estimates now furnished by P&ED.

The Commission considers it appropriate and fair to revisit and review the approvals granted earlier through the tariff order issued for FY 2021-22 dt 26.03.2021 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.

6.2 Number of Consumers and Connected Load projected

The estimates of category wise number of consumers have been revised based on the audited actual figures of the FY 2020-21 and the actuals for the FY 2021-22 (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 2017-18 to FY 2020-21, 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 Connected Load FY 2021-22

Sl. No.	Category	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Years	adopted	FY 2021-22
1	KJ(Domestic)	2.80	4.25	4.24	3.87	11.41	-4.58	-8.91	5.00	4.06
2	Domestic LT	267.54	257.54	278.50	281.72	1.74	4.59	1.16	1.74	286.62
3	Domestic HT	5.28	5.42	4.97	5.70	2.62	2.62	14.75	2.62	5.85
	Total Domestic	**275.62**	**267.20**	**287.71**	**291.29**					**296.53**
4	Non-Domestic LT	0.00	0.00	12.05	14.71	-	-	22.13	5.00	15.45
5	Non-Domestic HT	0.00	0.00	0.47	0.44	-	-	-7.43	5.00	0.46
	Total Non-Domestic	**0.00**	**0.00**	**12.52**	**15.15**					**15.91**
6	Commercial LT	43.69	44.08	37.89	34.66	-7.43	-11.33	-8.52	5.00	36.39
7	Commercial HT	11.05	18.53	8.99	9.94	-3.49	-26.77	10.49	5.00	10.43
	Total Commercial	**54.75**	**62.61**	**46.88**	**44.59**					**46.82**
8	Public Lighting	0.94	0.92	0.89	0.91	-1.11	-0.49	2.24	2.24	0.93
9	PWS LT	4.19	4.05	3.26	0.27	-60.10	-74.37	-91.85	5.00	0.28
10	PWS HT	40.26	43.46	43.13	79.29	25.34	35.08	83.82	5.00	83.26
11	Agl LT	0.02	0.04	0.07	0.11	74.90	67.80	64.62	5.00	0.11
12	Agl HT	0.09	0.00	0.17	0.17	25.99	-	-	5.00	0.18
13	Industrial LT	5.28	10.45	5.32	5.00	-1.84	-30.84	-6.05	5.00	5.25
14	Industrial HT	12.99	8.96	6.73	5.43	-25.25	-22.18	-19.40	5.00	5.70
15	Bulk Supply HT (Incl. Temp.)	18.45	16.69	14.29	54.84	43.78	81.26	283.73	5.00	57.58
	Grand Total	**412.58**	**414.37**	**420.97**	**497.03**					**512.54**

6.3 Energy sales

The estimates of category wise sales have been revised based on the audited actual figures of the FY 2020-21, the actuals for the FY 2021-22 (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 2017-18 to FY 2020-21, the growth rate of sales and the revised sales is detailed in the table below:

Table: 6.1a - Consumer Category-wise Growth in Energy Sales FY 2021-22

Sl. No.	Category	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Years	adopted	FY 2021-22
1	KJ(Domestic)	3.56	3.36	7.41	7.19	26.43	46.27	-3.00	5.00	7.55
2	Domestic LT	229.95	214.96	279.54	271.90	5.74	12.47	-2.73	5.74	287.50

Sl. No.	Category	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	CAGR for 3 Years	CAGR for 2 Years	CAGR for 1 Years	adopted	FY 2021-22
3	Domestic HT	5.19	9.65	9.38	4.35	-5.74	-32.90	-53.65	5.00	4.56
	Total Domestic	**238.69**	**227.97**	**296.32**	**283.43**					**299.61**
4	Non-Domestic LT	0.00	0.00	9.03	8.20	-	-	-9.23	5.00	8.61
5	Non-Domestic HT	0.00	0.00	0.53	0.25	-	-	-52.45	5.00	0.27
	Total Non-Domestic	**0.00**	**0.00**	**9.57**	**8.45**					**8.88**
6	Commercial LT	37.75	51.03	34.49	34.20	-3.24	-18.14	-0.84	5.00	35.91
7	Commercial HT	10.37	10.01	13.81	10.07	-0.97	0.30	-27.11	5.00	10.57
	Total Commercial	**48.11**	**61.04**	**48.30**	**44.26**					**46.47**
8	Public Lighting	2.21	2.67	2.11	2.11	-1.43	-11.11	-0.04	5.00	2.22
9	PWS LT	5.31	4.67	0.91	0.79	-46.92	-58.79	-12.45	5.00	0.83
10	PWS HT	36.26	63.90	63.38	81.66	31.07	13.04	28.83	5.00	85.74
11	Agl LT	0.01	0.22	0.08	0.06	69.28	-46.79	-26.07	5.00	0.07
12	Agl HT	0.12	0.00	0.06	0.10	-6.66	-	74.12	5.00	0.11
13	Industrial LT	2.19	3.41	2.96	4.06	22.85	9.12	37.28	5.00	4.26
14	Industrial HT	11.15	10.94	7.96	5.54	-20.80	-28.85	-30.37	5.00	5.82
15	Bulk Supply HT (Incl. Temp.)	51.72	12.93	54.77	14.45	-34.62	5.74	-73.61	5.74	15.28
	Grand Total	**395.78**	**387.76**	**486.41**	**444.92**					**469.29**

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 2021-22 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 2021-22 which shall have substantial impact on the revenue & gap for the FY 2021-22.

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 2021-22 is provided in the table below.

Commission's Analysis

Energy sales approved by the Commission in its Order for FY 2021-22 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 6.2: Energy Sales Filed Vs Commission approved for FY 2020-21 after review

(MU)

Sl. No.	Category (FY 2021-22)	Approved in T.O. dt: 26.03.2021	As per Revised Estimate	Approved by Commission
	LT Consumers			
1	KJ (Domestic)	8.17	7.55	7.55
2	Domestic	318.61	287.50	287.50
3	Non-Domestic	9.96	8.61	8.61

Sl. No.	Category (FY 2021-22)	Approved in T.O. dt: 26.03.2021	As per Revised Estimate	Approved by Commission
4	Commercial	38.02	35.91	35.91
5	Public Lighting	2.33	2.22	2.22
6	Agriculture	0.09	0.07	0.07
7	Public Water Works	1.00	0.83	0.83
8	Industrial	3.26	4.26	4.26
	Total LT	**381.44**	**346.94**	**346.94**
	HT Consumers			
9	Domestic	10.34	4.56	4.56
10	Non- Domestic	0.59	0.27	0.27
11	Commercial	15.23	10.57	10.57
12	Agriculture	0.06	0.11	0.11
13	Industrial	69.88	85.74	85.74
14	Public Water Works	8.77	5.82	5.82
15	Bulk Supply	60.38	15.28	15.28
	Total HT	**165.25**	**122.34**	**122.34**
16	Outside State - Trading	78.29	133.28	133.28
	Total	**624.98**	**602.56**	**602.56**

The Commission now approves Retail energy sales of 469.28MU & Outside State Sales of 133.28MU for FY2021-22 after review. No review/revision is made to the sales submitted, keeping in view that the period will be over by the time this order is issued and no modification to the projection made by P&ED.

6.4 Distribution Loss for FY 2021-22

The distribution loss trajectory approved by the Hon'ble Commission for the FY 2021-22 & the estimated distribution loss considered by the P&ED for the FY 2021-22 is provided in the table below. However, actual distribution loss shall be submitted for consideration of the Hon'ble Commission at the time of Truing–up after ending of the financial year when the audited accounts are finalised.

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimat	Deviation
1	2	**3**	**4**	**5**
1	Distribution Loss	18.16%	18.16%	0.00%

Commissions Analysis:

For FY2021-22, the P & ED had furnished distribution loss level at 18.16%. The Ill-effects of FY 2020-21 losses of 29.05% is purely attributed to the commercial losses related issues but not a Technical one after seeing the better performance in the losses during 2019-20 for any plausible reasons attributable including the Covid Pandemic deleterious impact. But, Commission wishes to P&ED to rearisen to the occasion and maintain & handle the distribution losses at an appreciable performance to achieve the percentage of losses at 18.16% indicated on their own accord in APR filings.

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 18.16% for FY 2021-22 without any changes to the projected distribution losses by the Licensee through their ARR submission for FY 2021-22.

6.5 Energy Requirement

The details of the energy requirement that was approved by the Commission for FY 2021-22 in its Tariff Order dated 26.03.2021, revised estimates submitted by P&ED in this review petition and the Commission approved figures after review are tabulated below:

Table 6.3: Energy Requirement for FY 2021-22 ARR filed Vs Commission approved

Sl. No.	Energy Balance	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Approved Now by Commission
	Energy Requirement			
1	Energy Sales (MU)	546.69	469.29	469.29
2	Distribution Loss (%)	18.16%	18.16%	18.16%
3	Distribution Loss (MUs)	121.30	104.10	104.10
4	**Total Energy Requirement**	**667.99**	**573.39**	**573.39**

6.6 - P&ED's Own Generation

The P&ED's own generation approved by the Hon'ble Commission for the FY 2021-22 & the estimated own generation considered by the P&ED for the FY 2021-22 is provided in the table below:

Table 6.4: Own Generation filed by P&ED for FY 2021-22 (MU)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Total Generation (Net)	50.78	6.27	-44.51
	Total	**50.78**	**6.27**	**-44.51**

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 does not include in Own Generation. However, P&ED has procured the energy generated from the above SHPs and has incorporated the same in the power purchase for the year.

Commission's Analysis

The Commission in its order dated 26.03.2021 had approved own generation at 50.78 MU for FY 2021-22, basing on the data now furnished by P&ED for 2021-22 and the actuals indicated even for FY 2020-21. But the P&ED is already procuring the energy from M/s. Amazon Engineering even from 2020-21 onwards but the same factual was not reflected in the 2020-21 APR submitted by them last year. This is sometime really surprising the Commission for not disclosing the factual events in the ARR petition. However, **the Commission accords approval for own generation at a lower figure of 6.27 MU** which is similar to what was projected by P&ED after review **though their purchases from this source in 2020-21 was at 13.81MU and actuals will have to be vouched with 2021-22 Audited figures. The Purchases from Amazon Engineering were also project lower at 14.09MU instead of 15.45MU in 2020-21 without assigning any reasons for the under projection of energy.**

6.7 Purchase of Energy from various Stations:

The power purchase units approved for the FY 2021-22 is 774.87 MUs. The revised estimate for power purchase units for the FY 2021-22 has been arrived at on the basis of actual power purchase for the H1 (1st half year) of the FY 2021-22 and actual purchase for H2 (2nd half year) of the FY 2020-21. Accordingly, the power purchase units estimate for the FY 2021-22 is revised at 727.44 MUs. The approved & estimated power purchase units for FY 2021-22 are provided in the table below:

Table 6.5: Power share allocation & Energy purchases by P&ED for FY 2021-22

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Power Purchase Units	774.87	727.44	-47.43
	Total	**774.87**	**727.44**	**-47.43**

Commission Analysis:

Based on the estimations made by the P&ED in its review petition for 2021-22 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 2021-22 in the following table:

Table 6.6: Power Purchase quantum Approved by Commission for FY 2021-22

(Figures in **MWs** & **MU)**

Sl No	Energy Generation Source (2021-22)	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW	MU Purchased/ generated (ex-bus)
A	**Central Generating Stations**	(MW)	(MW)	(MW)	(MU)
I	**NTPC**				
1	Bongaigaon TPS	750.00	5.415	40.61	129.38
2	Farakka STPS	1600.00	0.142	2.27	14.36
3	Kahalgaon STPS	840.00	0.142	1.19	7.29
4	Talcher STPS	1000.00	0.142	1.42	10.06
	NTPC-Total	**4190.00**		**45.49**	**161.09**
II	**NHPC**				
1	Loktak HEP	105.00	5.020	5.27	29.50
	NHPC-Total	**105.00**		**5.27**	**29.50**
III	**NEEPCO**				
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	11.67
4	Ranganadi HEP	405.00	5.700	23.09	67.12
5	Doyang HEP	75.00	5.410	4.06	7.29
6	Pare HEP	110.00	5.765	6.34	26.26
7	a) Tuirial HEP	60.00	100.000	60.00	115.42
	b) Free Power share				15.74
8	AGBPP	291.00	5.410	15.74	72.76
9	AGTPP	135.00	6.000	8.10	44.33
	NEEPCO-Total	**1351.00**		**130.03**	**360.53**
IV	**TSECL**				

Sl No	Energy Generation Source (2021-22)	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW	MU Purchased/ generated (ex-bus)
1	B'mura - IV	21.00	25.000	5.25	44.54
2	B'mura - V	21.00	25.000	5.25	
	TSECL-Total	**42.00**		**10.50**	**44.54**
V	**OTPC**				
1	Palatana	726.00	3.030	22.00	113.19
	OTPC-Total	**726.00**		**22.00**	**113.19**
VI	**Amazon Engineering**				
	1. Khawiva HEP	1.05	100	1.05	1.38
	2. Tuipui HEP	0.50	100	0.50	0.64
	3. Teirei HEP	3.00	100	3.00	4.55
	4. Kau Tlabung HEP	3.00	100	3.00	7.52
	Others-Total	**7.55**		**7.55**	**14.09**
B	**State generating Stations**				
	All Units	21.80	100.000	21.80	6.27
	Owned Generation Total	**21.80**		**21.80**	**6.27**
C	**UI / Deviation**				2.12
	UI / Deviation-Total				**2.12**
D	**Other RE Energy**				
	1.Rooftop solar Generation				**0.09**
	2.Solar Generation				**2.22**
E	**RPO Obligation / REC Certificate**				
F	**LC Enhancement/Renewal charges**				
G	**Bilateral Power Purchase**				
1	Utility 1				
2	Utility 2				
	Bilateral-Total				**0.00**
H	**GRAND TOTAL**	**6443.35**		**242.64**	**733.71**

The Commission in its Order dated 26.03.2021 had approved power purchase of 774.87MU which resulted in a surplus energy of 78.29MU after meeting energy sales requirement of LT & HT within the state at 546.69MU.

While now the P&ED has estimated power purchase of 733.71MU at an average cost of Rs. 6.058/kWh (before adopting any losses) for meeting the energy sales requirement of 469.29 MU, this results in surplus of Power of 133.28MU which the P&ED had proposed to sell at an average of Rs.3.792/kWh.

As such, the Commission has considered power purchase from all those now projected by P&ED 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 2021-22 is limited to **733.71 MU** which is same as that was filed by the P&ED.

6.8 Energy Balance

The revised estimate of energy balance based on the energy requirement and energy availability for the FY 2021-22 is provided in the table below:

Table 6.7: Energy Balance for FY 2021-22 as per P&ED in its ARR Submission

(Figures in MU)

Sl. No.	Energy Balance	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
A	**Energy Requirement**	MU	MU	MU
1	Energy Sales	546.69	469.29	-77.40
2	Distribution Loss (%)	18.16%	18.16%	0.00%
3	Distribution Loss (MUs)	121.30	104.10	-17.20
4	**Total Energy Requirement**	**667.99**	**573.39**	-94.60
B	**Energy Availability**			
5	Own Generation	50.78	6.27	-44.51
6	Energy Purchase from ER	32.64	31.71	-0.93
7	Less: ER Pool Loss (%)	1.95%	1.95%	0.00
8	Less: ER Pool Loss (Mus)	0.64	0.62	-0.02
9	Net Energy for ER	32.00	31.09	-0.91
10	Energy Purchase from NER (Exl. Turial HEP)	531.62	546.03	14.41
11	UI / Deviation	0.00	2.12	2.12
12	Sub Total	563.62	579.24	15.62
13	Less: NER Pool Loss (%)	2.54%	2.54%	0.00
14	Less: NER Pool Loss (MUs)	14.32	14.71	0.40
15	Net Energy at NERLDC	549.31	564.53	15.22
16	Energy purchases from Tuirial HEP	141.41	115.42	-25.99
17	Free Energy from Tuirial HEP	18.42	15.74	-2.68
18	Amazon Engineering	0.00	14.09	14.09
19	Rooftop Solar Generation	0.00	0.09	0.09
20	Solar Generation	0.00	2.22	2.22
21	Energy Available	759.92	718.37	-41.55
22	Less: Outside State - Trading	78.29	**133.28**	54.99
23	Total Energy Available	681.63	585.09	-96.54
24	Less: Intra State Tr. Loss (%)	2.00%	2.00%	0.00
25	Less: Intra State Tr. Loss (MUs)	13.63	11.70	-1.93
26	Net Energy Available	667.99	573.39	-94.61
27	**Less: Energy requirement at State Periphery**	**667.99**	**573.39**	**-94.60**
28	**ENERGY SURPLUS/(DEFICIT)**	**0.00**	**0.00**	**0.00**

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 6.8: Energy Balance for FY 2021-22 as approved by the Commission

	Energy Balance (2021-22) APR	Apprv. T.O. 26.03.21	APR by P&ED	Appro-ved
A	**Energy Requirement**	(MU)	(MU)	(MU)
1	Energy Retail Sales (LT & HT)	546.69	469.29	469.29
2	Distribution Loss (%)	18.16%	18.16%	**18.16%**
3	Distribution Loss (MUs)	121.30	104.10	104.10
4	**Gross energy at Discom Input (MU)**	**667.99**	**573.39**	**573.39**
B	**Energy Availability**			
5	Own Generation	50.78	6.27	**6.27**
6	Energy Purchase from ER	32.64	31.71	31.71
7	Less: ER Pool Loss (%)	1.96%	1.95%	1.95%
8	Less: ER Pool Loss (Mus)	0.64	0.62	0.62
9	Net Energy for ER	32.00	31.09	31.09
10	Purchase from NER (Exl. Turial HEP)	531.62	546.03	546.03
11	UI/ Deviation	-	2.12	2.12
12	Sub Total (9 to 11)	563.62	579.25	579.25
13	Less: NER Pool Loss (%)	2.54%	2.54%	**2.54%**
14	Less: NER Pool Loss (MUs)	14.32	14.71	14.71
15	Net CGS Energy at State periphery	549.30	564.54	564.53
16	Tuirial HEP power	141.41	115.42	115.42
17	Free Energy - (Tuirial HEP)	18.42	15.74	15.74
18	Amazon Engineering Power	-	14.09	14.09
19	Roof top Solar Energy	-	0.09	0.09
20	Solar Generation	-	2.22	2.22
21	**Energy Available (5 + 15 to 20)**	**759.91**	**718.38**	**718.37**
22	**Less: Outside State - Trading**	78.29	**133.28**	133.28

	Energy Balance (2021-22) APR	Apprv. T.O. 26.03.21	APR by P&ED	Appro-ved
23	Total Energy Available at State Input	681.62	585.10	585.09
24	Less: Intra State Tr. Loss (%)	2.00%	2.00%	**2.00%**
25	Less: Intra State Tr. Loss (MUs)	13.63	11.70	**11.70**
26	Net Energy Available after losses (MU)	667.99	573.40	**573.39**
27	**Less: Gross Energy left for sale (MU)**	**667.99**	**573.39**	**573.39**
28	**ENERGY SURPLUS/(DEFICIT)**	**0**	**0**	

Thus, the energy balance resulted in surplus of power at 133.28 MU which the P&ED wishes to sell through traders or IEX and to realise maximum revenue by proper planning in tandem with SLDC. The surplus of 133.28MU projected by P&ED was adopted unaltered by the Commission, since the period was almost coming to closure and P&ED must have already made most of their purchases & Sales so the same was to adopted for FY2021-22 to make meaningful. 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.

6.9 Fuel Cost

Petitioner's submission

The values of fuel cost approved for the FY 2021-22 are not proposed to be revised at this stage. However, the actuals shall be submitted at the time truing-up.

Table 6.9: Fuel Cost FY 2021-22

(In ` Crores)

Sl. No.	Particulars	Approved T.O. dt:26.03.2021	Revised Estimate	Deviation
1	**2**	**3**	**4**	**5**
1	Cost of Fuel	0.01	0.01	0.00
	Total	**0.01**	**0.01**	**0.00**

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 2021-22 after review and it will be linked to the actual costs if any at the time of truing-up.

6.10 Cost of Generation

Petitioner's submission

The values of cost of generation approved for the FY 2021-22 are not proposed to be revised at this stage. However, the actuals shall be submitted at the time truing-up.

Table 6.10: Cost of Generation FY 2021-22 (Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	Revise Estimate	Deviation
1	2	3	4	5
1	Cost of Generation	3.37	3.37	0.00
	Total	**3.37**	**3.37**	**0.00**

Commission Analysis:

The Commission after consideration of the factual, now approves NIL generation cost for FY 2021-22 as there were no such expenditure appears to have been incurred in the past watching previous years audited accounts and to review the figures if any based-on actuals after statutory audit of accounts are made available for verification.

6.11 Power Purchase Cost

Petitioner's submission

The Hon'ble Commission in the Tariff Order for the FY 2021-22 had approved a power purchase quantum of 774.87 MUs at a total cost of ` 337.52 Crores. As submitted above the estimate of power purchase quantum for the FY 2021-22 is proposed to be revised to 727.44 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 2021-22 has been arrived at in following manner: -

i. Actual power purchase cost for the H1 of the FY 2021-22 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 2020-21 and source wise average cost of FY 2020-21 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 2020-21 is 20.50% (10.50% for solar & 10.00% for non-solar). The RPO for solar & Non-solar has been calculated based on the actual consumption (excluding outside the state sale but including T&D loss). Further, procurement of power from hydro sources has been reduced to arrive at the base figure for calculation of RPO.

iv. For the solar RPO category, the prescribed target of 10.50% has been applied on the base figure of 286.31 MUs. Further, 2.32 MUs has been deducted as procured from solar category. Accordingly, 27,742.52 MWh (27.74 MUs) is computed as the solar RPO for the FY 2021-22. The rate as prescribed by CERC has been considered to arrive at the cost of RPO of `6.66 Crores.

v. For the non-solar RPO category, the prescribed target of 10.00% has been applied on the base figure of 286.31 MUs. Further, 6.27 MUs has been deducted as procured from non-solar category. Accordingly, 22,359.03MWh (22.36 MUs) is computed as the non-solar RPO for the FY 2021-22. The rate as prescribed by CERC has been considered to arrive at the cost of RPO of ` 6.71 Crores.

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

Table 6.11: Station wise Power Purchase MU & Costs for FY 2021-22 by P&ED

Sl No	Energy Generation Source (2021-22)	Plant Capacity (MW)	PED Share (%)	PED Share (MW)	Energy at Ex-Bus (MU)	Purchase Cost (Rs.Crs)
A	Central Generating Stations					
I	NTPC					
1	Bongaigaon TPS	750.00	5.415	40.61	129.38	166.34
2	Farakka STPS	1600.00	0.142	2.27	14.36	5.92
3	Kahalgaon STPS	840.00	0.142	1.19	7.29	2.52
4	Talcher STPS	1000.00	0.142	1.42	10.06	2.64
	NTPC-Total	**4190.00**		**45.49**	**161.09**	**177.42**
II	NHPC					
1	Loktak HEP	105.00	5.020	5.27	29.50	10.14
	NHPC-Total	**105.00**		**5.27**	**29.50**	**10.14**
III	NEEPCO					

Sl No	Energy Generation Source (2021-22)	Plant Capacity (MW)	PED Share (%)	PED Share (MW)	Energy at Ex-Bus (MU)	Purchase Cost (Rs.Crs)
1	Kopili HEP	200.00	4.610	9.22	0.00	0.00
2	Kopili - II HEP	25.00	6.040	1.51	0.00	0.00
3	Khandong HEP	50.00	3.940	1.97	11.67	1.92
4	Ranganadi HEP	405.00	5.700	23.09	67.12	14.15
5	Doyang HEP	75.00	5.410	4.06	7.29	4.87
6	Pare HEP	110.00	5.765	6.34	26.26	13.13
7	a) Tuirial HEP	60.00	100	60.00	115.42	82.01
	b) Free Power share				15.74	
8	AGBPP	291.00	5.410	15.74	72.76	28.62
9	AGTPP	135.00	6.00	8.10	44.33	19.06
	NEEPCO-Total	**1351.00**		**130.03**	**360.53**	**163.76**
IV	**TSECL**					
1	B'mura - IV	21.00	25.00	5.25	44.54	19.97
2	B'mura - V	21.00	25.00	5.25		
	TSECL-Total	**42.00**		**10.50**	**44.54**	**19.97**
V	**OTPC**					
1	Palatana	726.00	3.030	22.00	113.19	37.04
	OTPC-Total	**726.00**		**22.00**	**113.19**	**37.04**
VI	**Amazon Engineering**					
	1.Khawiva HEP	1.05	100	1.05	1.38	0.19
	2.Tuipui HEP	0.50	100	0.50	0.64	0.10
	3.Teirei HEP	3.00	100	3.00	4.55	0.33
	4.Kau Tlabung HEP	3.00	100	3.00	7.52	0.95
	Others-Total	**7.55**		**7.55**	**14.09**	**1.56**
B	**State generating Stations**					
	All Units	22.30	100	22.30	6.27	0.00
	Owned Generation Total	**22.30**		**22.30**	**6.27**	**0.00**
C	**UI / Deviation**				2.12	0.95
	UI / Deviation-Total				**2.12**	
D	**Other RE Energy**					
	1.Rooftop solar Generation				**0.09**	**0.03**
	2.Solar Generation				**2.22**	**--**
E	**RPO Obligation/Certificate**					13.37
F	**LC Enhancement/Renewal charges**					0.39
G	**Addl. Supplementary bills**					19.82
H	**Reactive Energy Charges**					0.006
I	a) Billateral - Utility 1					
	b) Billateral - Utility 2					
	Bilateral-Total				**0.00**	**0.00**
I	**GRAND TOTAL**	**6443.85**		**243.14**	**733.71**	**444.47**

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

Table 6.12: Power Purchase Cost for FY 2021-22 estimated by P&ED

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Power Purchase Cost	337.52	444.47	106.95
	Total	**337.52**	**444.47**	**106.95**

Commissions Analysis

As already discussed in Para-6.7, the power purchase cost of Rs.437.27 ~~378.42~~ Crores including RPO Obligation of Rs.9.08 Crs (for 30.35MU) is now approved after review based on their purchase quantum by the Commission duly adopting the applicable forbearance rate to purchase the required quantum of energy of 733.71MU as detailed in the table below.

Table 6.13: Power Purchase Cost approved by the Commission for the FY 2021-22

Sl No	Energy Generation Source (2021-22)	Plant Capacity (MW)	PED Share (%)	PED Share (MW)	Energy at Ex-Bus (MU)	Purchase Cost (Rs.Crs)
A	Central Generating Stations				Commission Approved	
I	NTPC					
1	Bongaigaon TPS	750.00	5.415	40.61	129.38	166.34
2	Farakka STPS	1600.00	0.142	2.27	14.36	5.92
3	Kahalgaon STPS	840.00	0.142	1.19	7.29	2.52
4	Talcher STPS	1000.00	0.142	1.42	10.06	2.64
	NTPC-Total	**4190.00**		**45.49**	**161.09**	**177.42**
II	NHPC					
1	Loktak HEP	105.00	5.020	5.27	29.50	10.14
	NHPC-Total	**105.00**		**5.27**	**29.50**	**10.14**
III	NEEPCO					
1	Kopili HEP	200.00	4.610	9.22	0.00	0.00
2	Kopili - II HEP	25.00	6.040	1.51	0.00	0.00
3	Khandong HEP	50.00	3.940	1.97	11.67	1.92
4	Ranganadi HEP	405.00	5.700	23.09	67.12	14.15
5	Doyang HEP	75.00	5.410	4.06	7.29	4.87
6	Pare HEP	110.00	5.765	6.34	26.26	13.13
7	a) Tuirial HEP	60.00	100	60.00	115.42	82.01

Sl No	Energy Generation Source (2021-22)	Plant Capacity (MW)	PED Share (%)	PED Share (MW)	Energy at Ex-Bus (MU)	Purchase Cost (Rs.Crs)
	b) Free Power share				15.74	
8	AGBPP	291.00	5.410	15.74	72.76	28.62
9	AGTPP	135.00	6.00	8.10	44.33	19.06
	NEEPCO-Total	**1351.00**		**130.03**	**360.53**	**163.76**
IV	**TSECL**					
1	B'mura - IV	21.00	25.00	5.25	44.54	19.97
2	B'mura - V	21.00	25.00	5.25		
	TSECL-Total	**42.00**		**10.50**	**44.54**	**19.97**
V	**OTPC**					
1	Palatana	726.00	3.030	22.00	113.19	37.04
	OTPC-Total	**726.00**		**22.00**	**113.19**	**37.04**
VI	**Amazon Engineering**					
	1.Khawiva HEP	1.05	100	1.05	1.38	~~0.19~~
	2.Tuipui HEP	0.50	100	0.50	0.64	~~0.10~~
	3.Teirei HEP	3.00	100	3.00	4.55	~~0.33~~
	4.Kau Tlabung HEP	3.00	100	3.00	7.52	~~0.95~~
	Others-Total	**7.55**		**7.55**	**14.09**	**# ~~1.56~~**
B	**State generating Stations**					
	All Units	22.30	100	22.30	6.27	0.00
	Owned Generation Total	**22.30**		**22.30**	**6.27**	**0.00**
C	**UI / Deviation Overdrawn**				2.12	0.95
	UI Under Drawn				0	-1.34
	UI / Deviation-Total				**2.12**	**-0.39**
D	**Other RE Energy**					
	1.Rooftop solar Generation				**0.09**	**0.03**
	2.Solar Generation				**2.22**	**--**
E	**RPO Obligation/Certificate**					**9.08**
F	**LC Enhancement/Renewal charges**					0.39
G	**Addl. Supplementary bills**					19.82
H	**Reactive Energy Charges**					~~0.006~~
I	a) Billateral - Utility 1					
	b) Billateral - Utility 2					
	Bilateral-Total				**0.00**	**0.00**
I	**GRAND TOTAL**	**6443.85**		**243.14**	**733.71**	**(#) 437.27**

(#) – Is after disallowing Amazon Engineering, Reactive Energy amount.

The Commission accordingly approves power purchase cost of Rs.437.27 Crores for FY 2021-22 to purchase of 733.71 MU including own generation of 6.27MU and RPO Obligation of **30.35MU** for Rs.9.08Crs but excluding the Cost to Amazon Engineering of **Rs1.56Crs** after review, at an overall average cost of **Rs. 5.96/ kWh**. RPO obligation is calculated same way as has been explained by the licensee but had taken into consideration total T&D Losses & ISTS losses in calculation, while the licensee had omitted the transmission loss element while arriving at the RPO obligation quantity. The rates as determined by CERC in the petition No.02/SM/2017, Dt.30th March 2017 has been considered to arrive at the cost of RPO for solar by the P&ED.

The Licensee shall follow the merit order despatch principles judiciously or 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.

