

ARUNACHAL PRADESH STATE ELECTRICITY REGULATORY COMMISSION (APSERC)

Determination of Aggregate Revenue Requirement

&

Tariff Order for FY 2024-25

for

Deptt. of Hydro Power Development

Government of Arunachal Pradesh

Issued on 31/12/2024

Arunachal Pradesh State Electricity Regulatory Commission अरुणाचल प्रदेश राज्य विद्युत नियामक आयोग O. T. BUILDING, T. T. MARG, NITI VIHAR MARKET ITANAGAR-791111

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Abbreviations

Abbreviation	Description
A&G	Administration & General
ACT	Electricity Act, 2003
APSERC	Arunachal Pradesh State Electricity Regulatory Commission
ARR	Aggregate Revenue Requirement
APTEL	Appellate Tribunal For Electricity
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
Cr./ Crs	Crore/ Crores
D/E	Debt Equity RICHTY REGULATOR
DHPD	Deptt. of Hydro Power Development
DOP, AP	Department of Power, Govt. of Arunachal Pradesh
FY	Financial Year
GFA	Gross Fixed Assets
GoAP	Government of Arunachal Pradesh
kWh	Kilo Watt Hour Town Tage Tage
MU	Million Units
MW	Mega Watt
O&M	Operation & Maintenance
ROE	Return on Equity
Rs.	Rupees
SBI	State Bank of India
SBI-MCLR	State Bank of India- Marginal Cost Lending Rate
SERC	State Electricity Regulatory Commission
YoY	Year on Year
L	

Before

The Arunachal Pradesh State Electricity Regulatory Commission (APSERC)

Itanagar, Arunachal Pradesh

Petition No. TP - 11 of 2024

In the matter of:

Petition for Determination of Aggregate Revenue Requirement (ARR) and Tariff for Generation by Department of Hydro Power Development, Arunachal Pradesh for the FY 2024-25

In the matter:

Department of Hydro Power Development,

Govt. of Arunachal Pradesh, Itanagar

Petitioner

PRESENT:

Hon'ble R.K Joshi

Hon'ble Nich Rika

Member (Law), APSERC

The Commission in exercise of the powers vested in it under section 62 (1) (a) read with Section 62 (3) and Section 64 (3) (a) of the Electricity Act, 2003 and APSERC(Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024 and its amendments and other enabling provisions in this behalf, hereby issues this order, determining the Aggregate Revenue Requirement (ARR) for FY 2024-25 and generation tariff for the FY 2024-25 for supply of electricity by the Department of Hydro Power Development, Govt. of Arunachal Pradesh (DHPD) to the Department of Power for distribution in the State of Arunachal Pradesh. The relevant Regulation of the commission requires that the generating company shall file tariff before the Commission for fixation of tariff and Aggregate Revenue Requirement (ARR), complete in all respects, along with requisite fee as prescribed in the Commission's Fee,

(Passed on 31.12.2024)

Regulations, (1st amendments) 2017 on or before 30th November of the preceding year. Accordingly, the tariff petition for the FY 2024-25 should have been filed by the DHPD (the deemed generating company) on or before 30th November, 2023. However, DHPD filed the said petition before the Commission on vide No HPD-WZ-11029/1/2021/24-25/1554-55 dated 20.09.2024.

This order consists of seven chapters, which include detailed analysis of the Aggregate Revenue Requirement (ARR) for FY 2024-25; approved Generation Tariff for the FY 2024-25. The Commission hereby directs the DHPD to take all necessary steps for implementation of this order from the date specified below.

The directives contained in Chapter-7 shall be strictly adhered to and compliance thereof, as desired by the Commission must be placed before the commission within the stipulated time.

This order shall be effective from 1st April 2024 and shall remain in force till the next tariff

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order is issued by the Commission.

Date: 31.12.2024

Place: Itanagar

STATE

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Sd/-

Shri Nich Rika

Sd/-

Shri R.K. Joshi

Member(Law)

(Chairperson)