The detailed calculation for RPO obligation arrival is as follows:

RPO Obligation for P&ED, Mizoarm	FY 2021-22
Sales (Excluding Outside State Sale)	469.29
T & D Loss	115.80
ISTL Losses (Proportionate)	14.71
Overall Energy Requirement for state sales (MU)	**599.81**
Unit received from all Hydro Sources	**293.36**
Energy Consumed excluding Hydro	306.45
I. RPPO obligated Solar (@ 10.50%) Units in MU	32.18
existing Rooftop Solar consumption (In MU)	2.31
Solar RPO shortfall Units (MU)	**29.87**
expressed In MWh	29,866.73
RPO Obligation (3000/ Mwh)	89,600,197
Solar RPO Obligation (In Crores) - (A)	**8.96**
II. RPPO obligated Non-Solar Units @10.68% (MU)	**36.58**
Existing Non-Solar usage(MU)	36.10
Non-Solar - RPO shortfall (MU)	**0.48**
expressed In MWh	483.81
Non-Solar RPO Obligation (2400/ MWh)	1,161,152
Non-Solar RPO Obligation (In Crores) - (B)	**0.12**
RPPO Obligation (Solar & Non-Solar)- (A&B)	**9.08**

6.12 Inter-state Transmission Charges for 2021-22 by P&ED

The estimate of transmission charges for the FY 2021-22 is proposed to be revised based on the actuals for the FY 2020-21 and H1 of FY 2021-22. The comparison of the approved transmission charges and the revised estimate is given in the table below.

Sl. No.	Particulars	Approved T.O. dt:26.03.21 Crs	Revised Estimate Crs	Deviation Crs
1	2	3	4	5
1	Transmission Charges	37.73	53.71	15.98
	Total	**37.73**	**53.71**	**15.98**

Commission analysis:

The Commission also approves Inter-state transmission charges (PGCIL charges) at Rs. 53.71 Crores for FY 2021-22 as submitted by P&ED after the review.

6.13 Intra-state Transmission Charges

The values of intra-state transmission charges approved for the FY 2021-22 are not proposed to be revised at this stage. However, the actuals shall be submitted at the time truing-up.

Intra-state Transmission Charges FY 2021-22 (` Crores)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Intra-state Transmission Charges	6.47	6.47	0.00
	Total	**6.47**	**6.47**	**0.00**

The Commission approves intra-state transmission charges to be at Rs. Nil Crores for FY 2021-22 based on the review of this cost element with reference to earlier years Audited Accounts treatment and found to be nil charges in final actuals when claimed.

6.14 O & M Expenses

i. Employee Cost:

Petitioner's submission

The value of employee cost approved for the FY 2021-22 is Rs. 141 Crores. The revised estimate of employee cost for the FY 2021-22 has been arrived at on the basis of actual employee cost for the H1 (1st half year) of the FY 2021-22 of Rs.103.14 Crores for P&ED. Accordingly, the employee cost estimate for the FY 2021-22 is revised at Rs. 144.40 Crores for only relates to the distribution function. The approved & estimated employee cost for the FY 2021-22 is provided in the table below:

Table 6.14: Employee Cost for FY 2021-22 estimated by P&ED

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Employee Cost	141.00	144.40	3.40
	Total	**141.00**	**144.40**	**3.40**

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 2021-22 cost:

Sl.No.	Employee Type	2019-20	2020-21	2021-22
1	Filled up Posts (Regular)	1492	1522	1522
2	Work Charged	455	375	375
3	Muster Rolls	1514	1444	1456
5	Total staff working	**3461**	**3341**	**3353**
6	**Projected Employee Cost (Crs)**	**118.22**	**188.82**	**144.40**
7	**Escalation adopted over P.Yr**		**6%**	**6%**
8	**Net Employee cost allowed**		**120.77**	**128.20**

The employee cost for 2018-19 &2019-20 were at Rs.108.75CRs and Rs.118.22Crs respectively as per the relevant year audited accounts. But in the FY 2020-21 the cost incurred were abnormal level at 188.82Crs which includes some unexpected costs of one-time nature were included causing the steep hike and in estimations, such abnormalities are to be eliminated for arriving the revised cost for 2021-22. An increase of 6% over 2020-21 adjusted figure yields `128.20Crs upon taking into consideration of the mix of employee's numbers of the entity as a whole.

Accordingly, keeping in view the drastic reduction in number of employees in the projection of employee strength, the <u>Commission feels appropriate to approve employee expenses at Rs.128.20 Crore for the FY 2021-22</u> as against Rs.144.40 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 is always restored to 4145Nos and for other years slight reduction is being tinkered in the format-F6A and appears not reliable.

ii. Repairs & Maintenance

Petitioner's submission

The value of Repair & Maintenance Expenses approved for the FY 2021-22 is Rs.

11.03 Crores. The revised estimate of Repair & Maintenance Expenses for the FY 2021-22 has been arrived at Rs. 9.63 Crores for only relates to the distribution function. The approved & estimated Repair & Maintenance Expenses for the FY 2021-22 is provided in the table below:

Table 6.15: Repair & Maintenance Expenses FY 2021-22 estimated by P&ED

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Repair & Maintenance Expenses	11.03	9.63	-1.40
	Total	**11.03**	**9.63**	**-1.40**

Commission analysis:

The Commission accordingly approves the R&M expenses at Rs.10.44 Crores in the Tariff Order for FY 2021-22 were revised by P&ED to Rs.9.63Crs. since the P&ED is now preferring to claim only 9.63Crs this value is now approved for APR figure and it will be verified with actuals at the time of true up.

iii. Administration & General Expenses

The value of Administration & General Expenses approved for the FY 2021-22 is Rs. 4.83 Crores. The revised estimate of Administration & General Expenses for the FY 2021-22 has been arrived at on the basis of actual Administration & General Expenses for the H1 (1st half year) of the FY 2021-22 of Rs. 3.49 Crores for P&ED. Accordingly, the Administration & General Expenses estimate for the FY 2021-22 is revised at Rs. 4.88 Crores for only relates to the distribution function. The approved & estimated Administration & General Expenses for the FY 2021-22 is provided in the table below:

Table 6.16: Administration & General Expenses FY 2021-22 estimated by P&ED

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Admn & Genrl Expenses	4.83	4.88	0.05
	Total	**4.83**	**4.88**	**0.05**

The Commission accordingly approves Administration and General Expenses at Rs. 4.88 Crore for the FY 2021-22 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 2021-22:

Table 6.17: O&M Expenses approved by the Commission for FY 2021-22 after Review

Sl. No.	Expenses details	As per ARR by P&ED (Rs.Crs)	Commission approved (Rs.Crs)
1	Employee Cost	144.40	128.20
2	Repair & Maintenance Expenses	9.63	9.63
3	Administration & General Expenses	4.88	4.88
	Total O&M Expenses	**158.91**	**142.71**

6.15 Depreciation

Petitioner's submission

The Hon'ble Commission has approved the Depreciation for the FY 2021-22. In this regard it is submitted that the GFA for the FY 2020-21 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 2020-21 is also being submitted. Therefore, the GFA & corresponding depreciation for the FY 2021-22 also stands revised.

In view of the above it is requested that the Hon'ble Commission may kindly consider & approve the revised depreciation for the FY 2021-22. The depreciation approved by the Hon'ble Commission and revised depreciation for the FY 2021-22 is provided in the table below:

Table 6.18: Depreciation FY 2021-22 estimated by P&ED

Sl.No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Depreciation	2.08	2.02	-0.06
	Total	**2.08**	**2.02**	**-0.06**

Commission Analysis

As per revised estimate for FY 2021-22 and capital investment plan and Capitalization projected during FY 2021-22 furnished vide Form No. F2C, the depreciation for FY 2021-22 is worked out as under.

Table 6.19: Depreciation approved by the Commission for FY 2021-22 after review

(Rs. Cr)

Sl. No	Particulars	2019-20 Amount	2020-21 Amount
1	Contributions, Grants & subsidies for Capital Assets costs (Schedule-33)	2432.145	2491.756
2	Gross Block of Assets (OCFA) (Sch-19)	1294.018	1379.161
3	The Ratio of Gross block to Capital Subsidies (%) – (2/1x100)	53.204%	55.349%
4	**Own funds if any spent for Assets**	**0%**	**0%**
5	**Eligibility to claim depreciation on assets in each year**	**Nil**	**Nil**

As seen from the ratio of Gross Block of Assets to Capital Subsidies received for creation of assets only just above 50% and hence, no own fund appears to have invested by P&ED. Hence, the option of claiming 10% of the annual depreciation claiming is not tenable as the Capital Subsidy is much higher than the Gross Asset values created as per the Balance sheet.

Hence, the licensee claimed the depreciation at Rs.2.02 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 2021-22. What has been so far allowed will not be chosen to disturb at this juncture.***

6.16 Interest & Finance Charges

The interest & finance charges approved for the FY 2021-22 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 2021-22 are provided in the table below:

Table 6.20: Interest & Finance charges for FY 2021-22 estimated by P&ED

(Rs.Crs)

Sl.No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Interest & Finance Charges	0.82	0.82	0.00
	Total	**1.18**	**0.82**	**0.00**

Commission's Analysis

As verified from the format F-3b the interest and finance charges are worked out to Rs.0.82 Crore for FY 2021-22 as detailed in the table below.

Table 6.21: Interest and Finance Charges approved by the Commission for FY 2020-21

(Rs. Cr)

Particulars	FY 2021-22						
	Gross Loan - Opening (Rs.Crs)	Add: Drawals during 2020-21 (Rs.Crs)	Less: Loan Repaid during 2020-21 (Rs.Crs)	Closing Balance of loan (Rs.Crs)	Average loan (Rs.Crs)	Rate of Interest on loan % (Average)	**Interest on loan (Rs.Crs)**
LIC Loans	2.00	0.00	1.00	1.00	1.50	8.00%	**0.12**
Rec loans	0.00	0.00	0.00	0.00	0.00	8.35%	**0.00**
REC (RGGVY) Loans	7.19	0.00	2.40	4.81	5.99	11.67%	**0.70**
Total Loan	**9.19**	**0.00**	**3.40**	**5.81**	**7.49**		**0.82**
Weighted average Rate of Interest on Loans (%)						**3.88%**	

The Commission accordingly approves Interest & Finance charges at Rs. 0.82 Crore for the FY 2021-22 as estimated by P&ED. But these charges will be not considered from 2022-23 onwards as Commission had observed the convention of not paying these charges to lenders/borrowers despite recovering from consumers through tariff pedantically every year.

6.17 Interest on Working Capital

Petitioner's Submission

The Hon'ble Commission did not approve interest on Working Capital for the FY 2021-22. Further, the working capital estimate has been reworked based on the changed determinants. The interest on working capital as approved and the revised estimate for the FY 2021-22 are provided in the table below:

Table 6.22: Interest on working capital for FY 2021-22 estimated by P&ED

(Rs.Crs)

Sl.No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Deviation
1	2	3	4	5
1	Interest on Working Capital	0.00	6.34	6.34
	Total	**0.00**	**6.34**	**6.34**

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 2021-22 and **NIL amount of IWC is allowed**.

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.

6.18 Provision for Bad Debts

The Commission had not considered any Provision for Bad Debts for the FY 2021-22, since P&ED has not preferred any amount to write off during FY 2021-22.

6.19 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 2021-22.

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 2021-22 are provided in the table below:

Table - 6.23: Contributions to Contingency Reserve Fund FY 2021-22

(In ` Crores)

Sl. No.	Particulars	Approved in T.O.	As per Revised Estimate	Commission Approved
1	2	3	4	5
1	Contribution to Contingency Reserve Fund	3.23	3.09	2.41
	Total	**3.23**	**3.09**	**2.41**

Commission had considered the contribution amount at 0.25% rate instead of 0.50% on 70% of the opening OCFA at the beginning of the Financial year towards Distribution assets as per the additional replies given by P&ED given to the queries.

6.20 Interest on Consumer Security Deposit

The interest on Consumer Security Deposit approved for the FY 2021-22 was on the basis of closing balance of Consumer Security Deposit. The interest on Consumer Security Deposit as approved and the revised estimate for the

FY2021-22 are provided in the table below:

Table- 6.24: Interest on Consumer Security Deposit FY 2021-22

(In ` Crores)

Sl. No.	Particulars	Approved T.O dt. 26.03.21	APR Estimate	Commission approved
1	2	3	4	5
1	Interest on Consumer Security Deposit	1.07	0.61	0.00
	Total	**1.07**	**0.61**	**0.00**

Commission disapproves the revised figure of Rs.0.61Crs now submitted, due to the reason of installation of more pre-paid meters and consequential need for returning the existing deposits resting with the utility. Hence, Nil amount is approved for FY2021-22 and there is no need for proposing this expenditure any more in future.

6.21 Return on Equity

The Commission had not considered any Return on Equity Capital for the FY 2021-22 as the P&ED is a Government Department and hence no equity to claim the RoE.

6.22 Non-tariff Income

The Other Income approved for the FY 2021-22 is Rs. 3.70 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 6.25: Other Incomes for FY 2021-22 estimated by P&ED

(Rs.Crs)

Sl.No.	Particulars	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Commission Approved
1	2	3	4	5
1	Non-Tariff Income	3.70	10.60	10.60
	Total	**3.70**	**10.60**	**10.60**

The Commission accordingly approves Rs.10.60 Crores towards Non-tariff Income for the FY 2021-22 same was 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. The amount of NTI collected by Department is significantly higher as compared to 2019-20 figure is a welcome change

6.23 Revenue from existing tariffs

The P&ED has considered the revised estimate of energy sale as detailed in para 1.2 above for calculating the estimated revenue from sale of power. The comparison of approved revenue & revised estimate for the FY 2021-22 is provided in the table below:

Table 6.26: Revenue from sale of power with existing tariff projected by P&ED for FY 2021-22

(Rs. Crs)

Sl. No.	Category	Approved T.O. dt: 26.03.2021	As per Revised Estimate	Deviation
	LT Consumers			
1	KJ(Domestic)	2.89	2.64	-0.25
2	Domestic	176.16	157.69	-18.47
3	Non- Domestic	7.08	6.40	-0.68
4	Commercial	30.17	28.14	-2.03
5	Public Lighting	2.43	2.31	-0.12
6	Agriculture	0.04	0.03	-0.01
7	Public Water Works	1.38	0.85	-0.53
8	Industrial	2.48	3.03	0.55
	Total LT	**222.62**	**201.09**	**-21.54**
	HT Consumers			
9	Domestic	6.99	3.86	-3.33
10	Non- Domestic	0.41	0.22	-0.19
11	Commercial	11.73	9.45	-2.28
12	Agriculture	0.03	0.01	-0.02
13	Public Water Works	73.62	103.35	29.73
14	Industrial	6.90	5.16	-1.74
15	Bulk Supply	44.57	18.97	-25.60
	Total HT	**144.25**	**140.82**	**-3.43**
16	Outside State	28.28	50.54	22.26
	Total	**395.15**	**392.46**	**-2.71**

Commission Analysis

The Commission approves probable revenue from existing tariffs at Rs.343.62 Crore from Retail consumers during FY 2021-22 which is slightly more than P&ED indicated figure and the revenue to be realisable from outside State sales revenue is taken as 50.54Crs for the sale of 133.28MU only after review in order not to revise it anymore at this fag end of the period since any modification makes no fruitful results expectable.

6.24 Review of 2021-22 ARR filings

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

Table 6.27: Aggregate Revenue Requirement P&ED Vs. approved by the Commission for FY 2021-22 after review

(Rs. Cr)

Sl. No.	Item of Expense	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Approved by Commission
1	2	3	4	5
1	Cost of Fuel	0.01	0.01	-
2	Cost of Generation	3.37	3.37	-
3	Cost of Power Purchase	337.52	444.47	437.27
4	Transmission Charges	37.73	53.71	53.71
5	Intra State Transmission	6.47	6.47	-
6	Employee Costs	141.00	144.40	128.20
7	R&M Expenses	11.03	9.63	9.63
8	Administration and General Expenses	4.83	4.88	4.88
9	Depreciation	2.08	2.02	0.00
10	Interest charges	0.82	0.82	0.82
11	Interest on Working Capital	0.00	6.34	0.00
12	Interest on Consumer Security Deposit	1.07	0.61	---
13	Provision for bad debts	0.00	0.00	--
14	Return on NFA /Equity	0.00	0.00	-
15	Contribution to Contingency Reserve Fund	3.23	3.09	2.41
16	**Total Revenue Requirement**	**549.16**	**679.81**	**636.92**
17	Less: Non-Tariff Income	3.70	10.60	10.60

Sl. No.	Item of Expense	Approved in T.O. dated 26.03.2021	As per Revised Estimate	Approved by Commission
18	Less: 1/3 Surplus transferred from FY2019-20	59.36	59.36	59.36
19	Less: Efficiency Gains (towards pending dues collection)	8.00	8.00	8.00
20	**Net Revenue Requirement**	**478.11**	**601.86**	**558.96**
21	Less: Revenue from Retail Sales	395.15	341.91	343.62
22	Less: Outside State Sales		50.54	50.54
23	**Net revenue Gap - deficit**	**82.96**	**209.41**	**164.80**

As seen from the above, the net ARR for FY 2021-22 as approved by commission works out to Rs. 558.96 Crs with a revenue gap of Rs.164.80 Crs as against P&ED estimation of Rs.209.41 Cr after review and it is subject to adjustment of Government Revenue Subsidy actually to be received during the financial year at a later date which will be evident from Statutory Audited Accounts Statement for 2021-22.

6.25 Govt. Subsidy amount for FY 2021-22

As against the revised gap of Rs.209.40 Crore the P&ED shall generate additional revenue by recovering the pending dues from sale of power to the tune of Rs.96.55crs (schedule 26(b) of Audited Accounts of 2020-21 on priority, besides 2/3rd portion of the retained true-up surplus of Rs.38.28 Crs made in FY2018-19 and **Rs.118.71 Crs pertaining to FY2019-20 and Rs.73.49Crs in 2020-21** shall also be utilised to reduce the revenue gap with the left-out amount after utilising it so for repayment of interest on Loans outstanding as on 31.03.2020. 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 2022-23 and its Approval

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 2020-21 was issued vide Order dated 20.03.2020.

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;

d. 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."

As per the above regulation, the Joint Electricity Regulatory Commission for Manipur and Mizoram requires the P&ED to apply for determination of tariff for the ensuing year which in the instant case is FY 2022-23. Accordingly, based on the Aggregate Revenue Requirement approved by the Hon'ble Commission for the FY 2022-23, P&ED is required to propose the tariff for sale of energy during the FY 2022-23.

It is submitted that there has been changes in certain parameters and determinants of ARR for the FY 2022-23 based on the performance during the FY 2020-21 & FY 2021-

22 (H1). Accordingly, P&ED is submitting the revised ARR & proposal for determination of tariff for the FY 2022-23.

P&ED requests the Hon'ble Commission to kindly consider the submission and approve the revised ARR & tariff 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.

P&ED hereby submits its petition for approval of Tariff for the FY 2022-23. This petition is submitted in compliance with the Regulation 5(ii)(d) of MYT Regulations, 2014 read with First Amendment Regulations, 2019. The petitioner is attempting 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 overall frame work of parameters approved by the Hon'ble Commission in the MYT Order. However, P&ED has also proposed revisions in certain determinants of ARR. P&ED has studied the past trends and taken cognizance of other internal and external developments to estimate the likely performance during the FY 2022-23.

7.2 Number of consumers and Connected Load

Petitioner's Submission

P&ED has furnished category-wise consumers and their connected load projections for FY 2022-23 as detailed in the table below.

Table: 7.1 Category wise consumers and connected load projected by P&ED

Sl. No.	Category	FY 2022-23 (Projection)		
		Sales (MU)	No. of Consumers	Connected Load (MW)
1	a) Kutir Jyoti - LT	7.92	21,818	4.261
1	b) Domestic - LT	304.01	2,45,427	291.607
1	c) Domestic - HT	4.79	28	6.005
2	a) Non-Domestic - LT	0.04	7,623	16.220
	b) Non-Domestic - HT	0.28	12	0.481
3	a) Commercial – LT	37.70	12,992	38.210

Sl. No.	Category	FY 2022-23 (Projection)		
		Sales (MU)	No. of Consumers	Connected Load (MW)
	b) Commercial – HT	11.10	309	10.954
4	Public Lighting – LT	2.33	1,355	0.953
5	a) Irrigation & Agriculture - LT	0.07	39	0.118
	b) Irrigation & Agriculture - HT	0.11	2	0.187
6	a) Public Water Works - LT	0.87	10	0.293
	b) Public Water Works - HT	90.02	77	37.418
7	a) Industrial - LT	4.47	1,088	5.509
	b) Industrial - HT	6.11	25	5.981
8	Bulk Supply - HT	16.16	251	60.460
9	Temporary Connection & Theft	0.00		
10	Outside State Sale - UI / Trading	101.10		
	GRAND TOTAL	**596.09**	**2,91,056**	**528.659**

Commissions Analysis

The P & ED, Mizoram is directed to arrange for physical verification of the connections and report compliance in next ARR filing of next year. In Directive-19 to submit quarterly report of the connected load and contracted load of different categories of consumers. The contracted load should be expressed in kW in LT supply case and in kVA for HT supply cases.

7.3 Category wise sales Forecast

Petitioner's submission

Energy sales

The P&ED proposes to revise the energy sales for various categories of consumers based on the actual sales for the FY 2020-21 & revised estimate of FY2021-22. The energy sales for the FY 2022-23 as approved by the Hon'ble Commission and revised sales figures are provided in the table below:

Table: 7.2 Energy Sales FY 2022-23 projected by P&ED

(In MUs)

Sl. No.	Category	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
	LT Consumers			
1	Kutir Jyoti	3.00	7.92	4.92
2	Domestic	305.00	304.01	-0.99

Sl. No.	Category	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
3	Non-Domestic	0.00	9.04	9.04
4	Commercial	40.00	37.70	-2.30
5	Public Lighting	6.00	2.33	-3.67
6	Agriculture	0.02	0.07	0.05
7	Public Water Works	7.00	0.87	-6.13
8	LT Industrial	2.00	4.47	2.47
	Total LT	**363.02**	**366.42**	**3.40**
	HT Consumers			
9	Domestic	6.00	4.79	-1.21
10	Non-Domestic	0.00	0.28	0.28
11	Commercial	10.00	11.10	1.10
12	Agriculture	0.34	0.11	-0.23
13	Public Water Works	57.00	90.03	33.03
14	HT Industrial	12.00	6.11	-5.89
15	Bulk Supply	29.00	16.16	-12.84
	Total HT	**114.34**	**128.57**	**14.23**
	LT & HT Total	**477.36**	**494.99**	**17.63**
16	Outside State - Trading	29.31	101.10	71.79
	Total	**506.67**	**596.09**	**89.42**

Commission's Analysis

As verified from the above the P & ED has projected energy sales for FY 2022-23 at 494.99 (barring surplus power of 101.10 MU) as against 477.36 MU of retail sales approved in MYT Order dated 12.03.2018. The P & ED has submitted that the revised energy sales are projected based on actual energy sales during FY 2019-20 & 2020-21 and then projected revised sales for FY 2022-23. As seen from the projection, increase in Commercial HT, PWW HT and Outside Sale are more over the Tariff order sales and in fact there is reduction in all sales in LT and also in HT Industrial & Bulk Supply values also. The Projection appears very weak and no efforts seems to have taken to enhance retail sales within State. The ambitious sales quantum will only impact high revenue yield on paper and finally results in financial deficit if those sales quantum were not achieved. But projection is not even ambitious and at the same time appears realistic also.

However, the Commission approves retail energy sales at 596.09 MU at the same level preferred by the licensee except the IEX sales at 101.10MU and the break-up details are tabulated below.

Table 7. 3: Energy sales approved by the Commission FY 2022-23

Sl. No.	Category	Proposed by P&ED	Approved by Commission
	LT Consumers	(MU)	(MU)
1	Kutir Jyoti	7.92	7.92
2	Domestic	304.01	304.01
3	Non-Domestic	9.04	9.04
4	Commercial	37.70	37.70
5	Public Lighting	2.33	2.33
6	Agriculture	0.07	0.07
7	Public Water Works	0.87	0.87
8	LT Industrial	4.47	4.47
	Total LT	**366.42**	**366.42**
	HT Consumers		
9	Domestic	4.79	4.79
10	Non-Domestic	0.28	0.28
11	Commercial	11.10	11.10
12	Agriculture	0.11	0.11
13	Public Water Works	90.03	90.03
14	HT Industrial	6.11	6.11
15	Bulk Supply	16.16	16.16
	Total HT	**128.57**	**128.57**
	LT & HT Total	**494.99**	**494.99**
16	Outside State - Trading	101.10	46.87
	Total	**596.09**	**541.86**

The Commission approves retail energy sales during FY 2022-23 at 541.86 MU as against 596.09MU projected by the P&ED, Mizoram with the modified Outside State sales quantum of 46.87MU as against 101.10MU projected in ARR filing.

7.4 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 7.4: Distribution Loss for FY 2022-23 projected by P&ED

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Distribution Loss	17.90%	17.90%	0.00%

Commissions Analysis

As seen from their performance in 2019-20 & 2020-21, P&ED had actually sustained the distribution loss of 20.663% & 29.05% respectively in those years. But, in subsequent year based on their APR filing submissions the distribution loss levels estimated at 18.16% and 17.90% for FY 2021-22 and 2022-23 respectively without explaining as to why their loss level was bad to an unexpected level in FY2020-21 instead of tariff order approved value of 19.64%. No way, would they be in a position to achieve the now projected low distribution losses for FY 2021-22 at 18.16% and at 17.90% for FY 2022-23 without rendering best efforts in plugging their flaws and arrest their huge prevalent commercial losses on account of theft and malpractices, reassessment of Contracted Loads and reclassification of various consumer categories for making righteous revenue yield. *As seen from the drastic reduction of 10.89% distribution Losses in 2021-22 and 11.15% reduction in 2022-23 from the present 29.05% in 2020-21, it is not reachable unless they diligently curtail prevalent Commercial losses and don't comprise upon technical losses and this projection is also not that easy to achieve and not practicable without any detailed strategic action plan in place to achieve it in real times*. Moreover, the licensee had not attempted to reason out anywhere in their entire filing as to how the distribution losses would drop down to 18.16% in FY2021-22 and 17.90% in FY 2022-23 while it was at 29.05% in FY 2020-21. **This aspect appears beyond comprehension for having kept silent on this aspect in the ARR filing and hence, Commission attribute it to Commercial losses itself in toto due to poor vigilance executed in FY2020-21.**

In this regard, it is high time that Licensee shall endeavour to take dedicated & concerted steps to arrest theft, malpractices and pilferage of energy (Commercial Losses) and bring it on record lots of unmetered sales keeping unaccounted. The Commission had already issued the following under **fresh directive** in this regard in Tariff Order Dt 20.03.2020:

"The P&ED Department shall invariably submit details to the Commission on or before 15th of each month following the month in which the quantum of energy received (input) by each circle and the quantum of energy sold in that relevant month by each circle office separately for each of the twelve (12) months promptly starting from April to March without fail. The information so furnished by the licensee would form the basis to arrive at the distribution losses actually sustained by the P&ED in the entire year for truing-up purpose in future. Besides, the Licensee shall also submit the details of the net quantity of Outside State sales done in each month starting from April to March with a copy of the invoice issued to the party concerned for record."

However, the Commission now approves distribution Loss at 17.83% during FY 2022-23 as against 17.90% 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 2022-23 to the Commission invariably, else the Efficiency gain cut now imposed in FY2020-21 will be repetitive feature from Commission end for the underperformance if any noticed in future.

7.5 Energy Requirement

Energy requirement approved by the Commission in its order dated 12.03.2018, projected by P&ED Mizoram and now approved by the Commission are furnished in the table below.

Table 7. 5: Energy Requirement P&ED filed Vs. Commission approved

Sl. No.	Energy Balance (FY 2022-23)	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Commission Approved
A	**Energy Requirement**			
1	Energy Sales (MU)	477.36	494.99	494.99

Sl. No.	Energy Balance (FY 2022-23)	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Commission Approved
2	Distribution Loss (%)	17.90%	17.90%	**17.83%**
3	Distribution Loss (MUs)	104.08	107.91	107.39
4	**Total Energy Requirement**	**581.44**	**602.90**	**602.38**

7.5.1 Sources of Power - Own Generation

Petitioner's submission

The P&ED is having 11 Mini Hydel Stations (MHS) with an installed capacity of 29.35 MW and net generation expected from 7 out of 11 MHS each station wise is indicated as 40.09MU. The installed capacities of one Diesel Generator of capacity of 0.5 MW and one HFO generator of 22.92 MW totalling to 23.42 MW is withdrawn in the filing for FY 2022-23.

The Detailed station-wise break up of expected net generation is tabulated below for FY 2022-23:

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	**2**	**3**	**4**	**5**
1	Total Generation (Net)	64.85	6.27	-58.58
	Total	**64.85**	**6.27**	**-58.58**

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 does not include in Own Generation. However, P&ED has procured the energy generated from the above SHPs and has incorporated the same in the power purchase for the year.

Commissions Analysis

Table 7.6: Details of station wise Own generation (FY 2022-23) by Commission

Sl. No.	SHP Station	Installed Capacity	Date of COD	Generation at 45% CUF	Auxl. Cons @1%	Net Energy
I	**Mini Hydel**	**(MWs)**	**Date**	**(MU)**	**(MU)**	**(MU)**
1	Tuipanglui	3.00	17.12.2004	---	---	----
2	Serlui 'A'	1.00	24.04.84	--	----	--
3	Tuirivang	0.30	14.08.89	1.183	0.012	1.171
4	Maicham-I	2.00	5.01.96	7.884	0.079	7.805

Sl. No.	SHP Station	Installed Capacity	Date of COD	Generation at 45% CUF	Auxl. Cons @1%	Net Energy
5	Lamsial	0.50	26.08.2008	1.971	0.020	1.951
6	Maicham-II	3.00	11.11.2009	11.826	0.118	11.708
	Sub-Total	**9.80**		**22.864**	**0.229**	**22.635**
7	Serlui 'B'	12.00	**In-Firm power**	**4.27**	**0.18**	**4.09**
	Total	**21.80**		**27.134**	**0.409**	**26.725**

The Commission in its order dated 12.03.2018 had approved 64.85MU for FY 2022-23. But the P&ED had not provided any supportive argument made for such downward reduction of net generation from to 20.36MU (includes Amazon Engineering generation also). But P & ED has furnished own power generation to be 26.725MU during FY 2022-23 as per their Generation ARR filings.

But in distribution power procurement it was stated as 6.27MU units only as purchase quantum seems absolutely unbelievable, **if so where the remaining quantity of 20.455MU is going to**. **Whenever P&ED projects some energy quantum in Generation ARR for FY2022-23 it must be shown as fully received in distribution purchase quantum also. But it was not done so for inexplicable reasons and missing the rudimental logic.**

Hence, the Commission strongly feels to adopt taking entire 26.725MU as the power purchase from State Own Generation in FY 2022-23 and while in the case of 2021-22 it is high time to make any changes to energy purchase at this fag-end of the financial year and would not yield any benefit upon revising the current year figure. The above is considered with a firm direction to reduce the outside power source purchases from ER & NER stations to the extent of this additional generation from own station over and above 6.27MU now shown in projection of 2022-23 so that the cost saving could be passed on to the benefit of the consumers.

The Generation projected by P&ED as receivable from Amazon Engineering for three years from 2020-21 to 2022-23 is tabulated below, but the reason for lower energy output in FY2021-22 & FY2022-23 was not explained.

Small Hydro Plants maintained by M/s. Amazon Engineering from 2020-21						
Sl. No	SHEP Station	Capacity (MW)	Date of COD	2020-21 (MU)	2021-22 (MU)	2022-23 (MU)
1	Khawiva	1.05	08.12.1988	1.46	1.38	1.38
2	Tuipui	0.50	15.12.1991	1.01	0.64	0.64
3	Teirei	3.00	12.10.1999	4.93	4.55	4.55
4	Kau Tlabung	3.00	05.05.2005	8.05	7.52	7.52
	G.Total	**7.55**		**15.45**	**14.09**	**14.09**
				Actual	**Projected**	**Projected**

Power Purchase

P&ED has allocation of power from various central generating stations in north eastern region of NEEPCO, NHPC and in Eastern Region & North eastern region of NTPC, Tripura gas based generating stations TSECL-Baramura and OTPC-Palatana as given below:

Table 7. 7: Allocation of power (in MWs) from Central Sector and other Generating Stations

Sl No	Energy Generation Source (2022-23)	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
A	**Central Generating Stations**			
I	**NTPC**			
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
	NTPC-Total	**4190.00**		**45.49**
II	**NHPC**			
1	Loktak HEP	105.00	5.020	5.27
	NHPC-Total	**105.00**		**5.27**
III	**NEEPCO**			
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
	NEEPCO-Total	**1351.00**		**130.03**
IV	**TSECL**			
1	B'mura - IV	21.00	25.000	5.25

Sl No	Energy Generation Source (2022-23)	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
2	B'mura - V	21.00	25.000	5.25
	TSECL-Total	**42.00**		**10.50**
V	**OTPC**			
1	Palatana	726.00	3.030	22.00
	OTPC-Total	**726.00**		**22.00**
VI	**Amazon Engineering**			
	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
	Others-Total	**7.55**		**7.55**
B	**State generating Stations**			
	All Units	22.30	100	22.30
	Owned Generation Total	**22.30**		**22.30**
C	**UI / Deviation**			
	UI / Deviation-Total			
D	**Other RE Energy**			
	1.Rooftop solar Generation			
	2.Solar Generation			
E	**RPO Obligation / REC Certificate**			
F	**LC Enhancement/Renewal charges**			
G	**Bilateral Power Purchase**			
1	Utility 1			
2	Utility 2			
	Bilateral-Total			
H	**GRAND TOTAL**	**6443.85**		**243.14**

The coloured figures indicate there is some revision occurred in values over previous year figures.

Commission had considered State Own Generation Capacity to be at 21.80MWs instead of 22.30MW upon considering the actual available capacity.

7.5.2 Energy drawls from CGS and other Stations:

It is submitted that the power purchase units for FY 2022-23 has been revised based on the actual purchase of FY 2020-21 & revised estimate of FY 2021-22. The power purchase units for the FY 2022-23 as approved by the Hon'ble Commission & revised estimate is provided in the table below, while as per the MYT Tariff Order approval is for 579.56MU:

Table 7.8: Power Purchase from CGS excl. Owned generation as per P&ED for FY 2022-23

Sl. No	Source	Plant Capacity (MW)	Licensee' share (%)	Licensee's Share (MW)	MU Purchased (ex-bus)
A	**Central Generating Stations**				
I	**NTPC**				

Sl. No	Source	Plant Capacity (MW)	Licensee' share (%)	Licensee's Share (MW)	MU Purchased (ex-bus)
1	Bongaigaon TPS	750	5.415	40.61	129.38
2	Farakka STPS	1600	0.142	2.27	14.36
3	Kahalgaon STPS	840	0.142	1.19	7.29
4	Talcher STPS	1000	0.142	1.42	10.06
	NTPC-Total	**3690**		**45.49**	**161.09**
II	**NHPC**				
1	Loktak HEP	105	5.02	5.27	29.50
	NHPC-Total	**105**		**5.27**	**29.50**
III	**NEEPCO**				
1	Kopili HEP	200	4.610	9.22	0.00
2	Kopili - II HEP	25	6.040	1.51	0.00
3	Khandong HEP	50	3.94	1.97	11.67
4	Ranganadi HEP	405	5.70	23.09	67.12
5	Doyang HEP	75	5.410	4.06	7.29
6	Pare HEP	110	5.765	6.34	20.26
7	Tuirial HEP	60	100	60.00	115.42
	Free Power Units				15.74
8	AGBPP	291	5.41	15.74	72.76
9	AGTPP	135	6.00	8.10	44.33
	NEEPCO-Total	**1351**		**130.03**	**360.58**
IV	**TSECL**				
1	B'mura - IV	21	25	5.25	44.54
2	B'mura - V	21	25	5.25	
	TSECL-Total	**42**		**10.50**	**44.54**
V	**OTPC**				
1	Palatana	726	3.03	22.00	113.19
	OTPC-Total	**726**		**22.00**	**113.19**
C	**Own Generation**	22.30	100	22.30	6.27
D	**Amazon Engineering**				
	1.Khawiva HEP	1.05	100	1.05	1.38
	2.Tuipui HEP	0.50	100	0.50	0.64
	3.Teirei HEP	3.00	100	3.00	4.55
	4.Kau Tlabung HEP	3.00	100	3.00	7.52
	Amazon -Total	**7.55**		**7.55**	14.09
E	**UI / Deviation**				0.00
F	**Roof-Top Generation**				**0.09**
G	**Solar Generation**				**2.22**
E	**RPO Obligation / REC Certificate**				0.00
	GRAND TOTAL	**6443.85**		**243.14**	**731.56**

Commission's Analysis

Earlier, the Commission in its Order dated 12.03.2018 have approved power purchase of 579.56MU for FY 2022-23 including UI purchase of 38.14MU as against energy sales within the state at 477.36 MU and it is ended in surplus of power to a tune of 29.31MU with distribution loss of 17.90%.

The power purchase during FY 2022-23 as approved by the Commission from all sources works out to be **674.87** MU are detailed in the table below.

Table 7.9: Power purchase quantum approved by the Commission during FY 2022-23

Sl. No	Source	Plant Capacity (MW)	Licensee' share (%)	Licensee's Share (MW)	MU Purchased (ex-bus)
A	**Central Generating Stations**				
I	**NTPC**				
1	Bongaigaon TPS	750	5.415	40.61	70.21
2	Farakka STPS	1600	0.142	2.27	14.36
3	Kahalgaon STPS	840	0.142	1.19	7.29
4	Talcher STPS	1000	0.142	1.42	10.06
	NTPC-Total	**3690**		**45.49**	**101.92**
II	**NHPC**				
1	Loktak HEP	105	5.02	5.27	29.50
	NHPC-Total	**105**		**5.27**	**29.50**
III	**NEEPCO**				
1	Kopili HEP	200	4.610	9.22	0.00
2	Kopili - II HEP	25	6.040	1.51	0.00
3	Khandong HEP	50	3.94	1.97	11.67
4	Ranganadi HEP	405	5.70	23.09	67.12
5	Doyang HEP	75	5.410	4.06	7.29
6	Pare HEP	110	5.765	6.34	8.26
7	Tuirial HEP	60	100	60.00	115.42
	Free Power Units				15.74
8	AGBPP	291	5.41	15.74	72.76
9	AGTPP	135	6.00	8.10	44.33
	NEEPCO-Total	**1351**		**130.03**	**342.58**
IV	**TSECL**				
1	B'mura - IV	21	25	5.25	44.54
2	B'mura - V	21	25	5.25	
	TSECL-Total	**42**		**10.50**	**44.54**
V	**OTPC**				
1	Palatana	726	3.03	22.00	113.19
	OTPC-Total	**726**		**22.00**	**113.19**
C	**Own Generation**	21.80	100	21.80	**26.725**
D	**Amazon Engineering**				
	1.Khawiva HEP	1.05	100	1.05	1.38

Sl. No	Source	Plant Capacity (MW)	Licensee' share (%)	Licensee's Share (MW)	MU Purchased (ex-bus)
	2.Tuipui HEP	0.50	100	0.50	0.64
	3.Teirei HEP	3.00	100	3.00	4.55
	4.Kau Tlabung HEP	3.00	100	3.00	7.52
	Amazon -Total	**7.55**		**7.55**	**14.09**
E	**UI / Deviation**				---
F	**Roof-Top Generation**				**0.09**
G	**Solar Generation**				**2.22**
E	**RPO Obligation**				0.00
	GRAND TOTAL	**6443.35**		**242.64**	**674.87**

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 FY2022-23.

7.6 Energy Balance:

The energy balance for the FY 2022-23 as approved by the Hon'ble Commission and the revised proposal of energy balance is provided in the table below:

Table 7. 10: Energy Balance projected by P & ED for FY 2022-23

Sl. No.	Energy Balance	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
A	**Energy Requirement**			
1	Energy Sales	477.36	494.99	17.63
2	Distribution Loss (%)	17.90%	17.90%	0.00%
3	Distribution Loss (MUs)	104.08	107.91	3.83
4	**Total Energy Requirement**	**581.44**	**602.90**	21.46
B	**Energy Availability**			
5	Own Generation	64.85	6.27	-58.58
6	Energy Purchase from ER	33.38	31.71	-1.67
7	Less: ER Pool Loss (%)	2.11%	1.95%	0.00
8	Less: ER Pool Loss (Mus)	0.71	0.62	-0.10
9	Net Energy for ER	33.17	31.09	-2.08

Sl. No.	Energy Balance	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
10	Energy Purchases from NER (Exl. Turial HEP)	507.54	546.03	38.49
11	UI / Deviation	38.14	0.00	-38.14
12	Sub Total	578.85	577.12	-1.73
13	Less: NER Pool Loss (%)	2.60%	2.54%	0.00
14	Less: NER Pool Loss (MUs)	14.06	14.66	0.60
15	Net Energy at NERLDC	564.79	562.46	-2.33
16	Energy purchases from Tuirial HEP	0.00	115.42	115.42
17	Free Energy from Tuirial HEP	0.00	15.74	15.74
18	Amazon Engineering	0.00	14.09	14.09
19	Rooftop Solar Generation	0.00	0.09	0.09
20	Solar Generation	0.00	2.22	2.22
21	Energy Available	629.64	716.30	86.66
22	Less: Outside State - Trading	29.31	101.10	71.79
23	Total Energy Available	600.33	615.20	14.87
24	Less: Intra State Tr. Loss (%)	3.00%	2.00%	-0.01
25	Less: Intra State Tr. Loss (MUs)	18.89	12.30	-6.59
26	Net Energy Available	581.44	602.89	21.45
27	**Less: Energy requirement at State Periphery**	**581.44**	**602.90**	**21.46**
28	**ENERGY SURPLUS/(DEFICIT)**	**0.00**	**0.00**	**0.00**

Commissions' Analysis

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 FY 2022-23. The Commission, too had conservatively taken 2% transmission losses as reasonable as indicated in the ARR filing submission.

Table-7. 11: Energy Balance Approved by the Commission for FY 2022-23

Sl.No.	Energy Balance details	2022-23
A	**State Grid Energy requirement for Distribution activity**	**(MU)**
1	**Retail Sale of energy (LT & HT) ****	**494.99**
2	Distribution Loss (%)	17.83%

Sl.No.	Energy Balance details	2022-23
3	Distribution Loss (MU) - (4-1)	107.39
4	**Energy at Distribution Periphery (##)**	**602.38**
5	a) Intra-State Transmission Loss (%) - (presumed)	2.00%
	b) Intra-State Transmission Loss (MU)	**12.29**
6	**Total Grid Energy requirement at State periphery (row-4 Grossed Up)**	**614.67**
B	**Sources of Energy Availability**	**(MU)**
7	Purchases from Eastern Region (ER)	31.715
8	a) Inter-State Losses on ER Energy (%)	1.95%
	b) Inter-State Losses on ER Energy (MU)	0.62
9	**Net ER Energy after Losses (7 - 8b)**	**31.10**
10	**Purchases from North Eastern Region (Exl. Tuirial HEP energy)**	**468.86**
11	UI Energy Purchase	-
12	RPO obligation met from Outside the State	-
13	**Energy handled at NER grid (9 to 12)**	**499.96**
14	Inter-State Trans. loss in NER (%)	2.54%
	Inter-State Trans. loss in NER (MU)	12.70
15	**Net energy available at NERLDC for Mizoram (13-14b)**	**487.26**
16	Energy purchases from Tuirial HEP	115.42
17	Free Power from Tuirial HEP	15.74
18	**State Owned Small HEPs Generation exported to Grid**	**26.725**
19	Gross Solar Plants & RTS Metering System energy export to Grid	2.31
20	Amazon Engineering supplies & others	14.09
21	**Gross energy available at Mizoram from all sources (15 to 20)**	**661.54**
22	**Available energy at State Periphery (from Row-6)**	**614.67**
23	**Energy Surplus (+)/Deficit (-) (24 to 26)**	**46.87**
24	Sale from Energy through Trading/Banking	-
25	**Sale of energy at IEX (21-22)**	**46.87**
26	Net Metered gross generation from RTS	-
27	**Total energy for retail sale in Discom area (1+26)**	**494.99**
****Total Grid energy consumed i.e, grid energy imported by the consumers with/without RTS, Solar plants and Hydel Stations.**		

Thus, the energy balance resulted in surplus of power at 46.87MU (instead of the projected 101.10MU) 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 20th March 2020. However, as already explained, the NERLDC losses too were adopted at 2.54% as taken by the P&ED in Energy Balance calculations. The Licensee shall endeavour to strictly comply with that said directive and report on its compliance.

7.7 Aggregate Revenue Requirement

7.7.1 Cost of Fuel

The fuel cost for the FY 2022-23 as approved by the Hon'ble Commission is provided in the table below. P&ED is not proposing any changes to the approved cost.

Table 7.12: Fuel Cost FY 2022-23 filed by the P&ED

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dt:12.03.2018	Proposed by P&ED	Commission approved
1	2	3	4	5
1	Cost of Fuel	0.01	0.01	0.00
	Total	**0.01**	**0.01**	**0.00**

The Commission approves fuel cost at Rs. NIL for FY 2022- 23 against the projections by P & ED Mizoram.

7.7.2 Cost of Generation

The Cost of Generation for the FY 2022-23 as approved by the Hon'ble Commission is provided in the table below. P&ED is not proposing any changes to the approved cost.

Table 7.13: Cost of Generation FY 2022-23 approved by the Commission

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Commission Approved
1	2	3	4	5
1	Cost of Generation	9.65	3.15	3.3358
	Total	**9.65**	**3.15**	**3.3358**

Upon scrutiny of the Generation function ARR filed separately by the P&ED, the Commission approves cost of Generation ARR amount at Rs.3.3358 Crores for FY 2022-23 which includes the O&M amount of Rs.1.67Crs pertaining to Amazon maintained four stations for the reasons detailed therein with detailed elaboration element wise.

7.7.3 Cost of Power Purchase

Petitioner's submission

The Hon'ble Commission in the Tariff Order dated 12.03.2018 had approved a power purchase quantum of 579.56 MUs at a total cost of ` 228.82 Crores for the FY 2022-

23. As submitted above the estimate of power purchase quantum for the FY 2022-23 is proposed to be revised to 725.31 MUs. It is submitted that the power purchase cost for the FY 2022-22 has been revised based on the actual purchase for the FY 2020-21 & revised estimate for the FY 2021-22. Accordingly, the power purchase cost is also proposed to be revised. Further, Power purchase cost for renewable energy for the FY 2022-23 has been arrived at in following manner:

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 FY2021-22 is 20.50% (10.00% for non-solar & 10.50% for solar). The RPO for solar& Non-solar has been calculated based on the actual consumption (excluding outside the state sale but including T&D loss). Further, procurement of power from hydro sources has been reduced to arrive at the base figure for calculation of RPO.

For the solar RPO category, the prescribed target of 10.50% has been applied on the base figure of 315.82 MUs. Further, 2.32 MUs has been deducted as procured from solar category. Accordingly, 30,840.88 MWh (30.84 MUs) is computed as the solar RPO for the FY 2022-23. The rate as prescribed by CERC has been considered to arrive at the cost of RPO of `7.40 Crores.

For the non-solar RPO category, the prescribed target of 10.00% has been applied on the base figure of 315.82 MUs. Further, 6.27 MUs has been deducted as procured from non-solar category. Accordingly, 25,309.85 MWh (25.31 MUs) is computed as the non-solar RPO for the FY 2022-23. The rate as prescribed by CERC has been considered to arrive at the cost of RPO of `7.59 Crores.

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

Table 7.15: Power Purchase Cost projected by the P & ED for the FY 2022-23

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	variance
1	2	3	4	5
1	Power Purchase Cost	228.82	468.61	239.79
	Total	**228.82**	**468.61**	**239.7**

Commission's analysis

The Commission, earlier in its Order dated 12.03.2018 had approved power purchase of 579.56MU for FY 2022-23 including UI purchase of 38.14MU as against energy sales within the state of 477.36 MU and it is ended in surplus of power to a tune of 29.31MU with distribution loss of 17.90%.

Now the P&ED has estimated power purchase to be Rs.468.61Crs for 731.58MU at an average cost of Rs.5.41 /kWh for meeting the retail sales requirement of 494.99 MU, this results in surplus of Power of about 101.10MU which the P&ED had proposed to sell in outside State at an average of **Rs.3.792/kWh.**

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 FY2022-23 has been limited to **674.87MU** as against the 731.58MU filed by the P&ED. Accordingly, the applicable Power purchase cost is approved by Commission for FY 2022-23 as detailed in the table below:

Table 7. 16: Power Purchase Cost approved by the Commission for the FY 2022-23

Sl No	Energy Generation Source (2022-23)	Plant Capacity (MW)	PED Share (%)	PED Share (MW)	Energy at Ex-Bus (MU)	Purchase Cost (Rs.Crs)	Avg. Cost (Rs./kWh)
A	**Central Generating Stations**				**Commission Approved**		
I	**NTPC**						
1	Bongaigaon TPS	750.00	5.415	40.61	70.21	94.72	13.49
2	Farakka STPS	1600.00	0.142	2.27	14.36	6.26	4.36
3	Kahalgaon STPS	840.00	0.142	1.19	7.29	2.67	3.66
4	Talcher STPS	1000.00	0.142	1.42	10.06	2.79	2.77
	NTPC-Total	**4190.00**		**45.49**	**101.92**	**106.44**	**8.66**
II	**NHPC**						
1	Loktak HEP	105.00	5.020	5.27	29.50	10.72	3.63
	NHPC-Total	**105.00**		**5.27**	**29.50**	**10.72**	**3.63**
III	**NEEPCO**						
1	Kopili HEP	200.00	4.610	9.22	0.00	0.00	0.00
2	Kopili - II HEP	25.00	6.040	1.51	0.00	0.00	0.00
3	Khandong HEP	50.00	3.940	1.97	11.67	2.03	1.74
4	Ranganadi HEP	405.00	5.700	23.09	67.12	14.96	2.23
5	Doyang HEP	75.00	5.410	4.06	7.29	5.15	7.07
6	Pare HEP	110.00	5.765	6.34	8.26	4.14	5.01

Sl No	Energy Generation Source (2022-23)	Plant Capacity (MW)	PED Share (%)	PED Share (MW)	Energy at Ex-Bus (MU)	Purchase Cost (Rs.Crs)	Avg. Cost (Rs./kWh)
7	a) Tuirial HEP	60.00	100	60.00	115.42	86.70	6.61
	b) Free Power share				15.74		
8	AGBPP	291.00	5.410	15.74	72.76	30.26	4.16
9	AGTPP	135.00	6.00	8.10	44.33	20.06	4.53
	NEEPCO-Total	**1351.00**		**130.03**	**342.58**	**163.29**	**4.77**
IV	**TSECL**						
1	B'mura - IV	21.00	25.00	5.25	44.54	21.12	4.74
2	B'mura - V	21.00	25.00	5.25			
	TSECL-Total	**42.00**		**10.50**	**44.54**	**21.12**	**4.74**
V	**OTPC**						
1	Palatana	726.00	3.030	22.00	113.19	39.16	3.46
	OTPC-Total	**726.00**		**22.00**	**113.19**	**39.16**	**3.46**
VI	**Amazon Engineering**						
	1.Khawiva HEP	1.05	100	1.05	1.38	0.21	1.53
	2.Tuipui HEP	0.50	100	0.50	0.64	0.10	1.50
	3.Teirei HEP	3.00	100	3.00	4.55	0.54	1.18
	4.Kau Tlabung HEP	3.00	100	3.00	7.52	0.83	1.10
	Others-Total	**7.55**		**7.55**	**14.09**	**1.67**	**1.19**
B	**State generating Stations**						
	All Units (**Generation ARR** based)	21.80	100	21.80	26.725	0.00	
	Own Generation Total	**21.80**		**21.80**	**26.725**	**0.00**	
C	**UI / Overdrawn**				0		
	UI / Deviation-Total						
D	**Other RE Energy purchases**						
	1.Rooftop solar Generation				**0.09**	**0.03**	
	2.Solar Generation				**2.22**	**--**	
E	**RPO Obligation/Certificate (**calculation placed below**)**					**9.75**	
F	**LC Enhancement/Renewal charges**					0.39	
G	**Addl. Supplementary bills**					7.82	
H	**Reactive Energy Charges**					**0.006**	
I	a) Billateral - Utility 1						
	b) Billateral - Utility 2						
	Bilateral-Total				**0.00**	**0.00**	
I	**GRAND TOTAL**	**6443.85**		**243.14**	**674.87**	**(#) 360.40**	

(#) – This amount is reduced by Amazon purchase cost 1.67Crs which amounts **Rs.358.72Crs after reduction.**

It is replied by the P&ED that the amount of Rs.1.67Crs is being paid 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 here the Commission approves Power Purchase Cost at Rs.358.72 Crores for the purchase of 674.87 MU during FY 2022-23 including state owned generation of

26.725MU and gave a cushion for Outside State sales quantum of 46.87MU instead of 101.10MU as projected in ARR. **The above purchase cost includes RPPO obligation for Solar to be fulfilled as per the present regulation guide lines amount to Rs.9.75crs (the detailed calculation is as follows).**

Sl. No.	RPO Obligation for P&ED, Mizoram	FY 2022-23
1	Sales (Excluding Outside State Sale)	494.99
2	T & D Loss	119.68
3	ISTL Losses (Proportionate)	12.70
4	**Overall Energy Requirement for state sales (MU)**	**627.37**
5	Unit received from all Hydro Sources	295.82
6	Energy Consumed excluding Hydro	331.55
7	**RPPO obligated Solar (@ 10.50%) Units in MU**	**34.81**
8	existing Rooftop Solar consumption (In MU)	2.31
9	**Solar RPO shortfall Units (MU)**	**32.50**
10	Expressed in MWh of energy	32,502.86
11	RPO Obligation (Rs.3000/ Mwh)	`97,508,569
12	**Solar RPO Obligation (In Crores) - (A)**	**9.75**
13	**RPPO Obligated Non-Solar Units @10.68% (MU)**	**41.45**
14	Existing Non-Solar usage (MU)	56.56
15	**Non-Solar - RPO shortfall (MU)**	**-15.11**
16	expressed In MWh of energy	(-)36,252.67
17	Non-Solar RPO Obligation (Rs.2400/ MWh)	Nil
18	**Non-Solar RPO Obligation (In Crores) - (B)**	**Nil**
19	**RPPO Obligation (Solar & Non-Solar)- (A&B)**	**`9.75 crs**

7.7.4 Inter-State Transmission Charges

It is submitted that the transmission charges for the FY 2022-23 has been revised based on the actual transmission charges for the FY 2020-21 & revised estimate for the FY 2021-22. The transmission charges for the FY 2022-23 as approved by the Hon'ble Commission & revised estimate is provided in the table below.

Table 7.17: Transmission Charges for FY 2022-23 Filed Vs approved by the Commission

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Commission approved
1	2	3	4	5
1	Transmission Charges	58.48	56.78	56.78
	Total	**58.48**	**56.78**	**56.78**

The Commission approves transmission charges at Rs.56.78 Crore for FY 2022-23 as was projected by P&ED.

7.7.5 Intra-State Transmission Charges

The Intra- State Transmission Charges for the FY 2022-23 as approved by the Hon'ble Commission is provided in the table below. P&ED is not proposing any changes to the approved cost.

Table 7.18: Intra-State Transmission charges for FY 2022-23 filed Vs. approved

Rs. Crs

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Commission approved
1	2	3	4	5
1	Intra-State Transmission Charges	38.88	51.45	7.246
	Total	**38.88**	**51.45**	**7.246**

The Commission after scrutiny of the separately submitted Transmission ARR filing, approves Intra state Transmission charges at Rs.7.246 Crs for FY 2022-23 for the reasons individually elaborated against each expenditure item discussed therein.

7.7.6 O&M Expenses

Operation & maintenance expense comprises of the following heads of expenditure viz.

(a) Employee Expenses
(b) Administration & General Expenses
(c) Repairs & Maintenance Expenses

Details of Employee Expenses, Administration & General Expenses and Repairs & Maintenance Expenses are provided in the subsequent sections.

(a) Employee Expenses

It is submitted that the Employee cost for the FY 2022-23 has been revised based on the actual Employee cost for the FY 2020-21 & revised estimate for the FY2021-22. The employee cost of Rs. 152.98 Crores as projected for the FY 2022-23 only relates to the distribution function. The Employee cost for the FY2022-23 as projected & approved by the Hon'ble Commission is provided in the table below.

Table 7.19: Employee Cost FY 2022-23 ARR by P&ED

(Rs. Crs)

Sl. No.	Particulars	Approved in T.O. dt: 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Employee Cost	60.53	152.98	92.45
	Total	**60.53**	**152.98**	**92.45**

Commission's 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:

Sl.No.	Employee Type	2019-20	2020-21	2021-22	2022-23
1	Filled up Posts (Regular)	1492	1522	1522	1522
2	Work Charged	455	375	375	375
3	Muster Rolls	1514	1444	1456	1461
5	Total staff working	**3461**	**3341**	**3353**	**3358**
6	**Projected Employee Cost (Crs)**	**118.22**	**123.05**	**135.55**	**149.19**
7	**Escalation adopted over P.Yr**		**6%**	**6%**	**6%**
8	**Net Employee cost allowed**		**120.77**	**128.20**	**135.97**

The employee cost for 2018-19 &2019-20 were at Rs.108.75CRs and Rs.118.22Crs respectively as per the relevant year audited accounts. But in the FY 2020-21 the cost incurred were at abnormal level of Rs.188.82Crs which includes **some unforeseen costs of one-time nature** have been included causing the steep hike in estimations and such abnormalities are to be eliminated for arriving at the revised cost for 2021-22 & 2022-23. A reasonable increase of 6% over 2020-21 adjusted figure yields Rs.128.20Crs only taking into consideration of the mix of employee's numbers also. Similarly, for 2022-23 adopting the same cost escalation on the employee proportion mix works out to Rs.135.97Crs.

It surprises to notice that Employees strength in the fresh ARR submission for previous year (2020-21) data is always restored to 4145 Nos and for other two years slight reduction is being tinkered in the format-F6A and this methodology which is conspicuously in practice even in the earlier filings appears not reliable for 2022-23.

As against P&ED projected amount of 152.98Crs the Commission eventually approves employee cost at Rs135.97Crs in FY 2022-23 for the entire P&ED as a whole in the absence of functional wise break-up constraint expressed and therefore considered all the employees strength of P&ED in this estimation for deducing the above value.

(b) Administrative and General Expenses

Petitioner's submission

It is submitted that the Administration & General Expenses for the FY 2022-23 has been revised based on the actual Administration & General Expenses for the FY 2020-21 & revised estimate for the FY 2021-22. The Administration & General Expenses of Rs. 5.16 Crores as projected only relates to the distribution function. The Administration & General Expenses for the FY 2022-23 as projected & approved by the Hon'ble Commission is provided in the table below.

Table 7.20: Administration & General Expenses FY 2022-23 by P&ED

(Rs. Cr)

Sl. No.	Particulars	Approved T.O. dt 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Admin & General Exps	1.76	5.16	3.40
	Total	**1.76**	**5.16**	**3.40**

Commission's Analysis

Since the A&G Expenses now projected for FY 2022-23 was comparable with those of actuals incurred in FY 2020-21 and with that of figure adopted for next year FY2021-22. **Hence, the Commission approves A & G expenses at Rs.5.16Cr for FY 2022-23 as has been projected by the Licensee for its distribution function.**

c) Repairs and Maintenance Expenses

It is submitted that the Repair & Maintenance Expenses for the FY 2022-23 has been revised based on the actual Repair & Maintenance Expenses for the FY2020-21 & revised estimate for the FY 2021-22. The Repair & Maintenance Expenses of Rs.

10.80 Crores as projected only relates to the distribution function. The Repair & Maintenance Expenses for the FY 2022-23 as projected & approved by the Hon'ble Commission is provided in the table below.

Table 7.21: R&M Expenses projected by the P&ED for FY 2022-23

(Rs. Cr)

Sl. No.	Particulars	Approved T.O. dt: 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Rep & Maintenance Expenses	8.87	10.18	1.31
	Total	**8.87**	**10.18**	**1.31**

The Commission also considers to approve R & M expenses at Rs.10.18 Crore for FY 2022-23 as was projected by the petitioner but it is considered by the Commission for the distribution function only.

The abstract of O & M expenses now approved by the commission are detailed in the Table below:

Table 7.22: O & M expenses approved by the Commission for FY 2022-23

(Rs. Crores)

Sl. No.	Item of Expense	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Commission Approved
1	2	3	4	5
1	Employee Costs for entire P&ED	60.53	152.98	135.97
2	Repair & Maintenance Expenses	8.87	10.18	10.18
3	Administration and General Expenses	1.76	5.16	5.16
	Total O&M Expenses abstract	**71.16**	**168.32**	**151.31**

7.7.7 Capital investment

Summary of CWIP from FY 2019-20 to FY 2022-23 as furnished by the P&ED vide Form F2C is provided in the table below.

Table 7.23: CWIP approved by the Commission for FY 2022-23

(Rs.Crs)

Sl. No.	Particulars	2019-20	2020-21	2021-22	2022-23
A	Opening Balance of CWIP	996.72	1149.07	1,120.84	1,080.95
B	Fresh Investment during the	202.74	56.911	136.77	136.72
C	Investment capitalized out of opening CWIP	50.40	85.142	176.66	171.58
D	Investment capitalised out of fresh investment plus expenses capitlaised				
E	**Total Capitalisation during the year (C+D)**	**50.40**	**85.142**	**176.66**	**171.58**
Closing Balance of CWIP (A + B – C - D)		**1149.07**	**1,120.84**	**1,080.95**	**1,046.09**

As seen from the 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 in FY2019-20 & 2020-21 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	140.16	140.11
2	CWIP in Progress	202.750	56.911	136.77	136.72
3	**Excess (+)/ Shortage (-) (2-1)**	**4.385**	**2.6995**	**3.39**	**3.39**

The Capital subsidy excess unspent in FY2019-20 & 2020-21must be utilised in future for creation of Capital Assets.

7.7.8 Gross Fixed Assets & Depreciation

7.7.8.1 Gross Fixed Assets

Based on the audited annual accounts for FY 2019-20 and summary of CWIP furnished in Para 7.7.7 supra the year wise GFA is furnished in the table below.

Table 7.24: GFA approved by the Commission for FY 2022-23

(Rs. Cr)

Sl. No.	Particulars	2019-20	2020-21	2021-22	2022-23
1	Opening GFA	1243.62	1294.02	1379.16	1555.82
2	Additional during the year (form-F2)	50.40	85.14	176.66	171.58
3	**Closing GFA**	**1294.02**	**1379.16**	**1555.82**	**1727.40**
4	**Avg. GFA**	**1268.82**	**1336.59**	**1467.49**	**1641.61**
5	Accumulated Depreciation	822.58	867.48	887.72	915.95

7.7.8.2 Depreciation

Petitioners' 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 2020-21 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 2020-21 is also being submitted. Therefore, the GFA & corresponding depreciation for the FY 2021-22 & FY 2022-23 also stands revised.