Secretary

Chapter 1: INTRODUCTION

Arunachal Pradesh State Electricity Regulatory Commission

- 1.1 In exercise of the powers conferred by the Electricity Act, 2003, (hereinafter referred to as Act) the Government of Arunachal Pradesh constituted the Electricity Regulatory Commission for the State of Arunachal Pradesh to be known as "Arunachal Pradesh State Electricity Regulatory Commission" (APSERC) as notified on 07.05.2010 (hereinafter referred to as Commission). The Arunachal Pradesh State Electricity Regulatory Commission has been functioning with effect from 02.03.2011 with the objective and purpose for which the Commission has been established i.e., to discharge its functions as per Section 86 of the Act. The Commission had been functioning as a single member Commission as per provisions of prevalent laws/rules till the retirement of Shri R P Singh, the then Chairperson of the Commission from the post of Chairperson on 31.12.2019. The Post of Chairperson remained vacant till 17.07.2023 and hence no regulatory activities were taken up during this intervening period. After a gap of about three and half years a two-member Commission was constituted on 18.07.2023 notified vide No. PWRS/W-1075/2004/Pt/5715/37 dated 19.07.2023. Thereafter, the Commission continues to discharge the functions as envisaged in the Act.
- 1.2 In accordance with Section 86 (1) of the Act, the APSERC discharges the following functions:
 - a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:
 - Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
 - b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
 - c) facilitate intra-State transmission and wheeling of electricity;
 - d) issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;

- e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
- f) adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;
- g) levy fee for the purposes of this Act;
- h) specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section (1) of Section 79;
- specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- j) fix the trading margin in the intra-state trading of electricity, if considered, necessary;
- k) discharge such other functions as may be assigned to it under this Act.
- 1.3 The Commission has to also advise the State Government as per sub section 2 of Section 86 of the Act, on all or any of the following matters, namely:
 - a) promotion of competition, efficiency and economy in activities of the electricity industry;
 - b) promotion of investment in electricity industry;
 - c) reorganization and restructuring of electricity industry in the State;
 - d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.
- 1.4 The State Commission ensures transparency while exercising its powers and discharging its functions.
- 1.5 In discharge of its functions, the State Commission is also guided by the Tariff Policy notified by the Government of India under Section 3 of the Act. The objectives of the Tariff Policy 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.

Arunachal Pradesh - Geographical Reality

1.6 The total area of the State of Arunachal Pradesh is 83573 sq.kms. The State is having a population of around 13.82 lakhs (2011 Census). The State of Arunachal Pradesh is bounded by Assam in South, Bhutan in West, China in North, and Nagaland and Myanmar in East. It's Capital, Itanagar is about 380 kms. from Guwahati.

Arunachal Pradesh Department of Hydro Power Development

- 1.7 In order to oversee, co-ordinate and monitor the development of hydro power in the State of Arunachal Pradesh, the State Govt. created a separate department namely "Department of Hydro Power Development" on 12/11/2003. It is a full-fledged department headed by a Chief Engineer. The Department is entrusted with the development of micro / mini / small hydro project, improvement of existing hydro projects including renovation & modernization works, operation and maintenance of existing hydel stations, survey & investigation of new potential sites, and construction of residential and non-residential building for the Department. The Department is foremost concentrating on the urgent need of bridging the existing demand supply gap in order to make the State self-reliant, so far as power needs of the State are concerned and to help achieve the target of all villages electrification and all household electrification.
- 1.8 The Department in its petition has stated that at present it has to its credit 84.15 MW installed capacity. Department is operating micro/mini/small Hydro Power Stations. Department is also under taking construction of various Hydel Stations in various districts of the State which are under different stages of development. Completion of these on-going schemes shall lead to a further capacity addition. In addition to above, Department is also carrying out Survey & Investigation of new schemes with the aim of identifying more potential sites for tapping the estimated 2000 MW small hydro power potential in the State developing hydro power.

1.9 The Department has a dedicated work force of 3198 Nos. staff comprising of experienced engineers, technical staff and other supporting staff. The Department of Hydro Power Development has also been assigned the very important responsibility of acting as nodal agency for coordinating and overseeing the allotment and development of Mega Hydro Electric Projects in the State by IPPs as State's Mega & Small Hydro Power Policy. Department is looking forward to transforming the long-awaited dream of the people of the State into reality that Arunachal Pradesh shall be the "FUTURE POWER HOUSE OF THE COUNTRY".

Petitioners Prayer

- 1.10 The Petitioner in the Filing of Petition for approval of Annual Revenue Requirement (ARR) & Tariff Petition for FY 2024-25 has prayed for the following:
 - a) Approve the Annual Fixed Charges & Tariff as submitted.

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b) Pass such other and further order(s) as are deemed fit and proper in the facts and circumstances of the case.