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 7.25: Depreciation projected by P&ED for FY 2022-23

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O Dt. 12.03.2018	Proposed by P&ED	Deviation
1	**2**	**3**	**4**	**5**
1	Depreciation	7.33	2.82	-4.51
	Total	**7.33**	**2.82**	**-4.51**

Commission's Analysis

Table 7.26: Depreciation approved by the Commission for FY 2022-23 after review

(Rs. Cr)

Sl. No.	Particulars	2019-20 Amount	2020-21 Amount	2021-22 Amount	2022-23 Amount
1	Contributions, Grants & subsidies for Capital Assets costs (Schedule-33)	2432.15	2491.76	2631.92	2772.03
2	Gross Block of Assets (OCFA) (Sch-19)	1294.02	1379.16	1555.82	1727.40
3	The Ratio of Gross block to Capital Subsidies (%) - (2/1x100)	**53.20%**	**55.35%**	**55.35%**	**55.35%**
4	**Own funds spent for Assets**	**0%**	**0%**	**0%**	**0%**
5	**Eligibility to claim depreciation on assets in each year**	**Nil**	**Nil**	**Nil**	**Nil**

As seen from the ratio of Gross Block of Assets to Capital Subsidies received for creation of assets only just above 50% and hence, it appears no own fund were needed for invested 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 is much higher (twicer) than the Gross Asset values so far created as per the audited Balance sheets.

Though, the licensee had claimed depreciation at Rs.2.82 Crores after review, is not considered by the Commission as they are not eligible to claim for depreciation under Regulatory Accounting System and NIL amount is approved for FY2022-23. What so ever, what has already been allowed so far as depreciation may not be touched at this juncture as a matter of principle.

7.7.9 Interest and Finance Charges

Petitioner's submission

The Interest & Finance charges for the FY 2022-23 as approved by the Hon'ble Commission & projected by P&ED are provided in the table below.

Table 7.27: Interest and Finance charges projected by P&ED for FY 2022-23

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Interest & Finance Charges	0.25	0.46	0.21
	Total	**0.25**	**0.46**	**0.21**

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 7.28: Interest and Finance charges approved by the Commission

(Rs. Crs)

		Principle Loan				Yearly Interest		Outstanding Interest		
Sl. No	2022-23	Opn. Loan	Paid in 2022-23	Clsn. Loan	Avg. Loan	Intr. Rate	Intr. amnt	Opng. Dues	Int. for 2022-23	Clsn Dues
A	LIC Loan	1.000	1.00	0.00	0.50	7.99%	0.040	7.370	0.040	7.410
B	RGGVY Loan	4.796	2.40	2.398	3.60	11.63%	0.418	20.403	0.418	20.822
C	REC Loan	-		-			-	2.227	-	2.227
	Grand total	5.796	3.398	2.398	4.10	11.19%	**0.458**	30.000	0.458	30.458

Accordingly, the Interest and Finance charges for FY 2022-23 at Rs.0.46 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.29.18crs as per schedule-31 of FY2020-21 audited accounts statement. This was already pointed out in earlier Tariff Order also for rectification but initiative steps for corrective action went futile.

Hence, the amount of Rs.0.46Crs towards loan interest is fully disallowed now. 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.

7.7.10 Interest on Working Capital

Petitioner's Submission

The Interest on Working capital for the FY 2022-23 as approved by the Hon'ble Commission and the revised interest on working capital is provided in the table below:

Table 7.29: Interest on working capital FY 2022-23 projected by P&ED

(Rs. Cr)

Sl. No	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Interest on Working Capital	6.05	6.53	0.49
	Total	**6.05**	**6.53**	**0.49**

Commission's Analysis

Regulation 29.4 of the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

As per the Multi Year Tariff 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 1st April of the financial year, in which the Petition is filed i.e. 1st April, 2018.

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 of 2020-21 & 2021-22 or

was there any history of such loans being drawn. The admission of Working Capital Interest will only burdens on 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 FY 2022-23.** The reply given under additional information is a vague reply stating the Regulation provision and had admitted that they have not availed any loans.

Hence, the Commission **disapproves** Interest on Working Capital amount for FY 2022-23 as against Rs.6.53Crs claimed by P&ED adopting the same analogy as in the case of Return on Equity to off-load the unnecessary burden on Consumers **besides there were instances by general public protesting this cost element admission in public hearing meetings in the past.**

7.7.11 Interest on Consumer Security Deposit

Petitioner Submission:

The interest on Consumer Security Deposit approved for the FY 2022-23 was on the basis of closing balance of Consumer Security Deposit. The interest on Consumer Security Deposit as approved and the revised estimate for the FY2022-23 are provided in the table below

Table: 7.30 - Interest on Consumer Security Deposit for FY 2022-23

(In ₹ Crores)

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Interest on Consumer Security	0.00	0.61	-0.61
	Total	**0.00**	**0.61**	**-0.61**

Commission Analysis:

Commission had noted consumer Security Deposit balance of Rs.17.814crs & Rs.20.28Crs shown under schedule-27 of the Audited Balance sheet of 2019-20 & FY2020-21 respectively but in the ARR filing under **Format-F12** for 2020-21 submitted as NIL amount was grossly a wrong submission. The same mistake was reiterated in the additional information replies also. **The Licensee is hereby warned not to commit such mistakes in future as it amounts to false representation deliberately.**

Due to the reason of installation drive for more pre-paid meters all over and consequential need for returning the existing deposits resting with the utility. Hence, Nil amount is approved for FY2022-23 and there is no need for proposing this expenditure any more in future. **Eventually, the Commission feels it not appropriate to allow the interest on consumer security deposit in ARR amount and hence disapproves the claim of 0.61crs with a direction to licensee not to make any expenditure claim for this element in its future filings.**

7.7.12 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 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. The Contingency Reserve Fund as approved and the revised estimate for the FY 2022-23 are provided in the table below:

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

(In ₹ Crores)

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Contribution to Contingency Reserve Fund	0.00	3.89	-3.89
	Total	**0.00**	**3.89**	**-3.89**

Commission Analysis:

Commission having initiated to create appropriations to Contingency Reserve fund from 2021-22 itself, now approves an amount of Rs.2.72 Crs in this process adopts only 0.25% rate for yearly appropriation (instead of 0.5%) on 70% of the opening OCFA balance at the beginning year projected in ARR by P&ED as it relates to distribution function. It is hereby directing to strictly adhere to the Regulation-76.6 in its totality by investing such appropriation in each year within six months of amount so collected in a 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.

Sl.No.	Expenditure item	Commission approved (Rs.Crs)
1	Interest on Working Capital	Nil
2	Interest on Consumer Security Deposit	Nil
3	Contingency Reserve provision (created afresh)	2.72
	Total amount approved	2.72

7.7.13 Bad Debts

Petitioner's submission

P&ED has not proposed provision for bad debts.

Commission's Analysis

In view the Commission would not consider/allow such provision for bad debts during FY 2022-23. 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.

7.7.14 Return on Equity

Petitioner's submission

P & ED has not proposed Return on Equity for FY 2022-23.

Commission's Analysis

Since P&ED is a Government Department, Return on Equity is not considered for FY 2022-23 like the convention hitherto being followed in the absence of Equity.

7.7.15 Non-Tariff Income

Petitioner's submission

The Other Income for the FY 2021-22 as approved by the Hon'ble Commission is provided and now projected by P&ED is furnished in the table below.

Table 7.32: Non – Tariff Income projected by P & ED for 2022-23

(Rs. Cr)

Sl. No.	Particulars	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	2	3	4	5
1	Non-Tariff Income	3.20	11.20	8.00
	Total	**3.20**	**11.20**	**8.00**

Commission's Analysis

The Commission in its MYT Order dated 12.03.2018 had approved power Non- tariff Income at Rs.3.20 Crs for FY 2022-23. As the P&ED has projected for 11.20Crs of NTI during 2022-23 the Commission also approves the same amount for FY 2022-23.

The internal efficiency gains amount indicated for 2020-21 in the last year Tariff Order will be relevant for 2020-21 and if such NTI so approve is not realised by P&ED then it will not be considered in the true-up any more as it is controllable item.

7.7.16 Efficiency Gains expected from Performance improvement by Licensee

The Commission observed that Licensee is currently lagging on various counts and had to better its performance to gain some additional income without causing undue burden on sincere and honest consumers for the cause of some few delinquent consumers. Hence, the Commission identified certain issues which needs the licensee to focus upon in plugging the loop-hopes in the distribution & retail supply activity. The element wise activity issues are tabulated below along with the expected amounts to be recovered during FY2022-23.

Table 7.33: Efficiency Gains Income considered by Commission for FY2022-23

(Rs. Crs)

Sl. No.	Element wise retail supply activity issues	Amount to Collect
1.	Collection of pending dues	20.00
2.	Curbing of theft and Malpractices	0.05
3.	Physical verification & reassessment of contracted Loads	0.03

Sl. No.	Element wise retail supply activity issues	Amount to Collect
4.	Rectification of wrong category classification	0.02
5.	Mixed Load identification and billing as per clause 1.11 of the General terms & conditions of the Tariff Schedule	0.03
	Grand Total of Efficiency gains (Rs.Crs)	**20.13**

7.8 Aggregate Revenue Requirement

It is submitted that P&ED has proposed revisions in few components of Aggregate Revenue Requirement approved by the Hon'ble Commission in the MYT Order dated 12.03.2018 and the same has been discussed in the paras above. The approved ARR and the revised ARR & the corresponding Revenue Gaps at existing tariff is provided in the table below:

Table 7.34: Aggregate Revenue Requirement for FY 2022-23 projected by P&ED

(Rs. Cr)

Sl. No.	Item of Expense	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	**2**	**3**	**4**	**5**
1	Cost of Fuel	0.01	0.01	0.00
2	Cost of Generation	9.65	3.15	-6.50
3	Cost of Power Purchase	228.82	468.61	239.79
4	Transmission Charges	58.48	56.78	-1.70
5	Intra State Transmission	38.88	51.45	12.57
6	Employee Costs	60.53	152.98	92.45
7	Repair & Maintenance Expenses	8.87	10.18	1.31
8	Administration and General Expenses	1.76	5.16	3.40
9	Depreciation	7.33	2.82	-4.51
10	Interest charges	0.25	0.46	0.21
11	Interest on Working Capital	6.05	6.53	0.48
12	Provision for bad debts	0.00	0.00	0.00
13	Return on NFA /Equity	0.00	0.00	0.00
14	Interest on consumer Security Deposit	0.00	0.61	0.61
15	Contribution to contingency Reserve Fund	0.00	3.89	3.89
16	**Total Revenue Requirement**	**420.63**	**762.63**	**342.00**
17	Less: Non-Tariff Income	3.20	11.20	8.00
18	Efficiency Gains (for dues Collection)	0.00	0.00	0.00
19	**Net Revenue Requirement**	**417.43**	**751.42**	**333.99**
20	Less: Revenue from Sale of ALL Power	395.15	398.04	2.89
21	**Net ARR Gap**	22.28	**353.38**	**331.10**

Commission's Analysis

Based on the approved costs the Aggregate Revenue Requirement for FY 2022-23 is furnished in the table below:

Table 7.35: Commission approved ARR for FY 2022-23

(Rs. Crs)

Sl. No.	Item of Expense for FY2022-23	Approved by Commission
1	2	3
1	Cost of Fuel	0.00
2	Cost of Generation	3.3358
3	Cost of Power Purchase	358.72
4	Transmission Charges (PGCIL & Others)	56.78
5	Intra-State Transmission	7.25
6	Employee Costs	135.97
7	Repair & Maintenance Expenses	10.18
8	Administration and General Expenses	5.16
9	Depreciation	----
10	Interest charges	----
11	Interest on Working Capital & Int. on CSD	--
12	Provision for bad debts	--
13	Return on NFA /Equity	--
14	Contributions to Contingency Reserve fund	2.72
15	**Total Revenue Requirement**	**580.11**
16	Less: 1/3rd of true-up surplus of FY 2020-21	36.13
17	Less: Non-Tariff Income	11.20
18	Less: Efficiency Gains (as per Table-7.33)	20.13
19	**Net Revenue Requirement**	**512.65**
20	Less: Revenue from Sale of Power at existing Tariff.	361.16
21	**Less: Revenue from Outside State sales**	17.77
22	**Net Deficit (Revenue Gap)**	133.72
24	**Addl. revenue through tariff**	**24.50**
25	**Final Gap to meet from Government Subsidy**	**109.22**

7.9 Revenue from existing Tariff for FY 2022-23

Petitioner's submission

P&ED has calculated the Revenue from sale of power for the FY 2022-23 on the basis of the revised sale and existing tariff. The Revenue from sale of power for the FY 2022-23 on the basis of the existing tariff & Revenue on the basis of the revised sale is provided in the table below:

Table 7.36: Revenue from existing Tariff projected by P&ED for FY 2022-23
(Rs. Cr)

Sl.	Category	Revenue at Existing Tariff
	LT Consumers	
1	Kutir Jyoti	2.77
2	Domestic	166.19
3	Non-Domestic	6.72
4	Commercial	29.55
5	Public Lighting	2.42
6	Agriculture	0.03
7	Public Water Works	0.90
8	Industrial	3.18
	Total LT	**211.75**
	HT Consumers	
9	Domestic	3.83
10	Non-Domestic	0.23
11	Commercial	9.92
12	Agriculture	0.01
13	Public Water Works	108.52
14	Industrial	5.42
15	Bulk Supply	20.00
	Total HT	**147.95**
16	Outside State - Trading	38.34
	Total	**398.04**

Commission's Analysis

Based on approved energy sales for FY2022-23, revenue from existing tariff is worked out from sales of 596.09MU which including revenue from sale of surplus units of 46.87MU 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 7.37: Expected Revenue at Existing Tariffs for FY 2022-23

Sl. No.	FY 2022-23	Revenue at existing Tariff		
	Category	Energy	Revenue	CPU
	LT Consumers	(MU)	(Crs)	Rs./kWh
1	Kutir Jyoti	7.92	2.812	3.55
2	Domestic	304.01	167.493	5.51
3	Non-Domestic	9.04	6.71	7.41
4	Commercial	37.7	29.63	7.86
5	Public Lighting	2.33	2.42	10.39
6	Agriculture	0.07	0.032	4.68
7	Public Water Works	0.87	0.90	10.26
8	LT Industrial	4.47	3.18	7.11
	Total LT	**366.42**	**213.17**	**5.817**
	HT Consumers			
9	Domestic	4.79	3.83	8.00
10	Non-Domestic	0.28	0.23	8.37
11	Commercial	11.1	9.92	8.94
12	Agriculture	90.03	108.52	12.05
13	Public Water Works	0.11	0.06	5.13
14	HT Industrial	6.11	5.42	8.88
15	Bulk Supply	16.16	20.00	12.38
	Total HT	**128.57**	**147.99**	**11.51**
	Total LT & HT	**494.99**	**361.16**	**7.296**
16	Outside State - Trading	46.87	17.77	3.79
	Total	**596.09**	**378.94**	**6.993**

Note: Detailed calculation for revenue at existing tariffs is placed as Annexure – III

7.10 Revenue Gap for FY 2022-23

Petitioner's Submission:

The estimated gap for the FY 2022-23 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 2022-23 for various categories of consumers is given below along with the comparison with existing tariff.

Table 7.38: Tariff - Existing vs. Proposed (FY2022-23) by P&ED

Sl. No.	Type of installation	Existing Charges		P&ED Proposed Charges	
		Energy rates (₹ /Month)	Fixed Charges (In ₹)	Energy rates (₹ /Month)	Fixed Charges (In ₹)
		A	B	A	B
1	**Kutir Jyothi**				
i)	First 20 kWh	2.50/kWh	25/Connection	2.90/kWh	35/Connection
ii)	Balance above 20 kWh	3.15/kWh	25/Connection	3.80/kWh	35/Connection
2	**Domestic**				
A	LT				
i)	First 100 kWh	4.80/kWh	50/Contracted Load in kW	5.10/kWh	60/Contracted Load in kW
ii)	Next 100 kWh	5.50/kWh	50/Contracted Load in kW	7.50/kWh	60/Contracted Load in kW
iii)	Balance above 200 kWh	5.90/kWh	50/Contracted Load in kW	9.50/kWh	60/Contracted Load in kW
B	HT	6.45/kVAh	50/Billing Demand in KVA	11.00/kVAh	60/Billing Demand in KVA
3	**Non-Domestic**				
A	LT				
i)	First 150 kWh	6.10/kWh	60/Contracted Load in kW	10.20/kWh	70/Contracted Load in kW
ii)	Balance above 150 kWh	6.25/kWh	60/Contracted Load in kW	10.60/kWh	70/Contracted Load in kW
B	HT	6.30/kVAh	60/Billing Demand in KVA	11.20/kVAh	70/Billing Demand in KVA
4	**Commercial**				
A	LT				
i)	First 150 kWh	6.80/kWh	80/Contracted Load in kW	10.80/kWh	95/Contracted Load in kW
iii)	Balance above 150 kWh	7.05/kWh	80/Contracted Load in kW	11.10/kWh	95/Contracted Load in kW
B	HT	7.10/kVAh	80/Billing Demand in KVA	11.20/kVAh	95/Billing Demand in KVA
5	**Public Lighting**	10.00/kWh	80/Contracted Load in kW	13.90/kWh	95/Contracted Load in kW
6	**Irrigation & Agriculture**				
A	LT	3.65/kWh	50/Contracted Load in kW	4.40/kWh	50/Contracted Load in kW
B	HT	3.60/kVAh	50/Billing Demand in KVA	4.30/kVAh	50/Billing Demand in KVA
7	**Public Water Works**				
A	LT	9.90/kWh	90/Contracted Load in kW	13.90/kWh	100/Contracted Load in kW
B	HT	9.80/kVAh	90/Billing Demand in KVA	11.80/kVAh	100/Billing Demand in KVA
8	**Industrial**				
A	LT				
i)	First 400 kWh	5.80/kWh	80/Contracted Load in kW	10.00/kWh	90/Contracted Load in kW
ii)	Balance above 400 kWh	6.35/kWh	80/Contracted Load in kW	10.40/kWh	90/Contracted Load in kW
B	HT	7.05/kVAh	80/Billing Demand in KVA	10.80/kVAh	90/Billing Demand in KVA

Sl. No.	Type of installation	Existing Charges		P&ED Proposed Charges	
		Energy rates (₹ /Month)	Fixed Charges (In ₹)	Energy rates (₹ /Month)	Fixed Charges (In ₹)
9	Bulk Supply	7.10/kVAh	90/Billing Demand in KVA	8.00/kVAh	100/Billing Demand in KVA
10	Temporary Connection & Theft				

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

Table 7.39: Revenue realisable at Proposed Tariff by P&ED for FY2022-23

(In ₹ Crore)

Sl. No.	Category	Proposed Revenue
	LT Consumers	
1	Kutir Jyoti	3.40
2	Domestic	184.25
3	Non-Domestic	10.67
4	Commercial	45.36
5	Public Lighting	3.35
6	Agriculture	0.04
7	Public Water Works	1.25
8	LT Industrial	5.11
	Total LT - A	**253.43**
	HT Consumers	
9	Domestic	6.34
10	Non-Domestic	0.39
11	Commercial	15.20
12	Agriculture	0.01
13	Public Water Works	129.69
14	HT Industrial	8.05
15	Bulk Supply	22.43
	Total HT - B	**182.10**
	L.T & HT Total – (A&B)	**435.53**
16	Outside State sales	38.54
	Grand Total	**473.88**

The additional revenue from proposed tariff is **Rs.75.83Crs**. (i.e.,473.88-398.04). The revenue gap and the average tariff hike proposed are presented in the table below:

Table 7.40: Impact of Tariff projected by P&ED for 2022-23

Sl. No.	Particulars	Units	FY 2022-23	
			Existing	Proposed
1	Net ARR	₹/Crs	751.42	751.42
2	Revenue from Retail tariff	₹/Crs	359.70	435.54
3	Revenue from Outside state sale	₹/Crs	38.34	38.34
4	**Total Revenue (2+3)**	₹/Crs	398.04	473.88
5	Gap (1 – 2 - 3)	₹/Crs	353.38	277.55
6	**Sales within State**	MUs	494.99	494.99
7	Outside state Sales	MUs	101.10	101.10
8	Total Sales	MUs	596.09	596.09
9	Average Cost of Supply of state {(1-3)/6}	₹/kWh	14.41	14.41
10	Average Revenue (2/6)	₹/kWh	7.27	8.80
11	Pure Gap (9-10)	₹/kWh	7.14	5.61
12	Average Hike in Tariff	₹/kWh		**1.53**
13	Hike in Tariff	**%**		**21.05**

Hence, it is submitted that the average tariff required to recover the gap attributable to FY 2022-23 is ₹ 7.14/kWh but keeping in view the resultant burden on the consumers, the proposed hike has been restricted to ₹ 1.53/kWh.

Commission's Analysis:

The Commission has deduced the following values upon revising the existing tariffs for the FY 2022-23 and the results are tabulated below:

Table 7.41: Revenue Gap for FY 2022-23 as approved by the Commission

Sl. No.	Particulars	Units	Existing Tariff	Post Revision
1	Gross Aggregate Revenue Requirement	Rs. Crs	512.65	512.65
2	Less: Outside state sales revenue	Rs. Crs	17.77	17.77
3	**Net ARR (1 - 2)**	**Rs. Crs**	**494.88**	**494.88**
4	Revenue from retail sale of power	Rs. Crs	361.16	385.66
5	**Revenue Gap (3 – 4)**	**Rs. Crs**	**133.72**	**109.22**
6	**Tariff subsidy from Govt.**	Rs. Crs	**109.22**	**109.22**
7	**Unmet Revenue Gap (5 – 6)**	Rs. Crs	**24.50**	**---**
8	Retail Sales within State	MUs	494.99	494.99
9	Outside State power Sales	MUs	46.87	46.87
10	Total Sales from all Sources (8 + 9)	MUs	541.86	541.86
11	Average Cost of Supply within state (3/8)	Rs./kWh	**10.00**	**10.00**
12	Average Revenue (4/8)	Rs./kWh	7.30	7.79

Sl. No.	Particulars	Units	Existing Tariff	Post Revision
13	Pure rate Gap (11-12)	Rs./ kWh	2.70	2.21
14	Average Hike in Tariff - (7/8)	Rs./ kWh		0.50
15	Hike adopted in Tariff (7/4)	%		**6.78%**

7.11 Recovery of Revenue Gap for FY 2022-23

As seen from the Para 7.10, table-41 supra the revenue gap works out by Commission to be Rs.133.72 Cr as against Rs.353.38Crs indicated by the P&ED (at table-40) which is about 37.84% of Net ARR for FY 2022-23. The License (P & ED) does not propose to recover the entire gap as this may result in huge burden on the consumers. 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 propose to absorb the unrecovered gap but proposed an average increase in tariff by **21.08%** to bridge the gap partially by P&ED). **It is observed by the Commission that the average increase of 21.05% as indicated, when actually derived using those figures of P&ED it works out to 21.08% only.**

As discussed in detail at Chapter-8, the Commission has decided to revise the existing Tariff with an escalation of **6.78%** as against the proposed escalation 21.08% by the P&ED.

Accordingly, the revenue realizable from the proposed tariff revision by the Commission would be **Rs.385.66 Crs** as detailed in the table below.

Table 7.42: Commission approved Revenue from tariff revision in FY 2022-23

	FY 2022-23	Revised Tariff by Commission		
Sl.No.	Category	Energy	Revenue	CPU
	LT Consumers	(MU)	(Rs./Crs)	Rs./kWh
1	Kutir Jyoti	7.92	2.95	3.72
2	Domestic	304.01	179.24	5.90
3	Non-Domestic	9.04	8.12	8.98
4	Commercial	37.70	34.91	9.26

	FY 2022-23	Revised Tariff by Commission		
Sl.No.	Category	Energy	Revenue	CPU
5	Public Lighting	2.33	2.74	11.74
6	Public Water Works	0.87	1.00	11.462
7	Agriculture	0.07	0.03	4.83
8	LT Industrial	4.47	3.80	8.49
	Total LT	**366.41**	**232.787**	**6.35**
	HT Consumers	(MU)	(Crs)	Rs./kWh
9	Domestic	4.79	5.01	10.45
10	Non-Domestic	0.28	0.31	11.10
11	Commercial	11.10	12.14	10.94
12	Public Water Works	90.03	109.02	12.11
13	Agriculture	0.11	0.06	5.40
14	HT Industrial	6.11	6.78	11.10
15	Bulk Supply	16.16	19.55	12.10
	Total HT	**128.58**	**152.87**	**11.89**
	Total LT & HT	**494.99**	**385.66**	**7.79**
16	Outside State - Trading	46.87	17.77	**3.79**
	Total Revenue	**541.86**	**408.43**	**7.45**

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

With the proposed revision in tariff the P & ED will be generating additional revenue to the tune of **Rs.24.50 Crs** as against the projected figure of Rs.75.84 Cr by P&ED. Thereby the net revenue gap reduced to **Rs.109.22 Crs** which will be met from Govt. subsidy as per their **letter No.B.19018/9/2020-P&E, Dt.18.02.2022** the photo copy of the same is placed at **Annexure-VII** for reference. The Commission, in the process of upward revision of tariff, the requirement of Government Subsidy was considered at Rs.109.22Crs only based on the above letter cited. The additional subsidy amount as provided under normal budget allocation amounting to Rs.168.33Crs may be continued by the Government to meet any unforeseen exigencies if any by P&ED of revenue nature during the year.

At the same time, as strongly desired by the general public in the Public Hearing held, the Government owned category services like Public Lighting, Public Water Works under HT categories were not to be considered for any subsidy allocation, instead they may be charged at a rate higher than average cost of supply (i.e., **Rs.7.79/kWh**) in order to receive some cross-subsidy amount from them. Thereby, the cross-subsidy amount to be collected from these categories namely **Domestic (HT)**

Rs.0.09Crs, Non-Domestic (HT) Rs.0.03Crs, **Public Lighting Rs.0.06Crs, Public Water Works (HT) Rs.5.56Crs and Rs.1.63Crs from bulk supply and Rs.0.36Crs from HT Industrial consumers** to cross subsidize all other eligible categories in addition to Government subsidy.

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-VI**

7.12 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.109.22 Crores** so arrived at by the Commission shall be met totally from announced Government subsidy/support as against projected gap of Rs.277.55 Crore by P&ED after considering the proposed tariff hike.

The ARR & Tariff Petition for FY 2022-23 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 21.08% over the prevailing tariffs of FY 2021-22 resulting in a revenue gap amounting to Rs.277.55Crs 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:18th February 2022 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.19018/9/2015-P&E/L Dt.3rd March 2022** 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)** for adoption in tariff revision determination process (copy of the letter is placed at **Annexure-VIII).** It is noted from the above approval letter that the subsidy allocation was also made even to the Government consumer categories also, which conflicts with the basic principles of

Tariff Subsidy. If this method when adopted, the Government category would also get back some portion of subsidy amount out of overall subsidy announce. Besides, it is also noticed that due to indicated percentage-based subsidy allocation when applied on full cost tariff, the methodology only suitable to the P&ED submitted ARR figures and giving **vitiating result** if adopted upon Commission derived Full Cost Tariff rate resulting into undesired additional subsidy than what was really needed. In the instant case, when applied on Commission **FCT figure of Rs.9.998/kwh** had given a subsidy amount close to Rs.192Crs while the needed subsidy was only **109.22Crs** after considering the finalized Tariff revision. If Rs.192crs of subsidy is to be adopted, then the existing tariff rates would be subjected to downward revision which is unwarranted under the prevailing inflationary scenario where every other cost element are on increasing trend. Consequently, after careful consideration by the Commission, the subsidy amount was limited to Rs.109.22Crs only under the above constrained situation in FY 2022-23. In future, the Government may carefully announce the subsidy allocation procedure only to eligible categories but not to undeserving categories. ***In view of the foregone, the Commission had to resort to revision of tariff so as to get the required additional revenue (i.e., Rs.24.50Crs) after considering the assured Government subsidy amount of Rs.109.22Crs.***

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. Keeping this in view, the Commission consciously considers the subsidy requirement for 2022-23 only to the extent of Rs.109.22 crore (Rupees One hundred and nine crores and twenty-two lakhs only) upon suitably revising the prevailing tariffs of FY 2021-22 at an average rate of increase of **6.78% (Six-point Seven Eight percent)** only in order to minimises burden to the consumers unnecessarily during FY 2022-23.

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-IV**). The State Government should release the above stated subsidy amount in Twelve (12) equal monthly instalments amounting to **Rs.910.17 lakhs (Rupees Nine hundred and Ten 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 any month in advance from the Government, the licensee shall adopt the applicable full cost tariff (FCT) rates indicated at **Table 8.3** while issuing the monthly energy bill for that relevant month/months. Detailed calculation of FCT is placed at **Annexure-V** for reference**.** A brief summary is tabulated below for reference.

Table 7.43: Full Cost Tariff based Estimated Revenue for FY 2022-23

Full Cost Tariff for 2022-23		Sales	Revenue	CPU
	LT Category	(MU)	Rs.Crs	Rs./kWh
1	Kutir Jyoti	7.92	7.04	8.88
2	Domestic	304.01	281.33	9.25
3	Non-Domestic	9.04	8.83	9.77
4	Commercial	37.70	43.28	11.48
5	Public Lighting	2.33	2.68	11.50
6	Public Water Works	0.87	1.00	11.47
7	Agriculture	0.07	0.06	8.75
8	LT Industrial	4.47	4.70	10.50
	Total LT	**366.41**	**348.91**	**9.52**
	HT Category	(MU)	Rs.Crs	Rs./kWh
9	Domestic	4.79	4.91	10.25
10	Non-Domestic	0.28	0.29	10.19
11	Commercial	11.10	12.86	11.59
12	Public Water Works	90.03	103.46	11.49
13	Agriculture	0.11	0.10	9.46
14	HT Industrial	6.11	6.42	10.51
15	Bulk Supply	16.16	17.92	11.09
	Total HT	**128.58**	**145.96**	**11.35**
LT & HT Total		**494.99**	**499.88**	**494.88**

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 7.44: Average Cost of electricity supply within Mizoram State for FY 2022-23

Sl. No	Particulars	Units	Proposed by P&ED	**Commission Approved**
1	Net overall ARR	Rs. Cr	751.42	512.65
2	Sale of surplus power revenue	Rs. Cr	38.34	17.77
3	Net ARR within the state (1-2)	Rs. Cr	713.08	494.88
4	**Govt. subsidy/ Support**	Rs. Cr	**277.55**	**109.22**
5	Net ARR after Govt. subsidy (3-4)	Rs. Cr	435.53	385.66
6	Energy sale within the state	MU	494.99	494.99
7	**Average Cost of Supply (3/6)**	Rs/KWH	**14.41**	**10.00**
8	Avg. rate of Revenue realisation (after subsidy) - (5/6)	Rs/KWH	8.80	7.79
9	**Avg. rate of Subsidy per unit (7-8)**	**Rs/kWh**	**5.61**	**2.21**

8 Tariff Principles and Design

8.1 Background

While determining the revenue requirement and in fixation of the retail supply tariff of the P&ED, Mizoram for the year 2022-23 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 2019-20. 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, 2020-21 and 2021-22 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 2022-23 that the tariffs fixed are within ± 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 for 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 2021-22. 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 2022-23 also.