Chapter 2: PROCEDURAL HISTORY

Background

- 2.1 The Petitioner had filed a petition for approval of ARR and Tariff for FY 2019-20 on 30th May 2019. The petition was admitted by the Commission on 30th May 2019 (TP-5 of 2019). The Commission approved the ARR and determined the Tariff for FY 2019-20, vide order dated 20th December 2019.
- 2.2 The Petitioner has also submitted petition for determination of Tariff for FY 2020-21, FY 2021-22 & FY 2022-23 however as the Commission was defunct due to absence of Chairperson/Member hence the petition was not considered. After a gap of about three and half years the two-member Commission was constituted vide notified No. PWRS/W-1075/2004/Pt/5715/37 dated 19.07. 2023. The Commission, vide ROP No. TP-02 of 2024 dated 23.02.2024, quashed the petition pertaining to the tariff for the financial year 2022-23 on the grounds that a significant amount of time had elapsed, and the tariff order for APDoP, which encompassed the jurisdiction of DHPD, had already been issued. The Commission further directed the petitioner to file a fresh petition for the financial year 2024-25 within four weeks from the date of issuance of the aforementioned ROP.
- 2.3 The Petitioner submitted the Petitions before the Commission on 06-08-2024 however upon scrutiny it was found that the petitions was not signed by authorized signatory and for other six petition filed by DHPD were not supported by affidavit and was also not accompanied by requisite fee and claims made in the petition were not supported by relevant documents. Hence the petitions were rejected with a direction to the Petitioner vide ROP dated 28.08.2024 to submit the petitions within three weeks. During the hearing the petitioner pleaded before the Commission to adjust the petitions fee submitted to the Commission for the previous years against which no proceedings were done by the Commission. The Commission hereby adjusted the earlier deposited fee of the petitioner in the following manner as referred in the table below:

Table 1 Details of fee deposited by Petitioner and adjusted by Commission

S.No	Financial Year	Date of Petition fee deposited by the Petitioner along DD no	Fee details	Remarks
1	FY 2020-21	06.05.2020, DD no:978732	Rs.5 lakhs	Fee adjusted against petition for Payu MHS at Koloriang
2	FY 2021-22	19.04.2021,DD no:642614	Rs.5 lakhs	Fee adjusted against petition for Mukto HEP
3	FY 2022-23	07.04.2022,DD no:203440	Rs,5 lakhs	Disposed of against ROP dated

	FY 2024-25	18.04.2024,DD no:817253	Rs.5 lakhs	Fee adjusted against petition for 116 projects of DHPD as per ROP dated 28.08.2024
6	FY 2024-25	24.12.2024,Dd no:011501	Rs.15 lakhs	Fee adjusted against petition for KhajalongHEP,Angong Nallah HEP & Nuranang Ph-II HEP
		Total	Rs.40 Lakhs	THEF & Nuranang Fir-H TIEF

- 2.4 In compliance with the said directive, the petitioner submitted the petition for the financial year 2024-25, dated 23rd September 2024.
- 2.5 In the instant petition the Petitioner has sought approval for determination of ARR & Tariff for FY 2024-25.

Information Gaps in the Petition

- 2.6 In exercise of Tariff determination process, several deficiencies/information gaps were found in the Petition submitted by the Petitioner and the same was communicated to the Petitioner during admission hearing dated 23rd October 2024.
- 2.7 In response, the Petitioner furnished additional data/information to the Commission.
- 2.8 The Commission has scrutinized the Petition and the additional data/information furnished by the Petitioner with respect to its discrepancies identified and has considered the same while passing this Order.
- 2.9 In order to provide adequate opportunities to all stakeholders and general public, as mandated under Section 64 (3) of the Electricity Act 2003 and in relevant provisions of Regulations framed by the Commission and in order to ensure transparency in the process of tariff determination, the Commission decided to hold Public Hearing on 9th December 2024.

Inviting Public Comments/Suggestions

- 2.10 The Commission after admission of the Petition had directed the petitioner to publish a public notice inviting comments/suggestions from public and to make available copies of the Petition to the members of general public on request.
- 2.11 Accordingly, Public Notice was published by the Petitioner in the newspapers and a period of twenty-one (21) days was given for submitting the comments/suggestions by the general

public:

Table 2 List of Newspapers and dates of publication of public notice by Petitioner

Newspaper	Language	Date of Publication
The Arunachal Age	English	26.10.2024
The Arunachal Pioneer	English	26.10.2024
The Arunachal Times	English	26.10.2024
The Dawnlit Post	English	26.10.2024

2.12 The Commission has also uploaded the petition on its website www.apserc.nic.in.

Further in order to provide adequate opportunities to all stakeholders and general public, as mandated under Section 64 (3) of the Electricity Act 2003 and in relevant provisions of Regulations framed by the Commission, the Commission also held a public hearing on 9th December 2024. The details of the newspaper wherein the notice of public hearing was published is given in the table below:

Table 3 List of Newspaper and date of publication of public notice by the Commission

Newspaper	Language	Date of Publication
Arunachal Front	English	23.11.2024
Arunachal Observer	English	23.11.2024
Echo of Arunachal	English	23.11.2024

Submission of Comments/Suggestions and Conduct of Public Hearing

2.13 No comments or suggestions on the Petition were received following the publication of the public notice. Furthermore, no comments or objections were raised during the public hearing. The details pertaining to the public hearing is being discussed in Chapter 4 of this Order.

Chapter 3: BRIEF FACTS ABOUT THE PETITION

3.1 The following chapter summarizes the Petition for approval of Aggregate Revenue Requirement and Tariff as submitted by the Petitioner for FY 2024-25 for Commission's approval.

Installed Capacity

3.2 The Petitioner has submitted that it has a total installed capacity of 62.79 MW corresponding 116 power stations that were commissioned before the year 2017. The details of the installed capacity of those corresponding hydroelectric power stations of the Petitioner for the year FY 2023-24 along with their actual generation is given in the table below:

Table 4 Details of HEP along with actual generation for FY 2022-23 as submitted by the Petitioner

SI.	Name of the	with actual g	Installed	Firm	Year of	Actual Net
No	Station	Units	Capacity	Capacity	Commissioning	Generation
The second second	estern Zone(WZ)		(kW)	(kW)	(FY)	(kWh)
the second second second	ang District					FY 23
1	Chellengkang Ph-I	10x 30	30	30	2004-05	49246.00
2	Chellengkang Ph-II	1-x 30	30	30	2008-09	102639.00
3	Shakti Nallah	2 x 50	100	50	2008-09	41945.00
4	Thimbu	2 x 50	100	100	2009-10	64471.00
5	Khet	2 x 50	100	100/	2009-10	128530.00
6	Tsechu Nallah	2 x 50	100	100	2010-11	62868.00
7	Mago MHS	2 x 50	100	100	2014-15	83204.00
8	Nuranang	3 x 2000	6000	6000	1996-97	11332656
9	Kitpi Ph-I	3 x 500	1500	1500	1977-78	18039.00
10	Kitpi MHS Ph-II	2 x 1500	3000	3000	2008-09	6971165.00
11	T. Gompa	1 x 50	50	50	2001-02	82529.00
12	Bongleng	2 x 50	100	100	2009-10	87807.00
13	Bramdhongchung Ph-I	2 x 50	100	100	2008-09	0.00
14	Bramdhongchung Ph-II	2 x 50	100	100	2010-11	0.00
Wes	t Kameng District					
15	Rahung	3 x 250	750	500	1972 - 73	805321
16	Dirang	4 x 500	2000	1500	1977 - 78	2496980
17	Saktangrong MHS	3 x 100	300	300	2011-12	0
18	Zhongdongrong	2 x 500	1000	1000	2016-17	47208
19	Sessa	3 x 500	1500	1500	1992-93	0
20	Rupa	2 x 100	200	100	1997 - 98	108906
21	Dokumpani	1 x 30	30	30	2000-01	45902
22	Domkhrong	2 x 500	1000	1000	2008-09/2019- 20	2923340