Various categories proposed by P&ED for FY2022-23:
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-domestic LT 2 (b) Non-domestic HT

3 (a) Commercial LT 3 (b) Commercial HT

4 Public Lighting LT

5 (a) Irrigation & Agriculture-LT 5 (b) Irrigation & Agriculture-HT

6 (a) Public Water Works-LT 6 (b) Public Water Works-HT

7 (a) Industrial-LT 7 (b) Industrial-HT

8 Bulk Supply HT

8.2.2 Existing & Proposed Tariff

P&ED in its tariff petition for FY 2022-23 has proposed tariff revision to the prevailing two-part retail supply tariffs of FY 2021-22 to various categories of consumers to earn additional revenue of Rs.75.83 Crore to meet the huge revenue gap of Rs.277.55Crs partially.

The P&ED has proposed tariff revision for both Energy charges and Fixed Charges, which were in existence since 1.4.2021 at an overall tariff hike of 21.08% over the existing charges.

The summary of the tariff proposal by P&ED for FY 2022-23 is furnished in table below:

Table 8.1: Existing v/s Proposed Tariff for FY 2022-23 by P&ED

Sl. No.	Type of installation	Existing Charges		Proposed Charges	
		Energy (Rs./Month)	Fixed Charges (in Rs.)	Energy (Rs./Month	Fixed Charges (in Rs.)
		A	B	A	B
1	**Kutir Jyothi**				
i)	First 20 kWh	2.10/kWh	25/Connection	2.90/kWh	35/Connection
ii)	Balance above 20 kWh	3.15/kWh	25/Connection	3.80/kWh	35/Connection
2	**Domestic**				
A	LT				

Sl. No.	Type of installation	Existing Charges		Proposed Charges	
		Energy (Rs./Month)	Fixed Charges (in Rs.)	Energy (Rs./Month	Fixed Charges (in Rs.)
i)	First 100 kWh	4.80/kWh	50/Contracted Load in kW	5.10/kWh	60/Contracted Load in kW
ii)	Next 100 kWh	5.50/kWh	50/Contracted Load in kW	7.50/kWh	60/Contracted Load in kW
iii)	Balance above 200 kWh	5.90/kWh	50/Contracted Load in kW	9.50/kWh	60/Contracted Load in kW
B	HT	6.45/kVAh	50/Billing Demand in kVA	11.00/kVAh	60/Billing Demand in kVA
3	**Non-Domestic**				
A	LT				
i)	First 150 kWh	6.10/kWh	60/Contracted Load in kW	10.20/kWh	70/Contracted Load in kW
iii)	Balance above 150 kWh	6.25/kWh	60/Contracted Load in kW	10.60/kWh	70/Contracted Load in kW
B	HT	6.30/kVAh	60/Billing Demand in kVA	11.20/kVAh	70/Billing Demand in kVA
4	**Commercial**				
A	LT				
i)	First 150 kWh	6.80/kWh	80/Contracted Load in kW	10.80/kWh	95/Contracted Load in kW
iii)	Balance above 150 kWh	7.05/kWh	80/Contracted Load in kW	11.10/kWh	95/Contracted Load in kW
B	HT	7.10/kVAh	80/Billing Demand in kVA	11.20/kVAh	95/Billing Demand in kVA
5	**Public Lighting**	10.00/kWh	80/Contracted Load in kW	13.90/kWh	95/Contracted Load in kW
6	**Irrigation & Agriculture**				
A	LT	3.65/kWh	50/Contracted Load in kW	4.40/kWh	50/Contracted Load in kW
B	HT	3.60/kVAh	50/Billing Demand in kVA	4.30/kVAh	50/Billing Demand in kVA
7	**Public Water Works**				
A	LT	9.90/kWh	90/Contracted Load in kW	13.90/kWh	100/Contracted Load in kW
B	HT	9.80/kVAh	90/Billing Demand in kVA	11.80/kVAh	100/Billing Demand in kVA
8	**Industrial**				
A	Low Tension (LT)				
i)	First 400 kWh	5.80/kWh	80/Contracted Load in kW	10.00/kWh	90/Contracted Load in KW
ii)	Balance above 400 kWh	6.35/kWh	80/Contracted Load in kW	10.40/kWh	90/Contracted Load in KW
B	High Tension (HT)	7.05/kVAh	80/Billing Demand in kVA	10.80/kVAh	90/Billing Demand in KVA

Sl. No.	Type of installation	Existing Charges		Proposed Charges	
		Energy (Rs./Month)	Fixed Charges (in Rs.)	Energy (Rs./Month	Fixed Charges (in Rs.)
9	**Bulk Supply**	7.10/kVAh	90/Billing Demand in kVA	8.00/kVAh	100/Billing Demand in KVA

8.2.3 Tariffs Approved by the Commission

(a) Subsidized Tariff Approved for FY 2022-23

The Commission worked out the average rate to be **Rs.7.79/kWh** for FY 2022-23 upon adopting revision of the existing tariffs of FY 2021-22 on the basis of proposed number of consumers, load and energy consumption in the 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. 133.72 Crore** vide Para 7.8, Table-7.35 of Chapter–7, the Commission considers to revise the tariffs as subsidised under Telescopic billing with an average increase of **6.78%** as against the proposed hike in tariff at **21.08%** by P&ED is detailed below:

Table 8.2: Category wise Subsidised Tariff approved by the Commission for FY 2022-23

Sl. No.	Type of installation	Existing Tariff Rates		Approved Tariff Rates	
		Energy (in `)	Fixed (in `)	Energy (in `)	Fixed (in `)
		A	B	A	B
1	**Kutir Jyothi (KJ)**				
i)	First 20 kWh	2.50/kWh	25/Connection	2.55/kWh	25/Connection
ii)	Balance >20 kWh	3.15/kWh	25/Connection	3.55/kWh	25/Connection
2	**Domestic**				
A	Low Tension (LT)				
i)	First 100 kWh	4.80/kWh	50/kW of Contracted Load	4.90/kWh	50/kW of Contracted Load
ii)	Next 100 kWh	5.50/kWh	50/kW of Contracted Load	7.10/kWh	50/kW of Contracted Load
iii)	Balance > 200 kWh	5.90/kWh	50/kW of Contracted Load	8.20/kWh	50/kW of Contracted Load
B	High Tension (HT)	6.45/kVAh	50/kVA of Billing Demand	8.65/kVAh	50/kVA of Billing Demand
3	**Non-Domestic**				
A	Low Tension (LT)				

Sl. No.	Type of installation	Existing Tariff Rates		Approved Tariff Rates	
		Energy (in `)	Fixed (in `)	Energy (in `)	Fixed (in `)
i)	First 150 kWh	6.10/kWh	60/kW of Contracted Load	7.60/kWh	60/kW of Contracted Load
iii)	Balance > 150 kWh	6.25/kWh	60/kW of Contracted Load	8.30/kWh	60/kW of Contracted Load
B	High Tension (HT)	6.30/kVAh	60/kVA of Billing Demand	8.75/kVAh	60/kVA of Billing Demand
4	**Commercial**				
A	Low Tension (LT)				
i)	First 150 kWh	6.80/kWh	80/kW of Contracted Load	8.20/kWh	80/kW of Contracted Load
iii)	Balance > 150 kWh	7.05/kWh	80/kW of Contracted Load	8.45/kWh	80/kW of Contracted Load
B	High Tension (HT)	7.10/kVAh	80/kVA of Billing Demand	8.90/kVAh	80/kVA of Billing Demand
5	**Public Lighting**	10.00/kWh	80/kW of Contracted Load	11.35/kWh	80/kW of Contracted Load
6	**Public Water Works**				
A	Low Tension (LT)	9.90/kWh	90/kW of Contracted Load	11.10/kWh	90/kW of Contracted Load
B	High Tension (HT)	9.80/kVAh	90/kVA of Billing Demand	9.85/kVAh	90/kVA of Billing Demand
7	**Irrigation & Agriculture**				
A	Low Tension (LT)	3.65/kWh	50/kW of Contracted Load	3.80/kWh	50/kW of Contracted Load
B	High Tension (HT)	3.60/kVAh	50/kVA of Billing Demand	3.85/kVAh	50/kVA of Billing Demand
8	**Industrial**				
A	Low Tension (LT)				
i)	First 400 kWh	5.80/kWh	80/kW of Contracted Load	7.10/kWh	80/kW of Contracted Load
ii)	Balance > 400 kWh	6.35/kWh	80/kW of Contracted Load	8.05/kWh	80/kW of Contracted Load
B	High Tension (HT)	7.05/kVAh	80/kVA of Billing Demand	9.05/kVAh	80/kVA of Billing Demand
9	**Bulk Supply**	7.10/kVAh	90/kVA of Billing Demand	6.85/kVAh	90/kVA of Billing Demand

P.S:- The Bulk Supply category Tariff rate was compelled to be brought down from Rs.7.10/kVAh as the average cost of supply for the category was exceeding the ±20% of Rs.10.10/kWh (ACS) on observing the directions issued in the Tariff Policy of 2016. In order to adhere to that policy principle, it has been set a bit lower level than the existing rate. The influence to lower the tariff is due to lower energy consumption under this category and so the Commission had to take a call on this category tariff.

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 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 in detail 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 2022-23

Sl. No.	Consumer Category	Approved Full Cost Tariff (FCT)	
		Energy Charges (Rs/month)	Fixed Charges (Rs.)
1	Kutir Jyothi		
i)	First 20 kWh	7.62/kWh	25/Connection
ii)	Balance above 20 kWh	8.89/kWh	25/Connection
2	**Domestic**		
A	**Low Tension**		
i)	First 100 kWh	8.60/kWh	50/kW of Contracted Load
ii)	Next 100 kWh	8.99/kWh	50/kW of Contracted Load
iii)	Balance above 200 kWh	10.06/kWh	50/kW of Contracted Load
B	**High Tension**	8.48/kVAh	50/kVA of Billing Demand
3	**Non-Domestic**		
A	**Low Tension**		
i)	First 150 kWh	8.35/kWh	60/kW of Contracted Load
ii)	Balance above 150 kWh	9.27/kWh	60/kW of Contracted Load
B	**High Tension**	7.94/kVAh	60/kVA of Billing Demand
4	**Commercial**		
A	**Low Tension**		
i)	First 150 kWh	10.47/kWh	80/kW of Contracted Load
ii)	Balance above 150 kWh	10.58/kWh	80/kW of Contracted Load

Sl. No.	Consumer Category	Approved Full Cost Tariff (FCT)	
		Energy Charges (Rs/month)	Fixed Charges (Rs.)
B	**High Tension**	9.48/kVAh	80/kVA of Billing Demand
5	**Public Lighting**	11.11/kWh	80/kW of Contracted Load
6	**Public Water Works**		
A	Low Tension	11.11/kWh	90/kW of Contracted Load
B	High Tension	9.29/kVAh	90/kVA of Billing Demand
7	**Irrigation & Agriculture**		
A	Low Tension	7.72/kWh	50/kW of Contracted Load
B	High Tension	7.50/kVAh	50/kVA of Billing Demand
8	**Industrial**		
A	**Low Tension**		
i)	First 400 kWh	8.90/kWh	80/kW of Contracted Load
ii)	Balance above 400 kWh	10.75/kWh	80/kW of Contracted Load
B	**High Tension**	8.52/kVAh	80/kVA of Billing Demand
9	**Bulk Supply**	5.94/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: Segregated of Wires and Retail Supply costs for FY 2022-23 by P&ED

(Rs. Crs)

Sl. No.	Particulars	FY 2022-23	FY 2022-23
		Total	Wheeling
1	2	3	4
1	Cost of Power Purchase	468.61	0.00
2	Cost of Generation	3.15	0.00
3	Cost of Fuel	0.01	0.00
4	Employee Cost	152.98	91.79
5	Administration & General Expenses	5.16	2.58
6	Repair & Maintenance Expenses	10.18	9.16
7	Transmission charges	56.78	0.00
8	Intra- state Transmission Charges	51.45	0.00
9	Interest & Finance Charges	0.46	0.41
10	Interest on Working Capital	6.53	0.65
11	Interest on Consumer Security Deposit	0.61	0.06
12	Return on Equity	0.00	0.00
13	Provision for Bad Debt	0.00	0.00
14	Depreciation	2.82	2.54
15	Contribution to Contingency Reserve Fund	3.89	3.89
16	**Revenue Requirement**	**762.6**	**111.08**
17	Non-Tariff Income	11.20	1.12
18	**Net Revenue Requirement**	**751.42**	**109.96**

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 9.3: ARR of wheeling business approved by the Commission for FY 2022-23

Sl. No.	Particulars (FY 2021-22)	Total ARR	Wires Business	Retail Supply business	Wires ARR	Retail Supply ARR
A	Expenditure	Rs.Crs	(%)	(%)	Rs.Crs	Rs.Crs
1	Cost of Generation	3.34	0%	100%	0	3.34
2	Cost of fuel	0.00	0%	100%	0	0.00
3	Cost of power purchase	358.72	0%	100%	0	358.72
4	Inter-State Transmission Charges	56.78	0%	100%	0	56.78
5	Intra-State Transmission charges	7.25	0%	100%	0	7.25
6	**O&M Expenses**	**151.31**			**93.32**	**57.98**
	Employee Expenses	135.97	60%	40%	81.58	54.38
	Repair & Maintenance expn.	10.18	90%	10%	9.16	1.02

Sl. No.	Particulars (FY 2021-22)	Total ARR	Wires Business	Retail Supply business	Wires ARR	Retail Supply ARR
	Administrative & General Expn	5.16	50%	50%	2.58	2.58
7	Depreciation	0.00	90%	10%	-	-
8	Interest on Loan	0.00	90%	10%	-	-
9	Interest on Working Capital	0.00	10%	90%	-	-
10	Interest on consumer Security Deposit	0.00	**10%**	**90%**	-	-
11	Contribution to Contingency Reserve	2.72	100%	0%	2.72	-
12	Provision for bad debts	0	0%	100%	-	-
13	Return on Equity	0	90%	10%	-	-
14	Income Tax	0	90%	10%	-	-
	Total Gross ARR - (A)	**580.11**			**96.04**	**484.07**
B	Less: Non-Tariff Income	11.20	10%	90%	1.12	10.08
	Less: Efficiency Gains	15.13	0%	100%	-	20.13
	Less: 1/3rd of surplus in FY 20-21	36.13	0%	100%	-	36.13
	Deductions total – B	**62.46**			**1.12**	**66.34**
Net Aggregate Revenue Requirement (A-B)		**517.65**			**94.92**	**417.73**

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. 4: Wheeling Tariff filed by the P&ED and approved by Commission

Sl. No.	Particular (2022-23)	As per P&ED	Commission Approved
1	ARR for wheeling function (Crs)	109.96	94.92
2	Total Energy sold (MU)	494.99	494.99

3	Wheeling Tariff (Rs. /Unit)	2.22	1.917

The P&ED estimated the wheeling Tariff at Rs.2.22/kWh, while the Commission has approved these wheeling charges at Rs.1.917/kWh for FY 2022-23.

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 a financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified. This provision in 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 terms and conditions for levy of FPPCA. Accordingly, the Commission has directed the distribution licensee to recover the FPPCA charges as per the formula specified below.

$$\text{FAC (Rs./kWh)} = \frac{Q_c(RC_2 - RC_1) + Q_0(RO_2 - RO_1) + Q_{pp}(R_{Pp2} - R_{pp1}) + V_z + A}{(QP_{g1} + Q_{pp1} + Q_{pp2}) \times \left[1 - \frac{L}{100}\right]} \times 100$$

Where,

Q_c	=	Quantity of coal consumed during the adjustment period in Metric Tons (MT).
	=	(SHR X Q_{pg}) (1+TSL)/GCV, or actual whichever is less.
R_{c1}	=	Weighted average of base rate of coal supplied ex-power station coal yard as approved by the Commission for the adjustment period in Rs./MT
R_{c2}	=	Weighted average of 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 of base rate of oil ex-power station (Rs./KL) approved by the Commission for the adjustment period.
R_{o2}	=	Weighted average of actual rate of oil ex-power station supplied (Rs. / KL) during the adjustment period.
Q_{pp}	=	Total power purchased from different sources (kWh) = Qpp2+Qpp3

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 of 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 of Transit and Stacking Loss as approved by the Commission
GCV	=	Weighted average of 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 factors not envisaged at the time of Tariff fixation as approved by the Commission (Rs.)
A	=	Adjustment, if any, to be made in the current period for any excess / shortfall in recovery of fuel of Power Purchase cost in the past adjustment period, as approved by the Commission (Rs.)

PSE = Power sold to exempted categories (Presently Agriculture, BPL & Kutir Jyoti Consumers are covered).

If there are more than one power stations owned by the Licensee Qc, Rc1, Rc2, Qo, Ro1, Ro2, Qpg and Qpg1 the cost will be computed separately for each power station and the sum of the increase/ decrease in cost of all power stations shall be taken into consideration. Discom can levy FPPCA charges with prior approval of the Commission. Levy of FPPCA charges which shall be subject to the following terms and conditions detailed here under.

10.2 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 to the consumer, as the case may be, compared to the approved fuel costs and power purchase costs in this Tariff Order.

2) The operational parameters / norms fixed by the Commission in the Tariff Regulations / Tariff Order shall be the basis of calculating FPPCA charges.

3) The FPPCA will be recovered every month in the form of an Incremental energy charge (Rs/kWh) in proportion to the energy consumption and shall not exceed 10% of the approved avg. cost of supply in the Tariff order and balance amount, if any, in the FPPCA over and above the ceiling shall be carried forward to be included in the subsequent month.

4) Incremental cost of power purchase due to deviation in respect of generation mix or power purchase at higher rate shall be allowed only if it is to the satisfaction of the Commission.

5) Any cost increase by the licensee by way of penalty, interest due to delayed payments, etc. due to operational inefficiencies shall not be allowed.

6) FPPCA charges shall be levied on all categories of consumers.

7) Distribution licensee shall file detailed computation of actual fuel cost in Rs/kWh for each month for each of the power stations in the state 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 through an affidavit supported with the certified copy of energy bills of power purchase, transmission charges, RLDC charges, 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 up to a maximum ten (10) paise per unit. If it is less than 10 (ten) paise/unit, the same shall be carried forward for adjustment in the next month.

10) The Incremental cost per kWh due to the FPPCA arrived at for a 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 to be billed.

11) The Generating Company and the Distribution Companies shall provide along with the proposal of FPPCA (as applicable to them) for a month, a compliance report of the previous order of the Commission in respect of levy of FPPCA.

12) Any amendment/enhancement in retail supply tariff during the on account of any fuel surcharge adjustment (i.e., FPPCA) shall not construed as revision in Tariff which is as per the provisions of Sec 62(5) of E. Act 2003.

11 Transmission function Aggregate Revenue Requirement for FY 2022-23

11.1 Introduction

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 projected by the P & ED for 2022-23 is as given in the succeeding paragraphs.

11.2 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 the FY 2022-23 is as given in the succeeding paragraphs.

Table 11.1: Power Availability sources/ share excluding own generation for FY 2022-23

Sl. No.	Source	Plant Capacity (MW)	Licensee's Share in %	Licensee's Share in MW
A	Central Generating Stations			
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
	NTPC-Total	4190		45.487
II	NHPC			
	Loktak HEP	105	5.020	5.271
	NHPC-Total	105		5.271
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
	NEEPCO-Total	1351		130.027
IV	TSECL			
	B'mura - IV	21	25.00	5.250
	B'mura - V	21	25.00	5.250
	TSECL-Total	42		10.500
V	OTPC			
	Palatana	726	3.030	22.000
	OTPC-Total	726		22.000
VI	Amazon Engineering			
	Khawiva HEP	1.05	100.00	1.050
	Tuipui HEP	0.5	100.00	0.500
	Teirei HEP	3.00	100.00	3.000
	KauTlabung HEP	3.00	100.00	3.000
	Amazon Engineering-Total	7.55		7.550
VII	**Total**	**6421.55**		**220.835**

Table 11.2: 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	Maicham-I	2.00
4	Tuipanglui	3.00
5	Lamsial	0.50
6	Maicham-II	3.00
7	Serlui 'B'	12.00
Tot		**21.80**

To transmit power within the State, P&ED has the following transmission network:

Table 11.3: Estimated Transmission Network position for FY 2022-223

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	838	42	--	880
2	66 kV	123	6	--	129
3	33 kV	1636	33	--	1669
4	33/11 kV SS	68	1	--	69
5	(33/11KV) PTs	88	2	--	90

11.3 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 inadequate metering equipment. Therefore, State Transmission losses has been calculated on the basis of the net input energy in the State Transmission System periphery.

The table below provides the calculation of transmission loss for 2022-23.

Sl. No.	Description	Unit (MU)/ %	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Energy available at State Trans. Grid including local generation	MU	601.25	615.20	-13.95
2	Transmission Loss % (as approved in Tariff Order)	%	3%	2%	1%
3	Transmission Loss (1 X 2)	MU	18.04	12.30	5.73
4	Net Energy available for sale at Transmission level (1 - 3)	MU	**583.21**	**602.90**	**-19.69**

Commission Analysis:

The above tabulated data match with the Distribution ARR filed transmission energy input or its losses quantity with small variation. The detailed working as was made by the Commission in this matter is provided at the energy balance table of Distribution ARR chapter for FY 2022-23 after adjusting the power purchase quantities from Various stations as per their requirement.

Sl. No.	Description	Unit (MU)/ %	Proposed by P&ED	Commission approved
1	Energy available at State Trans. Grid including local generation	MU	615.20	614.67
2	**Transmission Loss** % (as approved in Tariff Order)	%	2%	2%
3	Transmission Loss (1 X 2)	MU	**12.304**	**12.29**
4	Net Energy available for sale at Transmission level (1 - 3)	MU	602.896	602.38

The Commission accordingly approves transmission loss of 12.29MU (with loss percentage at 2.00%) for FY 2022-23 while 2% of transmission loss projected by P&ED for this year instead of last year proposed 3%.

11.4 Capital Expenditure & Capitalization

P&ED has undertaken significant capital expenditure during the previous year and has plans to implement schemes for development of infrastructure during the FY 2022-23. 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.

11.5 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 expenses are discussed in detail here under.

11.6 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

In view of the above submission by the Licensee, the Commission too has not considered any ROE for transmission function for FY 2022-23 as has been following as an adopted convention even in the earlier years as the same is dealt in the distribution part.

11.7 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.

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

In view of the above submission by the Licensee, the Commission too has not considered any Interest and Finance charges for transmission function in FY 2022-23 as has been following as an adopted as a convention even in the earlier years as the same is dealt in the distribution part.

11.8: Gross Fixed Assets and Depreciation

11.8.1 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.

The GFA movement as approved by the Hon'ble Commission & proposed by the P&ED is given in the table below:

Table 11.4: GFA for FY 2022-23 projected by P & ED

(Rs. Cr)

FY 2022-23	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
Opening Balance	632.11	448.51	183.60
Addition during year	11.49	11.49	0.00
Closing Balance	643.60	460.00	183.60

Commission's analysis

The Opening balance of transmission functional break-up as per FY 2019-20 audited balance sheet is only 80.8769 Crs and hence it can't be Rs. 448.51 crs in 2022-23 without any extraordinary capital additions stated in ARR submission anywhere as tabulated above. Besides, as seen from the form-F2b (Investment Plan-Master) the transmission related investment during 2022-23 is only Rs.61.77Crs, leaving aside Rs.75crs for others. Hence, the

additions during the year at Rs.11.49crs is also not possible without any supportive details.

The Commission can't approve the growth of GFA for FY 2022-23 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 frowned by 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 2020-21 onwards as a beginning in this matter.

11.8.2 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.

The Depreciation as approved by the Hon'ble Commission & proposed by the P&E D is given in the table below:

Table 11.5: Depreciation for FY 2022-23 projected by P & ED

(Rs. Cr)

FY 2022-23	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
Opening GFA	632.11	448.51	183.60
Additions During the Year	11.49	11.49	0.00
Closing GFA	643.60	460.00	183.60
Average GFA	637.86	454.26	183.60
Average Rate of Depreciation	3.89	3.88	0.01
Total Depreciation	24.81	17.64	7.17
10% of Total Depreciation	2.48	1.76	0.72

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 11.6: Depreciation for FY 2022-23 for Transmission function approved by the Commission

(Rs. Cr)

Particulars	Approved T. O. dt : 12.03.2018	Proposed by P&ED	Approved by Commission
Opening GFA	632.11	448.51	178.3845
Additions during the Year	11.49	11.49	31.0535
Closing GFA	643.60	460.00	209.438
Average GFA	637.86	454.26	**193.9113**
Average Rate of Depreciation	3.89%	3.88%	3.366%
Total Depreciation	24.81	17.64	6.527
10% of Total Depreciation	2.48	1.76	**0.65**

However, the Commission accordingly calculated depreciation for FY 2022-23 at Rs.0.65 Crs after making adjustment to the opening balance as indicated in the 2022-23 balance sheet transmission figure.

Since the Capital subsidy received so far by the Entity is twice the GFA possessed as per the Audited balance sheet of FY 2020-21 and the detailed calculation for above shown in Distribution ARR for depreciation. In view of the above, the depreciation can't be considered in the absence of investing own funds even in transmission also. **Hence Nil Depreciation is accorded.**

11.9 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 allocation matrix was already provided in the Tariff Petition.

The details of operation & maintenance expenses viz. Employee Expenses, Administration & General Expenses & Repairs & Maintenance Expenses are provided in the subsequent sections.

11.9.1 Employee Expenses

The expense head of employee cost consists of salary and allowance, bonus, Leave Travel Concession (LTC) & Honorarium etc. The Employee Expenses as approved by the Hon'ble Commission & proposed by the P&ED is given in the table below.

Table 11.7: Employee Expenses projected by P&ED for FY 2022-23

Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
Employee Expenses	25.94	39.07	-17.77

Commission Analysis:

Since, the P&ED department categorically reported in their Distribution ARR filings for FY 2020-21 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 in FY2022-23 to curtail duplication of the same expenditure and to avoid burdening the consumers without any reason. **Moreover, in the past P&ED was initially claiming Transmission ARR and later on it claims all cost elements only under Distribution function itself and discarding the earlier ARR amount preferred. This means the ARR filing for Transmission is done as a ritual for the sake of it to file an ARR only.**

However, the Commission allows NIL employee expenses for FY 2022-23 through transmission ARR as it will be loaded in the Distribution ARR and allowing here amounts to duplication of the same expenditure element and hence curtailed. Besides, there are no projection for this item in Generation specifically and in the case of Transmission the estimation was at 20% proportion compared to Distribution employee cost at 70% is illogical since transmission employee cost is not basing on number of employees. The approved amount is given to the entire entity of P&ED as a whole.

11.9.2 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. The A&G Expenses as

approved by the Hon'ble Commission & proposed by the P&ED is given in the table below.

Table 11.8: Administrative and General Expenses projected by P&ED for FY 2022-23

(Rs. Cr)

Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
Administration & General Expenses	1.49	1.47	0.02

Commission's analysis

The Commission approves Administration and General Expenses for FY 2022-23 at Rs. 1.47Cr as projected by P & ED.

11.10 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. The R&M Expenses as approved by the Hon'ble Commission & proposed by the P&ED is given in the table below.

Table11.9: Repair and Maintenance expenses projected by P&ED for FY 2022-23

(Rs. Cr)

Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
Repair & Maintenance Expenses	7.18	5.33	1.85

Commission's analysis

The Commission approves R & M expenses for FY 2022-23 at Rs. 5.33 Cr as projected by the P&ED as detailed in the table below.

Table 11.10: Summary of O & M expenses for FY 2021-22 approved by the Commission

(Rs. Crore)

Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Commission Approved
Employee Expenses	25.94	39.07	nil
Administration & General Expenses	1.49	1.47	1.47
Repair & Maintenance Expenses	7.18	5.33	5.33
Total O&M Expenses	**34.61**	**45.87**	**6.80**

11.11 Interest on Working Capital

Petitioner's submission

The P&ED has computed the Interest on Working Capital for the FY 2022-23 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. The Interest on Working Capital as approved by the Hon'ble Commission & proposed by the P&ED is given in the table below.

Table 11.11: interest on Working Capital projected by P & ED for FY 2022-23

(Rs. Cr)

Sl. No.	Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	O&M Exp for 1 Month	2.88	4.21	-1.33

Sl. No.	Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
2	Maintenance Spares @1% of Historical Cost escalated @6% from COD	6.70	4.75	1.95
3	One Month Receivables	3.24	4.29	-1.21
4	Total	12.82	11.76	-0.70
5	Rate of Interest	14.05%	12.15%	0.02
6	**Interest for the Year**	**1.80**	**1.52**	**0.04**

Commission's Analysis

P & ED has worked out the Interest on working capital considering SBAR at 12.15% for this purpose though no such loans were availed so far for this purpose. Hence Commission disapproves Interest on Working Capital of Rs. 1.52 Crs for FY 2022-23 though projected by P&ED as there are no short-term loans proposed to draw during the year to claim this element and it would be considered only on actually availing Short-term loans.

11.12 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 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 detail of appropriation to the Contingency Reserve is provided in the table below.

Table 11.12: Contribution to Contingency Reserve Fund

(` In Crores)

FY 2022-23	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Commission Apprvd
Opening GFA	632.11	448.51	178.38
Additions During the Year	11.49	11.49	0.00
Closing GFA	643.60	460.00	178.3845

Rate	0.50	0.50	0.25%
Total Contribution to Contingency Reserve Fund	0.00	2.30	0.446

As per the regulation, for the purpose of contribution to contingency Reserve fund, the rate @0.25% on the Opening value of OCFA is to adopted but not on the average balance. Now the contribution to Contingency Reserve Fund approved for 0.446Crs only taking @ 0.25% instead of 0.5% as proposed by the Licensee.

11.13 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 2022-23.

Commission's Analysis

P & ED is an integrated utility. As such Non- Tariff income is being 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 for FY 2022-23.

11.14 Aggregate Revenue Requirement

Based on the approved expenses the ARR for transmission function approved by the Commission for FY 2022-23 is given in table below.

Table 11.13: Aggregate Revenue Requirement filed by the P&ED for FY 2022-23

(Rs. Cr)

Sl. No.	Particulars	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Return on Equity	0.00	0.00	0.00
2	Interest & Finance Charges	0.00	0.00	0.00
3	Depreciation	2.48	1.76	0.72
4	O&M Expenses	34.61	45.87	-15.90
5	Interest on Working Capital	1.80	1.52	0.04
6	Contribution to Contingency Reserve Fund	0.00	2.30	-2.30
7	Non-Tariff Income	0.00	0.00	0.00
8	Income from Other Business	0.00	0.00	0.00
	Total	**38.89**	**51.45**	**-14.47**

P&ED requests the Hon'ble Commission to kindly consider the submission and approve the ARR for the FY 2021-22 in accordance with the Joint Electricity Regulatory Commission for Manipur and Mizoram (Multi Year Tariff) Regulations, 2014.

Commission Analysis:

Table-11.14: - Transmission ARR approved by Commission for FY 2022-23

(Rs. Crores)

Sl. No.	Particulars	Proposed by P&ED	Commission approved
1	Return on Equity	0.00	0.00
2	Interest & Finance Charges	0.00	0.00
3	Depreciation	1.76	0.00
4	O&M Expenses	50.51	6.80
5	Interest on Working Capital	1.52	0.00
6	Contribution to Contingency Reserve	2.30	0.446
7	Non -Tariff Income	0.00	0.00
8	Income from Other Business	0.00	0.00
	Total	**51.45**	**7.246**

11.15 Transmission Charges

Petitioner's submission

Based on the above projections, the ARR for the transmission function of P&ED for the FY 2022-23 works out as under:

Sl. No.	Particulars	Unit	Approved in T. O. dated 12.03.2018	Proposed by P&ED
1	Aggregate Revenue Requirement	` in Crores		51.45
2	Total MW allocation	MW		242.64
3	Total transmitted energy (less: external loss)	MU		602.90
4	Transmission Charges	`/MW/Month		176705.58
5	Transmission Charges	`/MW/Day		5809.50
6	**Transmission Tariff**	`/kWh		**0.85**

Commissions Analysis

The Commission has calculated the transmission tariff with approved data as detailed in the table below.

Table11.14: Transmission charges approved by the Commission for FY 2022-23

Rs.Crs

Sl. No	Particulars	Unit	FY 2021-22
1	**Aggregate Revenue Requirement**	**Rs. Cr**	**7.246**
2	Total MW allocation	MW	242.635
3	Total transmitted energy (less: trns. Losses)	MU	**602.38**
4	**Transmission charges**	**Rs./MW/Month**	**24886.49**
5	**Transmission charges**	**Rs./MW/Day**	**818.186**
6	**Transmission Tariff**	**Rs/kWh**	**0.1168**

12 ARR of Generation Function for FY 2022-23

12.1 Background

The Power & Electricity Department, Government of Mizoram owns **4** Small Hydro Projects with installed capacity below 25 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 petition for approval of Generation Charges for the FY 2022-

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

12.2 Details of SHPS (Small Hydro Power Stations)

Details of Own SHPS are provided in the table below.

Table12. 1: Details of Small Hydro Power Station projected by P & ED for FY 2022-23

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	Maicham-I	2.00	05.01.1996
4	Tuipanglui	3.00	17.12.2004
5	Lamsial	0.50	26.08.2008
6	Maicham-II	3.00	11.11.2009
7	Serlui 'B'	12.00	Not yet Commissioned
	Grand Total	**21.80**	

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 from Own Generation does not include in Own Generation.

However, P&ED has procured the energy generated from the above SHPs and has incorporated the same in the power purchase for the year.

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 hereof 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 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.

12.3 Aggregate Revenue Requirement

- This section outlines the Aggregate Revenue Requirement of the P&ED for the FY 2022- 23. 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

(1) Regulation 28 of the JERC for Manipur & Mizoram (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2010 read with First Amendments Regulations 2014, 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:

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

a = Constant to be determined by Commission from time to time, (In default it is 0.6), for weight age to Steel Index

b = Constant to be determined by Commission from time to time, (In default it is 0.4), for weight age 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)	2017-18	
ii	SI(n-1)	2016-17	105.80
iii	SI(0)	2011-12	100.00
iv	EI (n-1)	2016-17	108.20
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)		550.00

d(n) = [a*{(SI(n-1)/SI(0))-1}+b*{(EI(n-1)/EI(0))-1}]/(a+b)

= [0.6{(105.80/100.00)-1}+0.40{(108.20/100.00)-1}]/(0.60+0.40)

= **0.068**

P&M(n) = P&M(0)*{1+d(n)}

= 550{1+ 0.068}

= **587.18**

CC(n) = P&M(n)*(1+F1+F2+F3)

= 587.18(1+0.40)

= **822.05**

Therefore, the indexed cost of project per MW is **Rs. 822.05 Lakhs**. The indexed capital costs of the 10 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 (@ `822.05 Lakhs/MW)
1	Serlui 'A'	1.00	8.22
2	Tuipanglui	3.00	24.66
3	**Tuirivang**	**0.30**	**2.47**
4	**Maicham-I**	**2.00**	**16.44**
5	**Lamsial**	**0.50**	**4.11**
6	**Maicham-II**	**3.00**	**24.66**
	Grand Total	**9.80**	**80.56**

Commission's Analysis

P&ED in its additional information has furnished that **Serlui A and Tuipanglui are not in operation**. Barring the above only four stations are in-operation, therefore Commission considers Capital costs of the balance (4) four Hydro stations 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 2022-23

(Rs. Crs)

Sl. No.	Name of Station	Installed Capacity (MW)	Capital Cost (@ Rs. 822.05 Crs/MW)
1	Tuirivang	0.30	2.47
2	Maicham-I	2.00	16.44
3	Lamsial	0.50	4.11
4	Maicham-II	3.00	24.66
	Grand Total	**5.80**	**47.68**

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 in FY 2022-23.

12.5.2 O & M expenses

Petitioner's Submission

The Operation and Maintenance Expenses of the SHPs as approved by the Hon'ble Commission and proposed by the P&ED for FY 2022-23 is given below:

Table12. 7: Operation and Maintenance Expenses for FY 2022-23

(Rs. Cr)

Sl. No.	Name of Station	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Serlui 'A'	--	--	--
2	Tuirivang	0.00	0.13	-0.13
3	Maicham-I	0.87	0.87	0.00
4	Tuipanglui	0.00	--	--
5	Lamsial	0.22	0.22	0.00
6	Maicham-II	1.31	1.31	0.00
	Total	**2.40**	**2.53**	**-0.13**

Table12.8: O & M expenses approved by the Commission for FY 2022-23

(Rs. Cr)

Sl. No	Name of Station	Capacity (MW)	FY2022-23	50% of the O&M Expenses
1	Serlui	0.00	--	0.00

Sl. No	Name of Station	Capacity (MW)	FY2022-23	50% of the O&M Expenses
2	Tuirivang	0.30	0.00	---
3	Maicham-I	2.00	0.870	0.435
4	Tuipanglui	0.00	--	---
5	Lamsial	0.50	0.22	0.110
6	Maicham-II	3.00	1.31	0.655
	Total	**5.80**	**2.400**	**1.200**

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.

The Commission approves the full O&M expenses at Rs. 2.40Crs 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.1.20Crs 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.1.67Crs instead of allowing it under the power purchase cost. Therefore, the overall O&M expenses allowed is Rs.2.87Crs (i.e., `1.20crs plus `1.67crs towards O&M maintenance cost of four stations managed by Amazon Engineering).

12.5.3 Depreciation

Petitioner's Submission

The depreciation of the SHPs as approved by the Hon'ble Commission and proposed by the P&ED is given below:

Tables 12. 9: Calculation of Depreciation for FY 2022-23 projected by P & ED Mizoram

(Rs. Cr)

Sl. No.	Name of Station	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Serlui 'A'	0.00	--	--
2	Tuirivang	0.00	--	--
3	Maicham-I	0.02	0.02	0.00
4	Tuipanglui	0.00	--	--
5	Lamsial	0.00	--	--
6	Maicham-II	0.03	0.03	0.00
	Total	**0.05**	**0.06**	0.00

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 2016. 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.

Table 12. 10: Calculation of Depreciation by the Commission and approved for FY 2022-23

(Rs. Cr)

MWs	Name of Station	Date of COD	Capital Cost (Crs)	No. of Years since COD	Balance useful Life	Depreciation rate adopted		Depreciation for FY2022-23
						Upto 12th year	From 13th Year	
1.00	Serlui-A	24.04.1984	8.2205	38	0	0%	0%	0.00
0.30	Tuirivang	14.08.1989	2.46615	33	2	5.83%	0.87%	0.00 (*)
2.00	Maicham-I	05.01.1996	16.441	26	9	5.83%	0.87%	0.0143
3.00	Tuipanglui	05.05.2005	24.6615	17	18	0%	0.87%	0.00 (*)
0.50	Lamsial	26.08.2008	4.1103	14	21	5.83%	0.87%	0.00 (#)
3.00	Maicham-II	11.11.2009	24.6615	13	22	5.83%	0.87%	0.0215
9.80	**Total**		**80.5609**					**0.0358**

(*) – **Not in Operation, (#) – Not claimed.**

Therefore, Commission approves depreciation for six HEPs at Rs. 0.358 Crore for FY 2022-23 being the 10% of the full depreciation on account of major Government funds to create assets.

12.5.4 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 financial year.

Commission's Analysis

Under the circumstances explained supra the Commission has not considered return on equity during FY 2022-23. The Commission approves ROE at Rs. NIL for FY 2022-23.

12.5.5 Interest on Working Capital

Petitioner's submission

Interest on working capital as approved by the Hon'ble Commission & proposed by the P&ED is given in the table below:

Table 12. 11: Interest on Working Capital for the FY 2022-23 projected by P & ED

(Rs. Cr)

Sl. No.	Name of Station	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Serlui 'A'	0.00	0.00	0.00
2	Tuirivang	0.00	0.01	-0.01
3	Maicham-I	0.05	0.04	0.01
4	Tuipanglui	0.00	0.00	0.00
5	Lamsial	0.01	0.01	0.00
6	Maicham-II	0.08	0.07	0.01
	Total	**0.14**	**0.13**	**0.00**

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 for FY 2022-23 due to non-

availing of short-term loans by the Licensee not even in one occasion and any approval of this item would only burden the consumers unduly.

12.5.6 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 6 SHPs.

Table 12. 12: Annual Revenue Requirement projected by P&ED for FY 2022-23

(Rs. Cr)

Sl. No.	Name of Station	Approved in T. O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Serlui 'A'	0.00	--	--
2	Tuirivang	0.00	0.14	-0.14
3	Maicham-I	0.94	0.93	0.01
4	Tuipanglui	0.00	--	--
5	Lamsial	0.24	0.24	0.00
6	Maicham-II	1.42	1.41	0.01
	Total	**4.74**	**2.71**	**2.02**

Commission's analysis

Considering the approved expenses for the above six stations the consolidated ARR approved by the Commission is as detailed below in the table.

Table 12. 13: Annual Revenue Requirement approved by the Commission for FY 2022-23

(Rs. Crores)

Head of Expense	Serlui-A	Tuirivang	Maicham-1	Tuipanglui	Lamsial	Maicham-2	Total
O&M Expenses	0.00	0.00	0.435	0.00	0.110	0.655	**1.200**
Return on Equity	0.00	0	0	0	0	0	**0**
Interest on Loan	0.00	0	0	0	0	0	**0**
Depreciation	0.00	0.00	0.0143	0.00	0.00	0.0215	**0.0358**
Interest on Working Capital	0.00	0	0	0	0	0	0
Sub Total	**0.00**	**0.00**	**0.4493**	**0.00**	**0.110**	**0.6765**	**1.2358**
O&M Expenses for amazon Engineering maintained four station							**1.6700**

Therefore, Commission approves the adjusted ARR for the above six generating stations at Rs. 2.9058 Cr for FY 2022-23 as detailed supra.

12.5.7 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 approved 6 SHPs at the CUF of 45% is provided in the table below: Generation of 4 SHP at the CUF of 45% is provided in the table below:

Table 12. 13: Total Generation from four plants

Sl. No.	Name of Station	Installed Capacity (MW)	Generation at 45% CUF
1	Tuirivang	0.30	1.183
2	Maicham-I	2.00	7.884
3	Lamsial	0.50	1.971
4	Maicham-II	3.00	11.826
	Total	**5.80**	**22.864**

Commission's Analysis

The Commission approved gross generation from the above four stations at 21.681 MU for FY 2022-23 before auxiliary consumptions of 1% to arrive at Net generation leaving NIL generation from Tuirivang HEP.

12.5.8 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 for FY 2022-23 is calculated in the table below:

Table 12. 15: Normative Auxiliary Consumption projected by P & ED

Sl. No.	Name of Station	Generation at 45% CUF	Auxiliary Consumption @1%	Net Generation
1	Tuirivang	1.183	0.012	1.171
2	Maicham-I	7.884	0.079	7.805
3	Lamsial	1.971	0.020	1.951
3	Maicham-II	11.826	0.118	11.708
	Grand Total	**22.864**	**0.229**	**22.635**

Commission's analysis

The Commission approves auxiliary consumption of 0.229MU and net generation of 21.464MU for the four (4) stations in operation for FY 2022-23 without considering any generation from Tuirivang HEP as there was no claim for depreciation and ROE for this except the usual claim of O&M and Interest on working capital. When the depreciation claim is zero, it indicates that the station is not under operation and the life of plant is nearing completion.

12.5.9 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 the 4 SHPs for the FY 2022-23 is provided in the table below:

Table 12. 16 Tariff for Generation projected by P & ED

Sl. No.	Name of Station	Net Generation (In Mus)	ARR (`Crores)	Tariff
1	Tuirivang	1.171	0.14	1.20
2	Maicham-I	7.805	0.93	1.20
3	Lamsial	1.951	0.24	1.21
4	Maicham-II	11.708	1.41	1.20
	Grand Total	**22.635**	**2.72**	**1.2017**

Commission's Analysis

Tariff for generation for the above four (4) stations for FY 2022-23 is considered as detailed in the table below.

Table 12. 17: Tariff for Generation approved by the Commission for 2022-23

Sl. No.	Name of Station	Net Generation (in Mus)	ARR (`Crores)	Tariff (Rs./kWh)
1	Tuirivang	nil	0.0000	---
2	Maicham-I	7.805	0.4493	0.5756
3	Lamsial	1.951	0.1100	0.5638
4	Maicham-II	11.708	0.6765	0.5778
	Grand Total	**21.464**	**1.2358**	**0.5757**

12.5.10 TARIFF FOR THE ENERGY SUPPLIED FROM SERLUI 'B' SHP

The Serlui- 'B' SHP is generating in-firm 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 12.18: Energy Generation from Serlui 'B':

(In Mus)

Generation Details of Serlui 'B'				
Sl. No.	**Name of Station**	**MYT T. O. Dt: 12.03.2018**	**Proposed by P&ED**	**Deviation**
1	Gross Generation	47.30	4.270	43.03
2	Auxiliary Consumption	0.95	0.180	0.77
3	**Net Generation**	**46.35**	**4.090**	**42.26**

Commission Analysis:

Considering the Performance achieved by this plant in FY 2019-20, 2020-21 & 2021-22 which is still to be commissioned and even in the energy projections for the FY 2022-23 also the licensee had expected same energy as that was in FY 2018-19 & 2019-20, the Commission feels it appropriate to take the same quantum for this purpose. Accordingly, the Gross energy and net energy as adopted by the Licensee in the ARR for FY 2022-23 is considered so as to have the overall net generation as **25.554MU (21.464+4.09)** after considering the generation Output of Serlui-B station also.

Energy Charges

Rate of energy charge has been considered as `1.06 per unit as approved by the Hon'ble Commission in the Tariff Order dated 12.03.2018. The total energy charge for the FY 2022-23 has been provided accordingly. The table below provided the details of energy charges.

Table 12.19: Energy Charges for Serlui 'B':

(In `Crores)

Energy Charges for Serlui 'B'				
Sl. No.	**Name of Station**	**Approved in T. O. dated 12.03.2018**	**Proposed by P&ED**	**Approved by Commission**
1	Net Generation (MU)	46.35	4.09	4.09
2	Rate	1.06	1.06	1.06
3	**Total Energy Charge**	**4.91**	**0.43**	**0.43**

Commission analysis:

The Commission also approves the total energy charges recoverable from Serlui-B during FY 2022-23 at Rs. 0.43 Cr Per Annum only adopting the energy unit rate as proposed by the P&ED for the indicated net generation of 4.09MU during 2022-23.

12.5.11 Aggregate Revenue Requirement (ARR)

Petitioner's submission

Total ARR of the Generation function comprising of 4 commissioned SHPs and Serlui 'B' SHP which is generating in-firm power is detailed in the table below:

Table 12. 20: ARR of Generation Function projected by P & ED for FY 2022-23

(Rs. Cr)

Sl. No.	Name of Project	Approved in T.O. dated 12.03.2018	Proposed by P&ED	Deviation
1	Serlui 'A'	0.00	---	---
2	Tuirivang	0.00	0.14	-0.14
3	Maicham-I	0.94	0.93	0.01
4	Tuipanglui	0.00	---	---
5	Lamsial	0.24	0.24	--
6	Maicham-II	1.42	1.41	0.01
7	Serlui 'B'	4.91	0.43	4.48
	Total	**9.65**	**3.15**	**6.50**

P&ED requests the Hon'ble Commission to kindly consider the submission and approve the ARR for the FY 2022-23.

Commission Analysis:

The ARR for the above six stations in operation and Serlui 'B' (not yet commissioned) approved by the Commission at Rs.3.3358 Crs as detailed below:

Table 12. 21: Generation Function ARR approved by the Commission for FY 2022-23

(` Crs)

Sl. No.	Name of Project	MYT T.O. dated 12.03.2018	Proposed by P&ED	Commission
1	Serlui 'A'	0.00	0.00	---
2	Tuirivang	0.00	0.14	---
3	Maicham-I	0.94	0.93	0.4493
4	Tuipanglui	0.00	0.00	---
5	Lamsial	0.24	0.24	0.1100
6	Maicham-II	1.42	1.41	0.6765

Sl. No.	Name of Project	MYT T.O. dated 12.03.2018	Proposed by P&ED	Commission
7	Serlui 'B'	4.91	0.43	0.4300
	Sub - Total	**9.65**	**3.15**	**1.6658**
8	**O&M cost for four old station maintained by Amazon Engineer**			**1.6700**
9	**Grand total**			**3.3358**

12. Directives

12.1 General

While examining the information and data contained in the proposed ARR and Tariff Petition for the FY 2018-19, 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:

The SAP-ISU implementation under RAPDRP where it is already in force helps in proper maintenance of record of data in respect of sales of energy, revenue billed and collection, category wise/slab wise number of consumers with contracted load etc. for the purpose of energy accounting as may be required from time to time for the purpose of analysis of performance etc.

Advantages of SAP-ISU:

1. Susceptible and adaptive to yearly revision of Tariff.
2. System is secure as data cannot be manipulated and all transactions are being mapped.
3. Consumer can register in portal to view his monthly unit consumptions, energy bills, make online payments and download the receipts.
4. Smart metering and pre-paid metering module, if purchased, can be easily integrated in the system.

New towns Planning to be covered under SAP-ISU:

The following 12 towns are to be covered under IPDS Schemes for SAP-ISU:

1. Mamit 2) Khawhai 3) Thenzawl 4) Vairengte 5) Kawnpui 6)Hnahthial
7) Bairabi 8)Biate 9) Darlawn 10) North Vanlaiphai 11) Tlabung 12) Darlawn

All the remaining Non-RAPDRP towns other than mentioned above are proposed to be migrated to SAP-ISU under RDSS Scheme.

Migration of Non-RAPDRP consumers:

There is a common data centre being developed at Guwahati and data recovery centre at Agartala for the North Eastern states for the present SAP-ISU. With hoping for reduced contribution for maintenance of the common data centre as well as better performance of the system, there is a plan to establish a separate independent cloud-based server for the state of Mizoram and for which fund for establishment of the same have been applied to the Government. The present Non-RAPDRP consumers will then be gradually brought to be covered under the system after successful implementation of the said independent server.

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 15th July 2022 positively for the status as on 1st 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 30th September 2022.

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 Commission, the Department rendered its level best for recovery of theft & pilferage even under the prevalent Covid-19 pandemic and the quarterly report for the year 2021-22 is as shown below:

1st Quarter of FY 2021-2022

Sl No	Items of Report	CE (SO)	CE (D)	Grand Total
1	*2*	*3*	*4*	*5*
1.	No of cases where inspection was carried out	764	2527	**3291**
2.	No of cases where theft or misuse was detected			
	a) Meter by-pass	5	43	**48**
	b) Hooking	2	30	**32**
	c) Unauthorized extension	2	7	**9**
	d) Tampering	0	7	**7**
	Total (a+b+c+d)	**9**	**87**	**96**
3	Estimate quantity of Energy considered as pilfered	0	0	**0**
4	No of cases where sentence were imposed	0	3	**3**
5	Quantity of Energy for which cost were recovered (KwH)	0	0	**0**
6	Amount realised (Rs)	19,495	1,500	**20,995**

2nd Quarter of FY 2021-2022

Sl No	Items of Report	CE (SO)	CE (D)	Grand Total
1	*2*	*3*	*4*	*5*
1	No of cases where inspection were carried out	592	3932	**4524**
2	No of cases where theft or misuse was detected			
	a) Meter by-pass	0	27	**27**
	b) Hooking	0	14	**14**
	c) Unauthorized extension	0	2	**2**
	d) Tampering	0	0	**0**
	Total (a+b+c+d)	**0**	**43**	**43**
3	Estimate quantity of Energy considered as pilfered	0		**0**
4	No of cases where sentence were imposed	0	3	**3**
5	Quantity of Energy for which cost were recovered (KwH)	0		**0**
6	Amount realised (Rs)	0	2600	**2600**

Commission's comment

As seen from the two quarters details reported, it is felt that the amount so far recovered is very nominal and the collection in the 2nd quarter appears very much low compared to the first quarter of 2021-22. However, the Commission is in a way felt that the desired progress can be achieved in this matter being constantly and regularly vigilant to arrest the theft and pilferage of energy and bring discipline among the defaulting consumers in future. This action for recovery of theft & pilferage should have been more intensive in FY 2020-21 in order to reduce the high distribution losses at 29.05% as indicated in the ARR filing for true-up. This higher amount of losses is due to poor vigilance only and hence it appears the P&ED had slackened instead of intensifying its effort in 2020-21. The Commission needs to be appraised of the progress made and status report on number of cases being booked and penalties recovered every quarter continuously in FY 2021-22 (last two 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.

It is observed that there are several defective meters remained unchanged for years together and 4023 services are without meters. The PED must not encourage un-metered supply.

Under section 55 (1) of Electricity Act, 2003, no licensee shall supply electricity after expiry of two years from the appointed date except through installation of correct meter in accordance with the regulation to be made in this behalf by the Authority. Accordingly, metering is required to be done in line with Central Electricity Authority (installations and operation of meters) Regulations 2006 to all consumers.

Power & Electricity Department is directed to provide meters to all un-metered consumers.

The present status of metering and action plan to meter the un-metered services and replacement of defective meters shall be reported to the Commission before 31st March 2011. In addition, the electromagnetic meters in service, particularly, in high value domestic, commercial and industrial consumers shall be replaced with static meters as per the Regulations of CEA to have correct consumption recorded. The number and category of consumer installations in which the electromagnetic meters are in service and the action plan to replace such meters with static meters shall be reported by 31st March 2011. Power & Electricity Department is directed to report to the Commission by 31st March 2011 the details of such defective meter's category-wise in the system as on 31.12.2010, with an action plan to replace them.

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 directives along with submission of Tariff Petition for FY 2021-22 are as follows:

FY 2020-21

Description	Total installed up to 31.03.2020	Installed during FY 2020-21 1st Half	Installed during FY 2020-21 2nd half	Grand Total for 2020-21
Installation of Energy Meter with MDI	37879	3612	4074	45565
Replacement of damaged/ defective meter with MDI facility	9769	511	612	10892
Total	**47648**	**4123**	**4686**	**56457**

FY 2021-2022 (1st Half Yearly)

Description	Total installed up to 31.03.2021	Installed during FY 2021-2022 1st Half Year	Total up to 1st Half Year of FY 2021-2022
Installation of Energy Meter with MDI	45565	127	45692
Replacement of damaged/ defective meter with MDI facility	10892	129	11021
Total	**56457**	**256**	**56713**

Commission's comments

As seen from the new additional consumers joined during the year was 15201 (LT-15136+HT-65), while the new meters installed in 2020-21 was only 7686 (3612+4074), This appears quiet alarming as to how the new services are released without installation of meters which has a direct reflective reduction in the revenue for the Department and may cause a raise in Distribution losses also on account of this aspect.

The progress achieved is not impressive looking at the figures provided. 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

The P&E Department understood the need for rectification/replacement of damaged and sub-standard Energy meters with associated damaged/faulty CT and PT at all level of transmission, sub-transmission and distribution level to realize the actual losses and therefore rendered its effort towards improvement of metering system with the limited fund available in a year as far as possible. Due to high involvement of cost, rectification and improvement of all the metering system in the Power/Distribution Sub-station within short span of time is much difficult as the fund available with the State Government for the operation & maintenance works in a year is much limited. As such, precise indication of the T&D losses is in fact difficult with the present system and the Commission is requested to further consider assessment of the T&D losses.

However, the P&E Department is keeping pace towards utilization of appropriate funding available from the Central Government for improvement of the Transmission and Distribution system. As it is obvious that most of the Govt. of India's funding scheme now a days is loss reduction oriented and result based scheme, precise indication of the T&D losses and hence assurance to improve performance is a must if the Department is in expectation of further funding from the Central Govt.

Commission's comments

The T&D losses are at 29.05% in FY 2020-21 as per the ARR true-up filing now submitted by the Licensee, while in FY2019-20 it was at 20.663%. This is a bad indicator of the underperformance exhibited by the P&ED during 2020-21 for reasons unexplained by them in the ARR submission. The trend of loss reduction appears reversed altogether is a poor indicator attributable to the Licensees failure to curtail the commercial losses aspects. On account of this there was a kind of efficiency improvement failure adopted in FY 2020-21 in approving the True-up to

alert the P&ED to plug such issues in future to recur.

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

As per Electricity (Rights of Consumers) Rules 2020, 5(1) all consumers meter shall be smart pre-payment meter or normal pre-payment meter. Also, Ministry of Power has proposed a new scheme "Revamped Reforms- Linked Results-Based Distribution Sector Scheme" in which one of the main objectives is to eliminate human interface in metering, billing and collection by introducing pre-paid smart metering, which is considered to be the most essential for reduction of Aggregate Technical & Commercial Loss (AT&C Loss).

Accordingly, P&ED Mizoram has formulated a Smart-Metering Pre-paid scheme to be implemented for consumers under Aizawl Power Circle for its Roll-Out program.

As such usage of handheld machines for spot billing will not be further considered as billing options.

Commission's comments

The main reason for sustaining revenue loss is due to improper meter reading and considerable delay is 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.

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 31st May 2022 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 P&E Department being the State Government Department had executed the works as decided in the Government level without having the knowledge of the said Regulation in this Directives. The Hon'ble Commission is therefore, requested to

inform the set Regulation in force with Clauses for moving the same to the Government.

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 1st May 2022 and without fail.

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

There is a sanction post of 2177nos under the Power & Electricity Department. **Out of which 1757 is filled up**. With Worked charge, Contract, MR/PE the total number

of employees under P&E Department as on 30.09.2021 is 4037numbers.

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. 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

PROGRESS REPORT ON ENERGY METER WITH MDI FACILITY

Name of Department : P&E Department, Government of Mizoram

Office :

Sl No	Energy Meter with MDI facilities				Remarks
	No. of Phase	Ratings	E-in-C		
			Installed during half yearly	Upto date Progress	
1	Single Phase	2.5-10A	160	13920	
		5-20A	406	8303	
		5-30A	3901	40033	
		10-40A	352	2901	
		10-60A	63	841	
		20-40A	16	40	
		5-20/A	8	44	
2	Three Phase	5-30 A	19	1064	
		10 - 40 A	29	746	
		10-60 A	114	851	
3	Three Phase CT Meter	50/5A	0	3	
		100/5A	0	20	
		150/5A	47	55	
		200/5A	0	3	
		250/5A	0	0	
		300/5A	0	0	
		400/5A	0	2	
		600/5A	0	1	
		700/5A	0	0	
		800/5A	0	0	

PROGRESS REPORT ON ENERGY METER WITH MDI FACILITY

Name of Department : P&E Department, Government of Mizoram

Office :

Sl No	Energy Meter with MDI facilities				Remarks
	No. of Phase	Ratings	E-in-C		
			Installed during half yearly	Upto date Progress	
4	Other Specified	50/5A	0	16	
		100/5A	0	16	
		200/5A	2	8	
		250/5A	0	32	
		300/5A	0	2	
		400/5A	0	18	
		500/5A	0	0	
		600/5A	0	0	
		800/5A	0	2	
		Total	**5115**	**68843**	

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*. 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

Reply: The up to date contracted demand of the total 268237nos. of consumers from different categories is 448.91 MW as on September,2021.

Commission's comments

The Database needed be used for charging of Fixed Cost to each and every consumer in each revenue billing cycle for the purpose of raising the monthly demand and for their recovery accurately. 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

Copy of the Report for re-structuring of the P&E Department, Govt of Mizoram prepared by ASCI and submitted to the Government is provided as intimated by the Commission. (Soft copy in CD attached).

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

Survey and Physical verification of consumers is constantly being done by the Department. A fresh letter with a new report format for number of consumers in different categories, new service connection released, category conversion with updated contracted load in each category had been issued from Head office Vide No. T.24015/01/22-EC(P)/Com/1 Dt.10.01.2022 which should be submitted by the field offices every month. With this monthly report, it is highly expected to have proper

record and consistent data in respect of consumers and also it is hopeful that the survey and verification of the consumers done could be monitored to some extent from the report. Below is the number of consumers being re-categorized during FY 2021-2022 (up to September 2021).

Sl No	Converted from Category	Converted to Category	No of Consumers converted
1	Kutir Jyoti	LT Domestic	1039
		Commercial	1
2	**Domestic :**		
	LT Domestic	LT Non Domestic	994
		LT Commercial	468
		LT Industrial	2
		HT Non Domestic	9
	HT Domestic	HT Non Domestic	2
3	**Non Domestic :**		
	LT Non Domestic	LT Commercial	2
4	**Commercial :**		
	LT Commercial	LT Domestic	6
		LT Non Domestic	59
	HT Commercial	HT Non Domestic	6
		HT Bulk Supply	2
5	**Bulk Supply :**		
	HT Bulk Supply	HT Non Domestic	1
6	**Industrial**		
	LT Supply	NIL	NIL
	HT Supply	NIL	NIL
		Total	**2591**

Commission's comments

The information on reclassification of various categories of consumers provided above appeals the Commission for the progress shown. 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

Due to high cost of procurement of the Heavy Furnace Oil (HFO) fuel up to the Bairabi Thermal Plant, continuous running of the plant is found not economical. With the availability of more Central Sector power as of now with considerable cost of energy as compared with that generated from Bairabi Thermal, **the Department is no more interested to run the plant with such type of HFO**. Further, it is realized in the field that the fuel tankers had shown no interest to carry the Heavy Furnace Oil (HFO) fuel due hardship in cleaning the oil tank since the requirement of volume of fuel in this plant is not that high as to be carried continuously.

The Department has submitted its petition to CEA to declare Bairabi HFO based power plant as non-operational. **Response/approval has not been received till now**. However, as per CEA bulletin published on 31.01.2017 for installed capacity of power utilities for Mizoram is brought out Zero (0) figure under Thermal.

Therefore, P&ED, Mizoram considered that an authority lies within the Central Government either to include or exclude from the statistical data. However, being an incoming point for Bairabi town and Hachhek Hill in the western part of Mizoram with 6.3 MVA, 132/33kV Transformer feeding 33/11kV Bairabi Sub-station and 33/11kV Zamuang Sub-station, complete abandonment of the generating plant is considered not convenient at present.

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. This aspect may be taken note of urgently else withdraw the asset value from the gross block of the balance sheet totally from useful assets classification.