24	23	Sinchung	1 x 30	30	30	2008-09	0
Color	24	Ankaling	1 x 30	30	30	2009-10	. 0
26 Khadiyabey 2 x 100 200 200 2011-12 0 27 Jigaon 2 x 50 100 100 2016-17 238277 East Kameng District 28 Seppa 3x100 300 200 1980-81 0 29 Pakke Kessang 1 x 30 30 30 2001-02 0 300 Pacha MHS 2 x 1500 3000 3000 2008-09 8529034 31 Pakoti 2 x 50 100 100 2010-11 359796 32 Patta Nallah 2 x 50 100 100 2010-11 350843 33 Watte Mame 1 x 50 50 50 2010-11 247628 34 Kade Nallah 1 x 50 50 50 2010-11 0 Eurrug Kumey District 35 Koye 1 x 50 50 50 2010-11 0 36 Paya MHS at Hiya 2 x 50 100 100 2011-12 22557 37 Patte MHS at Tali 1 x 30 30 30 2004-05 0 38 Chambang 1 x 30 30 30 2004-05 0 38 Chambang 1 x 30 30 30 2009-10 0 Lover Subansiri District 39 Mai Ph-I 4 x 500 2000 1500 1977-78 1136661 40 Mai Ph-II 2 x 500 1000 500 1977-78 1136661 41 Tago 3 x 4590 4500 3000 1992-93 2720508 Loper Subansiri District 42 Maro 1 x 50 50 50 2009-10 0 43 Sippi 2 x 2000 4000 4000 1992-93 2720508 Loper Subansiri District 42 Maro 1 x 50 50 50 200 2011-12 0 45 Sikin Karo 2 x 50 100 100 2011-12 0 46 Sinyum Koro 2 x 50 100 100 2011-12 0 47 Dulom (Daporijo) 4 x 100 400 400 1981-82 0 48 Ayingmuri MHS 2 x 125 25 25 25 2011-12 0 46 Sinyum Koro 2 x 50 100 100 2011-12 0 47 Dulom (Daporijo) 4 x 100 400 400 1987-88 285395 53 Liromoba 2 x 1000 2000 2000 2011-12 0 56 Kamba MHS 1 x 30 30 30 2004-05 0 57 Angu MHS 1 x 50 50 50 50 2010-11 0 58 Beye 1 x 30 30 30 2004-05 0 59 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 0 50 25+1*250 50 50 50 2010-11 2 35+11 50 25+11 50 25+11 50 25+11 50 25+11 50 25+11 50 25+11 50 25+11 50 25+11 50 25+11 50 25	25	Dikshi	2 x 30	60	60		personal designation of the second se
27 Jigaon 2 x 50 100 100 2016-17 238277 East Kameng District 28 Seppa 3x100 300 200 1980-81 0 29 Pakke Kessang 1 x 30 30 30 2001-02 0 30 Pacha MHS 2 x 1500 3000 3000 2008-09 8529034 31 Paktor 2 x 50 100 100 2010-11 359786 32 Patta Nallah 2 x 50 100 100 2010-11 359786 32 Patta Mallah 2 x 50 100 100 2010-11 247628 34 Kade Nallah 1 x 50 50 50 2010-11 0 Kurung Kumey District 8 Koye 1 x 50 50 50 2009-10 0 36 Paya MHS at Hiya 2 x 50 50 50 2009-10 0 36 Paya Mal Sat Hiya 2 x 50 100 100 2011-12 22557	26	Khadiyahey	2 x 100	200	200		
Sepa							
28 Seppa 3x100 300 200 1980-81 0 29 Pakke Kessang 1 x 30 30 30 2201-02 0 30 Pacha MHS 2 x 1500 3000 3000 2008-09 8529034 31 Pakoti 2 x 50 100 100 2010-11 359796 32 Patta Nallah 2 x 50 100 100 2010-11 359843 34 Kade Nallah 1 x 50 50 50 2010-11 0 Kurume Mission Mission District 80 50 50 2010-11 0 81 50 50 50 2010-11 0 80 1 x 50 50 50 2010-11 0 0 80 1 x 50 50 50 2001-11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			2 X 30	100	100	2010-17	230211
29			3x100	300	200	1980-81	0
30							
Pakoti							
Patta Nallah							
33	32						
Name	33	Watte Mame					
Note							
35	Kur	ung Kumey District	laranga eri katalapan baran	Appen Services	ssiedos paleitata e tare	San Conjugation (Englished States	attention out of the part
Patte MHS at Tali			1 x 50	50	50	2009-10	0
Chambang	36	Paya MHS at Hiya	2 x 50	100	100		22557
Lower Subansiri District		Patte MHS at Tali	1 x 30	30	30	2004-05	0
Lower Subansiri District 39 Mai Ph-I 4 x 500 2000 1500 1977-78 1136661 40 Mai Ph-II 2 x 500 1000 500 1982-83 176657 17 ago 3/x 4500 4500 3000 1992-93 2720508 2720	38	Chambang	1 x 30	30	30	2009-10	0
40 Mai Ph-II 2 x 500 1000 500 1982-83 176657 41 Tago 3 x 4500 4500 3000 1992-93 2720508 Upper Subansiri District 42 Maro 1 x 30 30 2002-03 0 43 Sippi 2 x 2000 4000 4000 2008-09 3667587 44 Pinto Karo MHS 1 x 25 25 2011-12 0 45 Sikin Karo 2 x 100 200 200 2011-12 0 46 Sinyum Koro 2 x 50 100 100 2011-12 0 47 Dulom (Daporijo) 4 x 100 400 300 1981-82 0 48 Ayingmuri MHS 2 x 125 250 250 2012-13 0 49 Limeking MHS 1 X 30 30 30 2012-13 0 50 Kojin Nallah 2 x 50 100 100 2011-12 0 Eastern	Low	er Subansiri District	OHERSTON SERVICE			2006年1月1日 日本日本	的特别的数据
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60 Rapum 1 x 50 50 2009-10 34413 61 Sirikorang MHS 2x250 500 500 2013-14 1456492 62 Solegomang MHS 1 x 50 50 50 2011-12 33593 Lower Dibang Valley District	59			400	150	2015-16	225196
62 Solegomang MHS 1 x 50 50 50 2011-12 33593 Lower Dibang Valley District		Rapum					
Lower Dibang Valley District							1456492
				50	50	2011-12	33593
63 Deopani Ph-I MHS 3x250 750 750 1986-87 0		The second secon					
	63	Deopani Ph-I MHS	3x250	750	750	1986-87	0