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

Until and unless a separate budget has been provided by the State Government for each function, segregation of function-wise expense is difficult at this point of time. Re-structuring the P&E Department and separation into Generation, Transmission and Distribution under different Business Strategic Unit is still under the State Government for considerations and after completing the restructuring process, it is expected to automatically implemented.

Commission's comment

The final report of ASCI on restructuring of the entity was already submitted in February 2020 and that report has no relevance to the segregation of expenses incurred amongst three functions of the P&ED. 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

The status installation of different Energy Meters with MDI facilities during all the Quarter of FY 2020-21 is furnished below as intimated and separating it as First half and Second half of the year.

PROGRESS REPORT ON ENERGY METER WITH MDI FACILITY (FY 2020-21)
Name of Department: P&E Department, Government of Mizoram
Office: Half Yearly: 1st Half Yearly

Sl No	Energy Meter with MDI facilities		Quantity Installed					
			CE(SO)		CE(D)		E-in-C	
	No. of Phase	Rating	Installed during half yearly	Upto date Progress	Installed during half yearly	Upto date Progress	Installed during half yearly	Upto date Progress
1	Single Phase	2.5-10A	73	6579	147	5060	220	11639
		5-20A	354	4150	145	2692	499	6842
		5-30A	2358	23705	457	9231	2815	32936
		10-40A	142	1376	74	272	216	1648
		10-60A	148	911	0	2	148	913
		20-40A	0	0	0	0	0	0
2	Three Phase	5-30 A	20	950	11	41	31	991
		10 - 40 A	46	510	18	66	64	576
		10-60 A	109	568	2	132	111	700
3	Three Phase CT Meter	50/5A	0	2	0	0	0	2
		100/5A	3	10	1	1	4	11
		150/5A	0	3	7	6	7	9
		200/5A	0	9	1	3	1	12
		250/5A	0	32	0	0	0	32
		300/5A	0	2	0	0	0	2
		400/5A	0	51	6	6	6	57
		600/5A	0	1	1	1	1	2
		700/5A	0	0	0	0	0	0
		800/5A	0	2	0	0	0	2
4	Other Specified		0	0	0	0	0	0
		Total	**3253**	**38861**	**870**	**17513**	**4123**	**56374**

PROGRESS REPORT ON ENERGY METER WITH MDI FACILITY (FY 2020-21)

Name of Department: P&E Department, Government of Mizoram

Office: **Half Yearly: 2nd Half Yearly**

Sl No	Energy Meter with MDI facilities		Quantity Installed					
			CE(SO)		CE(D)		E-in-C	
	No. of Phase	Rating	Installed during half yearly	Upto date Progress	Installed during half yearly	Upto date Progress	Installed during half yearly	Upto date Progress
1	Single Phase	2.5-10A	73	6579	147	5060	220	11639
		5-20A	354	4150	145	2692	499	6842
		5-30A	2358	23705	457	9231	2815	32936
		10-40A	142	1376	74	272	216	1648
		10-60A	148	911	0	2	148	913
		20-40A	0	0	0	0	0	0
2	Three Phase	5-30 A	20	950	11	41	31	991
		10 - 40 A	46	510	18	66	64	576
		10-60 A	109	568	2	132	111	700
3	Three Phase CT Meter	50/5A	0	2	0	0	0	2
		100/5A	3	10	1	1	4	11
		150/5A	0	3	7	6	7	9
		200/5A	0	9	1	3	1	12
		250/5A	0	32	0	0	0	32
		300/5A	0	2	0	0	0	2
		400/5A	0	51	6	6	6	57
		600/5A	0	1	1	1	1	2
		700/5A	0	0	0	0	0	0
		800/5A	0	2	0	0	0	2
4	Other Specified		0	0	0	0	0	0
		Total	**3253**	**38861**	**870**	**17513**	**4123**	**56374**

Commission's comment

The status achieved pertaining to the remaining period from 3rd & 4th quarter of FY2020-21 may be furnished with all details latest by 30th May 2022.

Directive 38

As per Form No.11 of JERC (M&M) (MYT) regulations, 2014, Non-tariff income comprises of:

Sl. No	Particulars
A	**Income from Investment, Fixed and Call Deposits**
1	Interest income from Investments other than Contingency Reserve

Sl. No	Particulars
2	Interest on fixed deposits
3	Interest from Banks other than Fixed Deposits
4	Interest on (any other items)
	Sub-Total
B	**Other Non-Tariff Income**
1	Interest on loans and Advances to staff
2	Interest on loans and Advances to other Licensee
3	Interest on loans and Advances to Lessors
4	Interest on Advances to Suppliers / Contractors
5	Gain on Sale of Fixed Assets
6	Income/Fee/Collection against staff welfare activities
7	Miscellaneous receipts
8	Meter Rent
9	Recovery from theft of energy
10	Surcharge and Additional Surcharge
11	Incentive due to Securitisation of CPSU Dues
12	Misc. charges from consumers
13	Delayed payment surcharge from consumers
14	Any other subsidies / grants other than those u/s 65
15	Commission on collection of Electricity Duty for MCD
	Sub-Total
	Total (A+B)

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.

PROJECTION FOR FY 2022-23

Sl No	Particulars	Amount in crore
A	**Income from investment, Fixed and Call Deposits**	
1	Interest income from Investments other than Contingency Reserve	0
2	Interest on fixed deposits	0
	Interest from banks other than Fixed Deposits	0
	Interest on (any other items)	0

Sl No	Particulars	Amount in crore
	Sub Total	0
B	**Other Non-Tariff-Income**	
1	Interest on loans and advanced to staff	0.87
2	Interest on loans and advances to other License	NA
3	Interest on loans and advances to lessors	NA
4	Interest on Advances to Suppliers/Contractors	NA
5	Gain on Sale of Fixed Assets	NA
6	Income/Fee/Collection against staff welfare activities	NA
7	Miscellaneous Receipt	8.60
8	Meter Rent	0.02
9	Recovery from theft of energy	0.01
13	Delayed payment surcharge from consumers	0.32
14	Any other subsidies / grants other than those u/s 65	1.38
15	Commission on collection of Electricity Duty for MCD	NA

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:

Installation of prepaid smart meters in Zarkawt locality as a pilot project is still in progress and out of the 694 households to be installed, 545 numbers of smart meters have been installed till date.

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 latest by 30th June 2022.

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:

As long as the P&E Department is functioning as a single entity, separate allocation of Head of Account based on projection/estimation may leads to complicacy in accounting. However, the Department will do so as directed by the Commission if such request to the State Government is required after segregating the Department into Generation, Transmission and Distribution.

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:

In spite of rendering effort to achieve complete system metering in various level of voltage up to Low Tension, the Department is still unable to achieve its target for precision of actual losses in various voltage level as intimated by the Commission in this Directives. However, the Department is trying its best for achieving complete metering system by replacing damaged Meter with associated CT and PT with necessary calibration, installation of DT meter etc. The updated report on name of the Lines and Substations and the place where such installation were executed and completed will be furnished in due course.

Commission's Comments

The Directive is treated as not complied with and the compliance report is awaited. The Compliance report shall contain details of name of the Lines & Sub-stations and the place where such installations were executed &completed.

Directive 46

P&ED should strive to achieve AT&C Loss set in UDAY Scheme signed under unilateral agreement.

Compliance:

The AT&C Loss calculated as per the methodology for calculation of AT&C Loss circulated by CEA is 39.55% in the FY 2020-21. The high AT&C loss is due to high arrear at the end of the year which was 96.55 crores and out of which the dues from Government Department (PHE and LAD/AMC) was 78.37 crores. Had all the Government dues been received, the AT&C loss would have reduced to 24.24%.

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 2021-22. 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:

Reliable data for calculation of Voltage-wise cost of supply is not available right now. However, the Department will try its best for furnishing the required information in the next filing of tariff Petition

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 the issue by end of June 2022 without fail so that there will be some extra time to improve the data to suit the need for 2023-24 ARR submission.

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 1st week of January 2020 and again by end of March 2020 to the Commissions to monitor progress.

Compliance:

Installation of prepaid smart meters in Zarkawt locality as a pilot project is still in progress and out of the 694 households to be installed, 545 numbers of smart meters have been installed as on 11.02.2022 but still function as post-paid normal meter as the Meter Data Management System (MDMS) for Smart meters and Pre-paid billing facility are being integrated in our SAP billing solution which is expected to be complete soon**.**

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

1. **District-Wise AT&C Losses & Outside State sales**

The Energy Input for all circles is put together as per the Format-P2 at page 107 for FY 2018-19 was shown as 554.82 MU in respect of five circles is as follows.

Sl. No.	Particulars	FY 2018-19 (Actual)			
		Energy Input (MU)	Consumer Billed Energy (MU)	Distribution Loss (MU)	Amount Billed (Crores)
1	Aizawl Power Circle	364.44	222.90	141.55	137.72
2	Lunglei Power Circle	72.59	58.68	13.91	29.64
CE (System Operation)		**437.04**	**281.58**	**155.46**	**167.36**
3	Champhai Power Circle	33.91	32.05	1.86	13.24
4	Transmission Circle	35.28	32.28	3.01	15.32
5	Project Circle - I	48.58	41.86	6.73	25.55

Sl. No.	Particulars	FY 2018-19 (Actual)			
		Energy Input (MU)	Consumer Billed Energy (MU)	Distribution Loss (MU)	Amount Billed (Crores)
CE (Distribution)		117.78	106.19	11.59	54.11
Grand Total		554.82	387.76	167.06	221.46

As per the above information, it is evident that the Distribution losses incurred for was 167.06 MU to make Retail sale of 387.76 MU during FY 2018-19. This indicates a distribution Loss of 30.11% (on 167.06 MU loss quantity) taking upon the Distribution input quantity of 554.82 MU.

On contrary, while submitting the Energy Balance format, it was reported that distribution loss is only 82.68 MU instead of actual loss of 167.06 MU. Thereby the distribution losses were undermined to a rosy figure of 17.58% instead of the 30.11% loss percentage based on actuals. Moreover, the Outside state sales quantum of 286.21MU as indicated in the ARR is not appears to be correct and the as per the calculations made by the Commission it works out to 182.33MU.

The Same query was raised in the additional information with the P&ED for a clarification. It was informed that the District wise figures are not accurate and they have to be reconciled. This clearly signifies that either the formats are not properly verified before making the submission or taking an excuse upon pointing out the discrepancy.

The Commission feels that this kind of replying will not serve any purpose and it amounts to prevaricating/evasive answer to cover the shortcomings deliberately. Therefore, the Hon'ble Commission after careful consideration hereby issues the following directive in this matter:

"The P&ED Department shall invariably submit the details to the Commission on 15th of each month following the month in which the quantum of energy input/received by each circle and also the quantum of energy sold in the relevant month by each circle separately for each of the twelve (12) months promptly starting from April to March without fail. The information so furnished by the licensee would form the basis to arrive at the Distribution losses incurred by the P&ED in the entire year for truing-up purpose in future. At the same time, along with the above data the Licensee shall also submit the details of the quantity of Outside state sales achieved in each month starting from April to March for record along with the Circle wise sales information."

Compliance:

The discrepancy is due to the fact that there is a mistake in submission of Consumers Profile and Consumption and Energy Audit and Accounting data

Commission's Comments:

The Directive is complied with and hence dropped.

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:

The P&E Department being one of the Departments of the State Government has no control upon utilization of its revenue from sale of energy and other non-tariff income. All the revenue collected through either tariff or non-tariff income had been credited into the Government Treasury under the appropriate remittance Heads of Account assigned by the State Government. As long as utilization of all the revenue collected is in the hand of the State Government, certain amount of revenue subsidy is given and shortfall in revenue target is absorbed by the State Government**, the Commission is requested to consider the Directives not applicable for the Department at this moment.**

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.

Hence, the above Directive is treated as uncompiled with and will be in force until it is complied with the way it is suggested.

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:

Penalties/Late payment surcharge is strictly imposed on the consumers who defaulted in payment of the bill within due date of payment at the rate as approved by the Commission from time to time. The rate at which late payment surcharge is levied on to the consumers defaulted in payment of the bill is incorporated in the billing software. In some field offices dealing with revenue and where manual billing is still practiced, imposition of late payment surcharge to the consumers defaulting in payment of bill is strictly carried on in calculation of the bill and arrears.

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.

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 JERC, circular was published vide T.23037/01/16-EC(P)/Com/11 on Dt 31.08.2020 and another reminder circular was published on 17th January 2022. Details is as enclosed below:

Sl No	Wrong Category	Corrected Category	No of Consumers
1	**Kutir Jyoti**	LT Domestic	1039
		Commercial	
2	**Domestic**		
	LT Domestic	LT Non-Domestic	994
		LT Commercial	468
		LT Industrial	2
		HT Non-Domestic	9
	HT Domestic	HT Non-Domestic	2
3	**Non-Domestic**		
	LT Non-Domestic	LT Commercial	2
4	**Commercial**		
	LT Commercial	LT Domestic	6
		LT Non-Domestic	59
	HT Commercial	HT Non-Domestic	6
		HT Bulk Supply	2
5	**Bulk Supply**		
	HT Bulk Supply	HT Non-Domestic	1
6	**Industrial**		
	LT Supply		
	HT Supply		
			2590

Commission's Comments:

The Progress achieved in this matter needs to be submitted to the Commission in due course as the action reported is only an initiation now made by P&ED. But the period to which the above data is provided was not indicated. 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.

8: Submit a proposal for creation of Contingency Reserve Fund:

The P&ED has so far not created any Contingency reserve fund, which is essential for a power sector with large network to be maintained even after the occurrence of calamities. This year the commission had provided some provision for as a beginning for contingency reserve and directs the P&ED to submit from their side the proposals containing the needed amount each year for the purpose of creation of such reserve **latest by 31st July 2021**. The same provision for Contingency reserve shall be reflected afresh in their ARR proposals in next ARR filing submission in FY 2022-23 **without any further delay**.

Compliance: 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 towards Contingency Reserve for the FY 2022-23. The Contingency Reserve Fund projected in the FY 2022-23 is 3.89 crores which is reflected in the ARR projection for FY 2022-23.

Commission comments:

The Directive is complied with and hence dropped.

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.

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.

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.

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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 "**energy charge**"

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 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 HTside 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:

$$\textbf{Average transformer loss} = \frac{730 \times 1.0 \times C}{100} \textbf{ kVAh per month}$$

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 is 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 borne 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 contend 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 supersedes 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) Energy charge (per month)		
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 1st/2nd/3rd 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 it is with attached kitchen/kitchen facility. 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) Energy charge (per month)		
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-Domestic

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. This tariff includes power loads for non-domestic/Non-commercial purposes such as Government establishments / institutions Where 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) Energy charge (per month)		
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. 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 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) Energy charge (per month)		
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) Energy charge (per month)	
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) Energy charge (per month)	
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) Energy charge (per month)	
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) Energy charge (per month)	
First 400 kWh	@ Rs 7.10 per kWh
All units above 400 kWh	@ Rs 8.05 per kWh

3: <u>HT SUPPLY</u>

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 to similar purposes as defined in LT category- 2 is as follows:

Rates:

a) Demand charge	Rs 50.00 per month per kVA of Billing Demand.
b) Energy charge (per month)	
All kVAh	@ Rs 8.65 per kVAh

3.2 HT Category - 2: Non-Domestic

Applicability: This tariff is applicable to similar purposes as defined in LT Category-3 is as follows:

Rates:

a) Demand charge	Rs 60.00 per month per kVA of Billing Demand.
b) Energy charge (per month)	
All kVAh	@ Rs 8.75 per kVAh

3.3 HT Category - 3: Commercial Service

Applicability: This tariff is applicable to similar purposes as defined in LT Category-4 is as follows:

Rates:

a) Demand charge	Rs 80.00 per month per kVA of Billing Demand.
b) Energy charge (per month)	
All kVAh	@ Rs 8.90 per kVAh

3.4 Category 4: Public Water Works (PWW)

Applicability: This tariff is applicable to similar purposes as defined in LT Category- 6 is as follows:

Rates:

a) Demand charge	Rs 90.00 per month per kVA of Billing Demand.
b) Energy charge (per month)	
All kVAh	@ Rs 9.85 per kVAh

3.5 HT Category - 5: Irrigation & Agriculture Service

Applicability: This tariff is applicable to similar purposes defined in LT Category- 7 is as follows:

Rates:

a) Demand charge	Rs 50.00 per month per kVA of Billing Demand.
b) Energy charge (per month)	
All kVAh	@ Rs 3.85 per kVAh

3.6 HT Category -6: Industrial Service

Applicability: This Tariff is applicable to similar purpose as defined in LT Category – 8 is as follows:

Rates:

a) Demand charge	Rs 80.00 per month per kVA of Billing Demand
b) Energy charge (per month)	
All kVAh	@ Rs 9.05 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) Energy charge (per month)	
All kVAh	@ Rs 6.85 per kVAh

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.)
1	**Kutir Jyothi**		
i)	First 20 kWh	7.62/kWh	25/Connection
ii)	All Units above 20 kWh	8.89/kWh	25/Connection
2	**Domestic**		
A	**Low Tension**		
i)	First 100 kWh	8.60/kWh	50/Contracted Load in kW
ii)	Next 100 kWh	8.99/kWh	50/Contracted Load in kW
iii)	All units above 200 kWh	10.06/kWh	50/Contracted Load in kW
B	**High Tension**	8.48/kVAh	50/Billing Demand in kVA
3	**Non-Domestic**		
A	**Low Tension**		
i)	First 150 kWh	8.35/kWh	60/Contracted Load in kW
ii)	All units above 150 kWh	9.27/kWh	60/Contracted Load in kW
B	**High Tension**	7.94/kVAh	60/Billing Demand in kVA
4	**Commercial**		
A	**Low Tension**		
i)	First 150 kWh	10.47/kWh	80/Contracted Load in kW
ii)	All Units above 150 kWh	10.58/kWh	80/Contracted Load in kW
B	**High Tension**	9.48/kVAh	80/Billing Demand in kVA
5	**Public Lighting**	11.11/kWh	80/Contracted Load in kW
6	**Irrigation & Agriculture**		
A	Low Tension	11.11/kWh	50/Contracted Load in kW
B	High Tension	9.29/kVAh	50/Billing Demand in kVA
7	**Public Water Works**		
A	Low Tension	7.72/kWh	90/Contracted Load in kW
B	High Tension	7.50/kVAh	90/Billing Demand in kVA
8	**Industrial**		
A	**Low Tension**		
i)	First 400 kWh	8.90/kWh	80/Contracted Load in kW
ii)	All Unis above 400 kWh	10.75/kWh	80/Contracted Load in kW
B	**High Tension**	8.52/kVAh	80/Billing Demand in KVA
9	**Bulk Supply**	5.94/kVAh	90/Billing Demand in kVA

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) **Fixed /Demand charge**:	1.5 times the rate of fixed/demand charge of the applicable tariff category for which power supply is given.
b) **Energy charge per month**:	1.5 times the rate of the highest rated slab of the applicable tariff category for which energy is supplied.

5. Computation of 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 18th 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-authorised 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)

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

6.1.1 LT Metering:

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, **CT operated**	Rs.50.00 per month
d) Any other type of meter/indicator	Rs.100.00 per month

6.1.2 HT Metering:

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.

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 nest 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/-

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 temper 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/-**
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 24th MEETING OF THE STATE ADVISORY COMMITTEE OF MIZORAM

Date: 2nd MARCH, 2022 Time :11:00 A.M.

Venue: AIJAL CLUB, TENNIS COURT, AIZAWL.

The Chairman of the Committee and Chairperson of the Commission, Mr. R.Thanga was on the chair and he started the programme by welcoming Members of the State Advisory Committee and the Special Invitees.
The list of Members and Participants who attended the Committee is appended.

Agenda-1: Confirmation on the Minutes of the SAC Mizoram held on 18th March, 2021.

The Chairman 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 23rd Meeting of SAC, Mizoram.

i. Formation of Vigilance Committee.

P&E Department informed the Committee that Electricity theft raids were conducted on the Department's complexes in Aizawl viz Electric Veng P&E Complex, Zuangtui P&E Complex and Luangmual P&E Complex and other 6 (six) Non-Departmental Complex viz Tuirial Airfield, Bungbungaalow, Bawngkawn Brigade, Bawngkawn Shalom and Zuangtui Vengthar. The detailed report on checking of theft of energy is as below:

Particulars	Area Checked	No. of Household checked	Nature of default				Total
			Meter by Pass	Hooking System	Unauthorised Connection	Tempering of Energy Meter	
Area to be checked as per 23rd SAC Mizoram Meeting	Electric Veng P&E Complex	35	13				13
	Zuangtui P&E Complex	50	28				28
	Tuirial	30	6		4		10
	Tuirial Airfield	45	8		8		16
	Bung Bangla	20					0
	Dept. Complex, Luangmual	14	5				5
Other area recently checked	Bawngkawn Brigade	50	2		8		10
	Bawngkawn Shalom	60	5		10	3	15
	Zuangtui Vengthar	40	7		5	3	15
	TOTAL	344	74		35	10	119

Pu Thanglura Vice President representing President, Mizoram Consumers' Union, Gen. Hqrs., Aizawl enquired that only by checking and what actions are taken is not known or how much money has been imposed against them as fines. Pu Lallunghnema also stated that power theft is very bad and more public awareness against power theft be held on a larger scale and the penalty should be heavy. On this issue, the P&E

Department replied that Government has issued an Order dt. 2.3.2010 that Junior Engineer and above can impose penalty on power theft etc.

Prof.H.Lalramnghinglova also mentioned that the action being taken by the Department is a very good step and that the matter can be dealt in a diplomatic way so as to overcome the problems of the public. Pu Lalchharliana Pachuau, Member of the Commission also stated that mass awareness on this issue should be made throughout the State. Pu Thanglura also enquired on the reason of unauthorized connection to which Pu Lalchharliana Pachuau replied that unauthorized connection is an extension of connection of a building connected to a connection given to a new building without knowledge of the Department. Pu R.Thanga Chairperson also said that strict observance of rules should be made and deterrent action should be taken against defaulters. Pu K. Lalhmingthanga President, Mizoram Chamber of Industries and Commerce also supplemented that more public awareness campaign through various media is required that strict action should be taken against the defaulters. That public campaign may be held on all the district Hqrs. and later on Sub Division wise.

ii. Report on updating of contracted and connected load. T

The Department replied that the total updated contract load of the consumers under Power & Electricity Department based on compilations of Consumers' Profile and consumption as on September 2021 is 448.91 MW and the corresponding connected load is 520.26 MW. Category wise updated contracted load and connected load of consumers is enclosed as below:

Updated report of contracted load and connected load under Power & Electricity Department (as on September, 2021)

Sl No.	Category	No. of Consumers	Contracted Load (in kW)	Connected Load (in kW)
1	Kutir Jyoti	20165	5338.35	5569.63
2	Domestic	225097	292076.93	360178.60
3	Non-Domestic	7030	15672.67	16451.11
4	Commercial	13287	55121.20	56610.46
5	Public Lighting	1294	1162.89	1162.89
6	Irrigation & Agriculture	38	275.71	283.71
7	Public Water Works	75	48105.47	48105.47
8	Industrial	1036	11092.42	11345.43
9	Bulk Supply	215	20067.31	20550.93
	TOTAL	268237	448912.95	520258.24
	In MW		448.91	520.26

(13.71% of connected load)

Further, format for monthly updations of the consumers numbers with corresponding updated contracted load had been circulated from the office of E-in-C, P&ED vide letter No.T.24015/01/22-EC/Com/1 Dt.10.01.2022. From the report submitted by the field offices with this format the Department is to maintain

updated report data in respect of the consumers from March, 2022 ending onwards.

iii. Installation of Pre-payment metering system.

The Department replied that installation of prepaid smart meters in Zarkawt locality as a pilot project is in progress and upto date status of progress is as shown below and the expected date of completion is July, 2022.

Progress report on pre-paid consumer smart metering as a pilot project at Zarkawt feeder for reduction of transmission and distribution losses

Name of Division: Distribution Division,

Name of Sub-Division: Distribution Sub Division III

Sl No.	Items		Qnty.	Remarks
1	No. of meters to be installed	1 Phase	519	100% completed
		3 Phase	36	
2	No. of meters installed	1 Phase	519	
		3 Phase	36	
3	No of meters responding		360	360 out of 555 is about 65% of the installed meters, which are establishing reliable connection as of 22.2.2022
4	No. of DCU to be installed	8		100% completed
5	No. of DCU installed	8		

iv. Case study of Transmission loss at 132kV level and 33kV level.

Pu Lalchharliana Pachuau, Member of the Commission informed the Committee that this kind of transmission study is very much required whether power audit has even been held to which E-in-C P&E Department replied that BEE has insisted on quarterly auditing from the 1st quarter of 2022. Such quarterly reports should invariably be furnished to JERC (M&M).

v. Testing of meters.

23 nos of Sub Divisions dealing with revenue in rural areas under P&ED had been identified for location of testing instruments. As the rates for meter testing instrument readily available with the Department is outdated and no more workable. A fresh quotation for fixation of the rate for the meter testing instrument is being sought from reputed firms and after getting appropriate rates, the Department will be proposed fund to the Government. However, in regards to appointment of third-party testing laboratory as intimated in the 23rd SAC Meeting of Mizoram, the Mizoram Legal Metrology Department was

approached vide this Departments letter No. T.23026/1/20-EC(P)/Com/29 Dt. 25.11.2021 and reply to this letter is still awaited.

Agenda-3. Determination of Retail Tariff of P&E Department for FY 2022-23.

Power point presentation was made on the various aspects of the Tariff Petition by the P&E Department. Pu Thanglura enquired why such a large number of staff are being required to look after a small state like Mizoram whereas a larger State with a larger population like Manipur has a lesser number of staff. The E-in-C, P&E Department replied that most of the people of Manipur lives in the plain areas with a larger population while the hills has small population and that the terrain of the two States are diametrically opposite and that we can compare Mizoram like the Churachandpur District. Prof. H.Lalramnghinglova also commented on this issue hiking of tariff in a situation of covid pandemic is not good and requested the Department not to increase the tariff. After much deliberation, the Committee recommends nominal hike in rates.

Agenda-4. Actual strength of Employee under P&E Department.

Pu Lalchharliana Pachuau, Member of the Commission enquired whether Department has employees which are performing excluded functions to which E-in-C replied that the Department has posted 2 – 3 number of employees to look after the Lengpui Airport generator as the same could not be maintained by the Mizoram PWD and that the Department is helpless on that matter. Pu Lalchharliana Pachuau informed the Committee that though it may look small on the issue because of this excluded functions done by the Department the common man has to bear the burden by way of tariff and also requested the Department to examine whether the same case is there with the Mizoram Legislative State Assembly. Pu Lallunghnema also stated that this matter should be rectified soon.

Agenda-5. Increasing trend of Closing Debtor.

Pu Lalchharliana Pachuau, Member of the Commission informed the Committee that there is an increasing trend of closing debtor which is a very sad case. The P&E Department replied that they are proposed Prepaid Smart Metering System under Revamped Distribution Sector Scheme (RDSS) for all consumers for reduction of closing debtors, the tentative target date of completion for the whole state of Mizoram is as below:

Sl No.	Parameters	Targets			
		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
1.	Consumer Prepaid Smart Metering		10%	50%	100%

The above RDSS do not allow any Government Department dues in the course of implementation of the scheme and also the revenue subsidy in full should be paid

to this Department by the Government without fail. They have requested the Committee to take-action for clearing of the Government Department dues which contributed the highest in the closing debtor under P&ED in the previous years.

The Government Department, general public outstanding and organization outstanding dues as on 31st September and 31st December is as below:

Sl. No.	Particulars	Dues as on 30th Sept 2021 in Crore	Dues as o 31st Dec 2021 in crore
1.	Govt. Department (PHE, LAD/AMC)	74.48	94.81
2.	General Public	23.58	20.82
3	Other Organisations / Other Departments	1.48	1.21
	TOTAL	99.54	116.84

Pu Lalchharliana Pachuau further stated that general public debt collection is the sole responsibility of the Department and more stringent action should be taken on this issue as this impacts the tariff fixation. Pu R.Thanga Chairperson also stated that on pursuing this case we need to have good evidence and enquired whether a designated court has been instituted in the State. Er. C.Lalremsiama, E-in-C, PHE Department informed the Committee that the electricity bills consumed by the Department's water pumps etc. can be given only on the last end of Financial Year. Due to fund constraint, billing period up to February end anticipated bills are required for Finance Department's approval to which the P&E Department could not do. Pu Lalchharliana Pachuau Member also supplemented that, the PHE Department should try to obtain quarterly electricity bills which will be convenient to both of them. Pu R.Thanga also mentioned that this piling up of closing debtor will result to a crippling Department and will further effect the Tariff.

Agenda-6. Function wise Budget Head of Account.

Pu Lalchharliana Pachuau, Member of the Commission stated that the power sector has 3 distinct functions namely: 1) Generation function 2) Transmission function, 3) Distribution function. These 3 functions are always with the Power Department, Govt. of Mizoram. After it is envisaged in the Electricity Act, 2003 that single entity like Power & Electricity Department of Mizoram or Electricity Board of other states like ASEB, MeSEB should unbundled into the above mentioned 3 functions with an aim of better, cost, effective, reliable service to consumer. This will also enable fixation of responsibility.

So far, P&E Dept. of Mizoram is still unbundled and operate under 3 budget head of accounts. Namely- 1) Hydel Generation 2) Diesel Generation 3) Transmission and Distribution. It is known fact that there are no more diesel Generating Stations

(Diesel Power House) under P&E Dept. Therefore, it looks awkward to still operate Diesel Generation Head of Account.

At the same time, there is no separate head of account for Transmission Function nor for Distribution head of account. As such, it is not possible to know what is the actual expenditure for Transmission function nor Distribution function specifically.

Whether P&ED is corporatized or not, it is high time to allot/ to create separate head of account for 1) General function 2) Transmission function 3) Distribution function.

Er. F.Lalrinpuia, E-in-C, P&E Department informed the Committee that unbundling of the Department is under deep consideration and as per MOP Advisory Note the exercise is expected to be completed soon. Pu Thanglura stated that this matter has been taken up many times but till date no concrete action has been received from the Govt. The Department replied that Administrative Staff College of India has been engaged as a Consultant on this matter and the report is being examined by the Government. Prof. Lalramnghinglova also support this action as the matter is quiet overdue for Power Reform in Mizoram and also stress to take note on Renewable Energy sources.

The Committee agreed Government of Mizoram to provide function wise budget head from 2023 – 24 onward. E-in-C, P&E Department should write to Finance Department with copy to JERC (M&M) within 1st quarter 2022.

Agenda-7. Assessment of energy pilfered on meter by-passing, hooking, tempering of meters.

Pu Lalchharliana Pachuau stated in the Committee that the matter on energy pilferage through by-pass metering, hooking, unauthorized extension, tempering of meters etc. is very much high in the State and the Department has to take a serious action on this issue and mentioned that the Department has shown their detection list but the amount realized was shown as NIL. The E-in-C, P&E Department replied that this issue is being dealt seriously and that the Government has also issue Notification designating them as Inspecting Officers from Junior Engineer and above to exercise the power and functions on compounding fines against defaulters and assured the Committee that this issue will be dealt seriously from his personal level.

Agenda-8. Agenda submitted by Prof. H.Lalramnghinglova.

1) **Enhancement of Aizawl Street Lights and installation of meter boxes:**

   Prof. H.Lalramnghinglova stated that with increasing development within the country and even in Aizawl city, it is felt necessary to install more streetlights with meter boxes and further stated that online payment of bills to the

Department is very good but it is not feasible throughout the State. The P&E Department replied that installation of streetlight, maintenance etc. is under the purview of Aizawl Municipal Corporation and not the Department. However, through Smart City Project, ZEDA has installed around 6,000 solar streetlights. Pu Lallunghnema also stated that better method should be made on light switch system of the streetlights. Mr K.Laldingliana MCS Commissioner, Aizawl Municipal Corporation also informed the Committee that many solar streetlights in Aizawl city are not functioning anymore and needs urgent repair.

2) **Testing and replacement of defective and doubtful electric meters in all districts of Mizoram.**

On this issue, the Department has taken steps for having testing facilities on all the District Hqrs of Mizoram and that the P&E Department has also written to the Jt. Controller Legal Metrology Department for arranging Third Party energy meter testing laboratory. Acceptance of Legal Metrology may be intimated to JERC (M&M) as soon as received.

3) **Opening of revenue collection centres in whole Mizoram on priority basis.**

The P&E Department replied that they are taking all-out effort so that all consumers within the State could pay their electricity bill on their nearby Revenue collection center.

4) **Re-institution of Power Sector Reforms: Preparation of road-map of power corporation.**

On this matter, the Department replied that it has been discussed in the earlier Agenda. Mr.Thanglura informed that there has been defective meter billing being done to rural consumers like in Serchhip Power Division wherein the bills were served to consumers with correction made by pen which seems to be a manipulation. The E-in-C, P&E Department assured he will personally look into the matter and he should submit his report by July, 2022.

Agenda-9. Agenda submitted by Pu C.Lalremsiama, E-in-C, PHED, Mizoram.

Pu C.Lalremsiama, E-in-C, PHED stressed for reduction of energy costs for public drinking water supply and requested the Committee that due to the ever increasing demand for water due to upliftment of hygiene and sanitation throughout the State, more and more energy have to be expended for pumping of water. Therefore, in the interest of the public, separate rates of energy cost, lower than the rate charged to normal consumers is considered necessary to meet the demand of the public. Mr Lalchharliana Pachuau replied on this issue that the Commission could not take up this issue separately and that the PHE

Department should request to the P&E Department to include this matter in their next tariff petition so that the matter could be considered by the Commission. E-in-C, PHE Department will give a copy to JERC (M&M).

Agenda-10. Agenda submitted by Ms. Rita Lalnunmawii Pachuau, Director, LAD, Mizoram.

Pu. Lalchawimawia, Jt. Director, LAD representing Director, LAD informed the Committee that the Department is facing huge financial bills on street lights from P&E Department and that street light has been installed on 833 village councils and they are not connected with meters and most of the street lights are not functioning.

The E-in-C P&E replied that per point billing system is being done which are being verified by the respective Village Councils and also management is being done by local bodies. Pu Lalchharliana Pachuau informed the Committee that under section 55 of Electricity Act, 2003 no electricity supply should be given without meter. The Jt. Director informed the Committee that the solar street light installed by ZEDA are not good and most of them are not functioning anymore.

The Committee recommends that the LAD should request the P&E Department for installation of street light meters and the necessary payment are to be made by LAD.

The Meeting ended at 3:30 PM with a vote of thanks from the chair.

Sd/-
(R.THANGA)
Chairperson

Memo No.H.11019/27/21-JERC : Dated Aizawl, the 9th March, 2022

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. Guard File.

List of Members and Participants attended
24th 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 R.Thanga	Chairperson, JERC(M&M)
2	Pu Lalchharliana Pachuau	Member, JERC (M&M)
3	Pu Jimelliot L.Sailo	Under Secretary P&ED
4	Pu C.Lalremsiama	E-in-C. PHED
5	Pu K.Laldingliana	Commissioner, AMC
6	Pu Malsawmdawngliana	Director, ZEDA
7	Pu K.Lalhmingthanga	President, Mizoram Chamber of Industries & Commerce
8	Pu Thanglura	Vice President Mizoram Consumers Union
9	Pu Roneihthanga	Finance Secretary, CYMA
10	Pu L albuatsaiha	Secretary AMFU
11	Pu RK Thanga	Vice President, MUP
12	Pu K.Thanmawia	Asst. Secretary, MUP
13	Prof. H.Lalramngihglova	Dept. of Environment Sciences, MZU
14	Pu Lallunghnema	Republic Veng, Aizawl
15	Pu Lalchawimawia	Jt. Director, LAD
16	Prof (Retd.) Tlanglawma	Khatla Bethel, Aizawl
17	Pu Richard Zothankima	Asst. Secretary, JERC (M&M)
18	Pu F.Lalrinpuia	E-in-C (P&E)
19	Pu H.Thanthianga	ACE, JERC (M&M)
20	Pu Ngursailova Sailo	SE P&ED (Comm)
21	Pu J.H.Laithangliana	SE, P&ED (SLDC)
22	Pu H.Lalnunsanga	EE (Comm.) P&ED
23	Pu B.C. Lalremruata	CO (Commercial) P&E Department
24	Pu David Lalnunpuia	JE (Comm) P&ED
25	Pu Lalremruata Sailo	PAO, JERC (M&M)
26	Sanjeib Majhi	Consultant, P&ED
27	Pu Lalthanzuala	EE, Distribution Div. P&ED
28	Pi Lalrinmmawia	Sr. EE P&ED
29	Pi Lalsawmliani	JE, (Comm.) P&ED
30	Pi V.K.Remsangpuii	JE (Comm.) P&ED
31	Pu Lalduhsanga	G.S. AMFU

ANNEXURE–II

LIST OF PARTICIPANTS ATTENDED THE
PUBLIC HEARING ON ARR & TARIFF PETITION FOR FY 2022-23
SUBMITTED BY POWER & ELECTRICITY DEPARTMENT, GOVT. OF MIZORAM

Venue **: Aijal Club, Tennis Court, Aizawl, Mizoram**.

Date & Time**: 3rd March, 2022 (Thursday) at 11:30 a.m.**

Sl. No.	NAME OF THE PARTICIPANT	DESIGNATION & ORGANIZATION
1.	R. THANGA	Chairperson, JERC (M&M)
2.	LALCHHARLIANA PACHUAU	Member, JERC (M&M)
3.	F. LALRINPUIA	E-inC, P&E Deptt.
4.	RICHARD ZOTHANKIMA	Assistant Secretary JERC (M&M)
5.	H. THANTHIANGA	Assistant Chief (Engg.), JERC (M&M)
6.	K. HARI PRASAD	Consultant, JERC (M&M)
7.	NGURSENLOVA SAILO	SE (Commercial), P&E Deptt.
8.	B.L. TLUMTEA	Sr. EE, P&E Deptt.
9.	LALTHANZUALA	EE, PHE Deptt.
10.	LALRINMAWIA	Sr. EE, P&E Deptt.
11.	SANJIB MAJHI	Consultant, P&E Deptt.
12.	B.C. LALREMRUATA	Computer Operator, P&E Deptt.
13.	DAVID LALNUNPUIA	JE (Comml), P&E Deptt.
14.	V.K. REMSANGPUII	JE (Comml), P&E Deptt.
15.	LALSAWMLIANI	JE (Comml), P&E Deptt.
16.	MALSAWMDAWNGLIANA	Project Director, ZEDA
17.	LALRINZUALA CHAWNGTHU	Vice President, PC Party
18.	LALRINMAWII FANAI	Gen. Secy., Womens Wing, PC Party
19.	ZOREMCHHUNGA SAILO	ZPM
20.	H. VANLALHUMA	ZPM
21.	JOHNY LALSANGZUALA	Commercial Branch
22.	LALLURA PACHUAU	MIOA
23.	LUNGTIAWIA	Commercial Branch
24.	REBEK LALRENGPUII	Commercial Branch
25.	RAMHMINGLIANI	Commercial Branch

Sl. No.	NAME OF THE PARTICIPANT	DESIGNATION & ORGANIZATION
26.	V.L. RUATKIMI PACHUAU	Commercial Branch
27.	HMANGAIHZUALI	Commercial Branch
28.	VANLALRUATA	Commercial Branch
29.	F. RODINGLIANI	President, MIOA
30.	VANLALRUATA	Sr. Vice President, PC Party
31.	LALMUANPUIA PUNTE	General Secretary, ZPM
32.	LALTHANPUIA CHHANGTE	Citizen
33.	C. LALTLANMAWIA	Jt. Secretary, ZPM
34.	Prof. CHAWNGSAILOVA	President, MCU
35.	H. LALDIKLIANA	Treasurer, MCU Hqrs.
36.	C. LALDAWNGLIANA	Vice President, MCU
37.	A. LALHMANGAIHZUALA	General Secretary, MCU
38.	H. LALBIAKPUIA	ACS, MCU
39.	THANGLURA	Vice President, MCU
40.	NGURDINGPUIA PACHUAU	General Secretary, MPYCC
41.	ZOHMINGTHANGA	General Secretary, MPYCC
42.	T.T. ZOTHANSANGA	General Secretary, MPYCC
43.	R. VANLALVENA	General Secretary, MPYCC
44.	LALLUNGHNEMA	SAC Member
45.	C. LALHMACHHUANA	Jt. Editor, Zalen
46.	LALREMRUATA SAILO	PAO, JERC (M&M)
47.	LALCHANCHINMAWII	PPS, JERC (M&M)
48.	RENGTHANSANGI RENGSI	CCO, JERC (M&M)
49.	K. LALREMSANGI	PPS, JERC (M&M)
50.	LALREMRUATI	Stenographer, JERC (M&M)
51.	C. LALLAWMKIMI	Clerk, JERC (M&M)
52.	RAMFANTLUANGI	CCO, JERC (M&M)
53.	VANLALRINNGHETA	CCO, JERC (M&M)
54.	LALMUANKIMA	M.R., JERC (M&M)

Annexure-III

P&ED Expected Revenue with Existing Tariff in FY 2022-23 w.e.f 1.04.2022 (As per Commission)											
Sl. No.	Consumer Category (FY 2022-23)	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)
								Fixed Charges (` Crs)	Energy Charge/ (` Crs)		
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11=(9+10)*	*12=11/5*
1	**KJ(Domestic)**					**Conc/kW**	**(` /kWh)**	**(` /kWh)**			
i)	First 20 kWh	14317		3.40	19.80		**2.50**		0.85		
ii)	Above 20 kWh	7501		4.52	50.22		**3.15**		1.31		
	Sub Total	**21818**	**4261.16**	**7.92**		**25**		**0.65**	**2.16**	**2.812**	**3.55**
2	**Domestic**					**(` /CL/kW)**	**(` /kWh)**				
i)	First 100 kWh	134077		113.06	70.27		**4.80**		54.27		
ii)	101 - 200 kWh	71987		94.93	109.90		**5.50**		46.17		
iii)	Above 200 kWh	39362		96.01	203.26		**5.90**		49.56		
	Sub Total	**245427**	**291607.08**	**304.01**		**50**		**17.50**	**150.00**	**167.493**	**5.51**
3	Domestic HT	28	6004.70	4.79		50	**6.45**	0.40	3.43	**3.834**	**8.00**
	Total Domestic	**245454**	**297611.78**	**316.72**				**18.55**	**155.59**	**174.139**	**5.50**
4	**Non-Domestic**										
i)	First 150 kWh	5224		3.35	53.36		**6.10**		2.04		
ii)	Above 150 kWh	2499		5.69	189.94		**6.25**		3.49		
	Sub Total	**7723**	**16219.98**	**9.04**		**60**		**1.17**	**5.53**	**6.700**	**7.41**
5	**Non-Domestic HT**	12	480.69	0.28	1921.96	**60**	**6.30**	0.04	0.20	0.234	**8.37**
	Total Non-Domestic	**7735**	**16700.67**	**9.32**				**1.21**	**5.73**	**6.934**	**7.44**
6	**Commercial**										
i)	First 150 kWh	10166		18.03	147.82		**6.80**		12.26		
ii)	Above 150 kWh	3758		19.67	436.18		**7.05**		13.70		
	Sub Total	**13923**	**38210.45**	**37.70**		**80**		**3.67**	**25.96**	**29.627**	**7.86**
7	**Commercial HT**	309	10954.44	11.10	2996.01	**80**	**7.10**	1.17	8.76	9.924	**8.94**
	Total Commercial	**14232**	**49164.89**	**48.80**				**4.84**	**34.71**	**39.551**	**8.10**
8	Public Lighting	1355	953.32	2.33		**80**	**10.00**	0.09	2.33	2.422	10.39
9	PWS LT	10	293.27	0.87		**90**	**9.90**	0.03	0.87	0.898	10.26
10	PWS HT	77	87418.33	90.03		**90**	**9.80**	10.49	98.03	108.519	12.05
11	Agl LT	39	117.97	0.07		**50**	**3.65**	0.01	0.03	0.032	4.68
12	Agl HT	2	187.43	0.11		**50**	**3.60**	0.01	0.04	0.057	5.13
13	**Industrial LT**										
i)	First 400 kWh	922		2.68	241.87		**5.80**		1.55		
ii)	Above 400 kWh	166		1.80	901.72		**6.35**		1.10		
	Total Industrial LT	**1088**	**5509.19**	**4.47**		**80**		**0.53**	**2.65**	**3.179**	**7.11**
14	Industrial HT	25	5981.06	6.11	20074.16	**80**	**7.05**	0.64	4.78	5.423	8.88
15	Bulk Supply HT	251	60460.00	16.16	5357.14	**90**	**7.10**	7.26	12.75	20.003	12.38
Grand Total		**292087**	**528659**	**494.99**				**43.65**	**317.51**	**361.157**	**7.30**

Annexure-IV

P&ED Expected Revenue with Approved/Subsidised Tariff in FY 2022-23 w.e.f 1.04.2022														
Sl. No.	Category (2022-23)	Consumers	Connected Load (in kW)	Annual energy Sales (in MU)	Sales/ Consumer /Month (in kWh)	Fixed Charge (` /kW)	Energy Charge (` /kWh)	Revenue / Annual Yrly Fixed Charges (` Crs)	Yrly Energy Charge/ (` Crs)	Annual Revenue (` Crs)	Avg. per unit (` /kWh)	Cat. Subsidy % among ABR & FCT	Subsidy % of FCT-ACS	Full Cost Tariff (ACS)
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11=(9+10)*	*12=11/5*	*13*	*14*	*15*
1	**KJ(Domestic)**					**Conc/kW**	**(` /kWh)**							
i)	First 20 kWh	14317		3.40	19.80	25	**2.55**	0.43	0.87	1.30	3.81	57.07%	61.87%	8.88
ii)	Above 20 kWh	7501		4.52	50.22	25	**3.55**	0.23	1.42	1.65	3.65	58.90%	63.50%	8.88
	Sub Total	**21818**	**4261.16**	**7.92**		**25**		**0.65**	**2.29**	**2.95**	**3.72**	**58.12%**	**62.80%**	**8.88**
2	**Domestic**					**(` /CL/kW)**	**(` /kWh)**							
i)	First 100 kWh	134077	123333.33	113.06	70.27	50	**4.90**	7.40	55.40	62.80	5.55	39.98%	44.44%	9.25
ii)	101 - 200 kWh	71987	86666.67	94.93	109.90	50	**7.10**	5.20	48.40	53.60	5.65	38.52%	43.53%	9.18
iii)	Above 200 kWh	39362	81607.08	96.01	203.26	50	**8.20**	4.90	57.95	62.84	6.55	29.81%	34.53%	9.32
	Sub Total	**245427**	**291607.08**	**304.01**		**50**		**17.50**	**161.74**	**179.24**	**5.90**	**36.29%**	**41.03%**	**9.25**
3	Domestic HT	28	6004.70	4.79		50	**8.65**	0.40	4.60	5.01	10.45	-1.89%	-4.49%	10.25
	Total Domestic	**245454**	**297611.78**	**316.72**				**18.55**	**168.64**	**187.19**	**5.91**	**36.17%**	**40.88%**	**9.26**
4	**Non-Domestic**													
i)	First 150 kWh	5224	11428.57	3.35	53.36	60	**7.60**	0.82	2.54	3.37	10.06	6.97%	-0.62%	10.81
ii)	Above 150 kWh	2499	4791.41	5.69	189.94	60	**8.30**	0.34	4.41	4.76	8.35	8.73%	16.45%	9.15
	Sub Total	**7723**	**16219.98**	**9.04**		**60**		**1.17**	**6.95**	**8.12**	**8.98**	**8.01%**	**10.13%**	**9.77**
5	**Non-Domestic HT**	12	480.69	0.28	1921.96	**60**	**8.75**	0.04	0.27	0.31	11.10	-8.88%	-11.00%	10.19
	Total Non-Domestic	**7735**	**16700.67**	**9.32**				**1.21**	**7.23**	**8.43**	**9.05**	**7.48%**	**9.50%**	**9.78**
6	**Commercial**													
i)	First 150 kWh	10166	18947.37	18.03	147.82	80	**8.20**	1.82	14.79	16.61	9.21	19.78%	7.89%	11.48
ii)	Above 150 kWh	3758	19263.08	19.67	436.18	80	**8.45**	1.85	16.45	18.30	9.30	18.95%	6.94%	11.48
	Sub Total	**13923**	**38210.45**	**37.70**		**80**		**3.67**	**31.24**	**34.91**	**9.26**	**19.35%**	**7.39%**	**11.48**
7	**Commercial HT**	309	10954.44	11.10	2996.01	**80**	**8.90**	1.17	10.98	12.14	10.94	5.59%	-9.44%	11.59
	Total Commercial	**14232**	**49164.89**	**48.80**				**4.84**	**42.21**	**47.05**	**9.64**	**16.20%**	**3.56%**	**11.50**
8	Public Lighting	1355	953.32	2.33		**80**	**11.35**	0.09	2.64	2.74	11.74	-2.08%	-17.45%	11.50
9	PWS LT	10	293.27	0.87		**90**	**11.10**	0.03	0.97	1.00	11.46	0.05%	-14.65%	11.47
10	PWS HT	77	87418.33	90.03		**90**	**9.85**	10.49	98.53	109.02	12.11	-5.38%	-21.12%	11.49
11	Agl LT	39	117.97	0.07		**50**	**3.80**	0.01	0.03	0.03	4.83	44.83%	51.73%	8.75
12	Agl HT	2	187.43	0.11		**50**	**3.85**	0.01	0.05	0.06	5.40	42.88%	45.94%	9.46
13	**Industrial LT**													
i)	First 400 kWh	922	4444.44	2.68	241.87	80	**7.10**	0.43	1.90	2.33	8.69	17.16%	13.03%	10.50
ii)	Above 400 kWh	166	1064.75	1.80	901.72	80	**8.05**	0.10	1.37	1.47	8.20	21.90%	18.01%	10.50
	Total Industrial LT	**1088**	**5509.19**	**4.47**		**80**		**0.53**	**3.27**	**3.80**	**8.49**	**19.07%**	**15.04%**	**10.50**
14	Industrial HT	25	5981.06	6.11	20074.16	**80**	**9.05**	0.64	6.14	6.78	11.10	-5.63%	-11.03%	10.51
15	Bulk Supply HT	251	60460.00	16.16	5357.14	**90**	**6.85**	7.26	12.30	19.55	12.10	-9.11%	-21.04%	11.09
	Grand Total	**292087**	**528659.05**	**494.99**				**43.65**	**342.01**	**385.66**	**7.79**	**22.07%**	**10.00**	**10.00**

Annexure–V

P&ED Expected Revenue during FY 2022-23 from approved Full Cost Tariff w.e.f 1.04.2022 (without subsidy)

Sl. No.	Category (2022-23)	Consumers	Connected Load (in kW)	Annual energy Sales (in MU)	Sales/ Consumer /Month (in kWh)	Fixed Charge (` /kW)	Energy Charge (` /kWh)	Revenue / Annual Yrly Fixed Charges (` Crs)	Revenue / Annual Yrly Energy Charge/ (` Crs)	Annual Revenue (` Crs)	Avg. per unit (` /kWh)	ABR to ACS	Cross subsidy from ACS
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11=(9+10)*	*12=11/5*	***13***	***14***
1	**KJ(Domestic)**					**Conc/kW**	**(` /kWh)**						
i)	First 20 kWh	14317		3.402	19.80	25	**7.62**	0.43	2.59	3.02	8.88	88.83%	**11.17%**
ii)	Above 20 kWh	7501		4.521	50.22	25	**8.89**	0.23	3.79	4.01	8.88	88.83%	**11.17%**
	Sub Total	**21818**	**4261.16**	**7.92**		**25**		**0.65**	**6.38**	**7.04**	**8.88**	**88.83%**	**11.17%**
2	**Domestic**					**(` /CL/kW)**	**(` /kWh)**						
i)	First 100 kWh	134077	123333.33	113.061	70.27	50	**8.60**	7.40	97.23	104.63	9.25	92.56%	**7.44%**
ii)	101 - 200 kWh	71987	86666.67	94.933	109.90	50	**8.99**	5.20	81.97	87.17	9.18	91.85%	**8.15%**
iii)	Above 200 kWh	39362	81607.08	96.012	203.26	50	**10.06**	4.90	84.63	89.53	9.32	93.27%	**6.73%**
	Sub Total	**245427**	**291607.08**	**304.005**		**50**		**17.50**	**263.83**	**281.33**	**9.25**	**92.56%**	**7.44%**
3	Domestic HT	28	6004.70	4.791		50	**8.48**	0.40	4.51	4.91	10.25	102.55%	--
	Total Domestic	**245454**	**297611.78**	**316.719**				**18.55**	**274.73**	**293.28**	**9.26**	**92.62%**	**7.38%**
4	**Non-Domestic**												
i)	First 150 kWh	5224	11428.57	3.345	53.36	60	**8.35**	0.82	2.79	3.62	10.81	108.16%	--
ii)	Above 150 kWh	2499	4791.41	5.695	189.94	60	**9.27**	0.34	4.87	5.21	9.15	91.54%	**8.46%**
	Sub Total	**7723**	**16219.98**	**9.040**		**60**		**1.17**	**7.66**	**8.83**	**9.77**	**97.69%**	**2.31%**
5	**Non-Domestic HT**	12	480.69	0.280	1921.96	**60**	**7.94**	0.04	0.247	0.29	**10.19**	101.94%	--
	Total Non-Domestic	**7735**	**16700.67**	**9.320**				**1.21**	**7.9080**	**9.11**	**9.78**	**97.82%**	**2.18%**
6	**Commercial**												
i)	First 150 kWh	10166	18947.37	18.033	147.82	80	**10.47**	1.82	18.88	20.70	11.48	114.82%	--
ii)	Above 150 kWh	3758	19263.08	19.668	436.18	80	**10.58**	1.85	20.73	22.58	11.48	114.82%	--
	Sub Total	**13923**	**38210.45**	**37.700**		**80**		**3.67**	**39.61**	**43.28**	**11.48**	**114.82%**	--
7	**Commercial HT**	309	10954.44	11.098	2996.01	**80**	**9.48**	1.17	11.69	12.86	**11.59**	115.92%	--
	Total Commercial	**14232**	**49164.89**	**48.799**				**4.84**	**51.30**	**56.14**	**11.50**	**115.07%**	--
8	Public Lighting	1355	953.32	2.330		**80**	**11.11**	0.09	2.59	2.68	11.50	115.07%	--
9	PWS LT	10	293.27	0.875		**90**	**11.11**	0.03	0.97	1.00	11.47	114.70%	--
10	PWS HT	77	87418.33	90.026		**90**	**9.29**	10.49	92.97	103.46	11.49	114.95%	--
11	Agl LT	39	117.97	0.069		**50**	**7.72**	0.01	0.05	0.06	8.75	87.48%	**12.52%**
12	Agl HT	2	187.43	0.111		**50**	**7.50**	0.01	0.09	0.10	9.46	94.65%	**5.35%**
13	**Industrial LT**												
i)	First 400 kWh	921.78	4444.44	2.6754	241.8705	80	**8.90**	0.43	2.38	2.81	10.50	104.98%	--
ii)	Above 400 kWh	166.26	1064.75	1.7990	901.7216	80	**10.75**	0.10	1.79	1.89	10.50	104.98%	--
	Total Industrial LT	**1088**	**5509.19**	**4.474**		**80**		**0.53**	**4.17**	**4.70**	**10.50**	104.98%	--
14	Industrial HT	25	5981.06	6.108	20074.16	**80**	**8.52**	0.64	5.78	6.42	10.51	105.10%	--
15	Bulk Supply HT	251	60460.00	16.159	5357.14	**90**	**5.94**	7.26	10.67	17.92	11.09	110.94%	--
	Grand Total	**292087**	**528659.05**	**494.991**				**43.65**	**451.23**	**494.88**	**10.00**	**100%**	

Annexure-VI

Abstract of Full Cost Tariff, Subsidised Tariff and Category wise subsidy allocated in FY2022-23													
P&ED Department (FY 2022-23)		Energy	Full Cost Tariff				Subsidised Tariff				Govt. Subsidy	
		Annual Sales (MU)	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)
1	KJ(Domestic)		Conc/kW	(` /kWh)			Conc/kW	(` /kWh)				
i)	First 20 kWh	3.40	25	7.62	3.02	8.88	25	2.55	1.30	3.81	1.72	5.07
ii)	Above 20 kWh	4.52	25	8.89	4.01	8.88	25	3.55	1.65	3.65	2.36	5.23
	Sub Total	7.92			7.04	8.88			2.95	3.72	4.09	5.16
2	Domestic		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i)	First 100 kWh	113.06	50	8.60	104.63	9.25	50	4.90	62.80	5.55	41.83	3.70
ii)	101 - 200 kWh	94.93	50	8.99	87.17	9.18	50	7.10	53.60	5.65	33.57	3.54
iii)	Above 200 kWh	96.01	50	10.06	89.53	9.32	50	8.20	62.84	6.55	26.69	2.78
	Sub Total	304.01			281.33	9.25			179.24	5.90	102.09	3.36
			(` /kVA/BD)	(` /kVAh)			(` /kVA/BD)	(` /kVAh)				
3	Domestic HT	4.79	50	8.48	4.91	10.25	50	8.65	5.01	10.45	-0.09	-0.19
	Total Domestic	316.72			293.28	9.26			192.19	6.07	101.09	3.19
4	Non-Domestic		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i)	First 150 kWh	3.35	60	8.35	3.62	10.81	60	7.60	3.37	10.06	0.25	0.75
ii)	Above 150 kWh	5.69	60	9.27	5.21	9.15	60	8.30	4.76	8.35	0.46	0.80
	Sub Total	9.04			8.83	9.77			8.12	8.98	0.71	0.78
5	Non-Domestic HT	0.28	60	7.94	0.29	10.19	60	8.75	0.31	11.10	-0.03	-0.91
	Total Non-Domestic	9.32	(` /kVA/BD)	(` /kVAh)	9.11	9.78	(` /kVA/BD)	(` /kVAh)	8.43	9.05	0.68	0.73
6	Commercial		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i)	First 150 kWh	18.03	80	10.47	20.70	11.48	80	8.20	16.61	9.21	4.10	2.27
ii)	Above 150 kWh	19.67	80	10.58	22.58	11.48	80	8.45	18.30	9.30	4.28	2.18
	Sub Total	37.70			43.28	11.48			34.91	9.26	8.37	2.22
7	Commercial HT	11.10	80	9.48	12.86	11.59	80	8.90	12.14	10.94	0.72	0.65
	Total Commercial	48.80	(` /kVA/BD)	(` /kVAh)	56.14	11.50	(` /kVA/BD)	(` /kVAh)	47.05	9.64	9.09	1.86
			(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
8	Public Lighting	2.33	80	11.11	2.68	11.50	80	11.35	2.74	11.74	-0.06	-0.24
9	PWS LT	0.87	90	11.11	1.00	11.47	90	11.10	1.00	11.46	0.00	0.01
10	Agl LT	0.07	50	7.72	0.06	8.75	50	3.80	0.03	4.83	0.03	3.92
			(` /kVA/BD)	(` /kVAh)			(` /kVA/BD)	(` /kVAh)				
11	PWS HT	90.03	90	9.29	103.46	11.49	90	9.85	109.02	12.11	-5.56	-0.62
12	Agl HT	0.11	50	7.50	0.10	9.46	50	3.85	0.06	5.40	0.04	4.06
13	Industrial LT		(` /CL/kW)	(` /kWh)			(` /CL/kW)	(` /kWh)				
i)	First 400 kWh	2.68	80	8.90	2.81	10.50	80	7.10	2.33	8.69	0.48	1.80
ii)	Above 400 kWh	1.80	80	10.75	1.89	10.50	80	8.05	1.47	8.20	0.41	2.30
	Total Industrial LT	4.47		(` /kVA)	4.70	10.50			3.80	8.49	0.90	2.00
			(` /kVA/BD)	(` /kVAh)			(` /kVA/BD)	(` /kVAh)				
14	Industrial HT	6.11	80	8.52	6.42	10.51	80	9.05	6.78	11.10	-0.36	-0.59
15	Bulk Supply HT	16.16	90	5.94	17.92	11.09	90	6.85	19.55	12.10	-1.63	-1.01
		494.99			494.88	10.00			385.66	7.79	109.22	2.21
	CL- denotes Contracted Load	BD- denotes Billng Demand										

Annexure-VII

Government of Mizoram
Power & Electricity Department

No.B.19018/9/2015-P&E/L : Dated Aizawl, the 18th Feb, 2022

To

The Engineer – in-Chief
Power & Electricity Department
Mizoram: Aizawl.

Subj : ***Assurance of Tariff Subsidy – regarding***

Sir,

With reference to the above, I am directed to convey observation of Finance Department vide ID. No FIN (EA): 858/2021-22 DT 17.2.2022 as below for necessary action:

"In regard to the proposal of P&E Department for commitment of Government for providing fund to meet the revenue gap. Finance Department (EA) commits to provide the fund amounting to Rs. 168.33 crore as normal budget allocation over and above the already approved subsidy of Rs 109.22 crore during the financial year 2022-23."

You are requested to make proposal for slab-wise subsidy for those category having slab as per reference letter No.2 above for further necessary action.

Yours faithfully,

Sd/-

(**JIM ELLIOT L. SAILO**)
Under Secretary (Tech) to the Govt. of Mizoram
Power & Electricity Department

Annexure-VIII

Government of Mizoram
Power & Electricity Department

No.B.19018/9/2015-P&E/L: Dated Aizawl, the 3rd March, 2022

To

The Engineer – in-Chief
Power & Electricity Department
Mizoram: Aizawl.

Subj: ***Assurance of Tariff Subsidy – regarding***

Sir,

In inviting a reference to your letter No. T.23012/01/20-EC(P)/Com/96 dt. 24.2.2022 on the above subject, I am directed to returned herewith duly signed copy of expected revenue from proposed Tariff for the FY 2022-23 of P&E Department, Mizoram for necessary action.

Yours faithfully,

Encl:- As above

Sd/-

(THANCHUNGNUNGI)
Under Secretary to the Govt. of Mizoram
Power & Electricity Department

JOINT ELECTRICITY REGULATORY COMMISSION

FOR MANIPUR AND MIZORAM

TBL Bhawan, 2nd to 5th Floor,

Peter Street, E-18, Khatla, Aizawl, Mizoram, 796001

Website: www.jerc.mizoram.gov.in

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