64	Deopani Ph-II MHS	3x250	750	750	2004-05	0
65	Abhapani MHS at Simari	1x250+2x	450	350	1983-84	0
Dibe	ang Valley District	100				U Name of the Control of the Control
66	Echi Ahfra at					i de la
	Anaya	2x200	400	400	2005-06	112436
67	Tah Ahfra Ph-I and Ph-II at Angolin	1x50+1x5 0	100	100	2001-02 2009-10	0
68	Chini Ahfra at Amuli	1x250	250	250	2001-02	0
69	Anini/ Awapani Ph-I at LG	3x50	150	150	1984-85	0
70	Awapani Ph-II at LG	2 x 250	500	250	2005-06	1116617
71	Echito Nallah at Dambien	2 x 20	40	40	2010-11	38695
72	Rupapani at Punli	2 x 20	40	40	2010-11	50590
73	Chu Nallah at Mipi	2 x 15	30	30	2011-12	30574
74	Awapani at Gepuline	2 x 250	UCITY REG	500	2014-15	990596
Cha	nglang District	7.7.0	Service and the service and th			770370
75	Jongkey Nallah	1 x 50	50	50	2011-12	18074
76	Chicklong	2 x 75	150	150	2011-12	109361
77	Tissue	4 x 100	400	300	1986-87	58287
78	Tinning	2 x 25	50	50	2010-11	18585
79		2 X 23	30	30	2010-11	16363
19	Ngonalo at Vijaynagar	2 x 50	100	100	2010-11	0
Unn	er Siang District	1 31 16		W/ 3		
80	Sirnyuk SHP	2x1000	2000	2000	1996-97	2458680
81	Gosang (siri) MHS	2 x 250	500	500	2011-12	405588
82	Selli MHS at Geku	2x 250	500	500	1994-95	1051141
83	Yingkiong Ph-I MHS	3x50	150	150	1980-81	202356
84	Yingkiong Ph-II MHS	2x100	200	200	1992-93	245323
85	Kopu MHS at Tuting	1x250	250	250	2004	292661
86	Sikut/ Tuting MHS	2x50	100	100	1984-85	139921
87	Sillingri (Gelling) MHS	1x50	50	50	2008-09	135299
88	Ngaming MHS	1x50	50	50	2008-09	145358
89	Singa MHS	1x30	30	30	2008-09	76649
-		1x5	5	5	2011	1304
90	Mayung				2011-12	0
90 91	Mayung Kote MHS		50	50	2011-12	1 ()
91	Kote MHS	1x50	50 15	50 15		
	Kote MHS Sika MHS at Likor Sijen MHS at Adi		50 15 50	50 15 50	2011-12 2010 2011-12	0
91 92	Kote MHS Sika MHS at Likor	1x50 1x15	15	15	2010	0

State of the last	w District				特别在21700 00	
95	Mati Nallah	2x250+1x 50	550	500	2004-05	1142796
96	Yapak Nallah	2x100	200	200	2005-06	755703
97	Kebitho	1x30	30	30	2004-05	10181
98	Kaho	1 x 10	10	10	2004-05	3362
99	Krawti Nallah	2 x 50	100	100	2011	247418
100	Tah Nallah	2 x 50	100	100	2009-10	0
101	Teepani MHS	2 x 250	500	500	2009-10	960568
102	Langpani MHS	2 x 200	400	400	2011-12	131011
103	Ashapani MHS	2 x 30	60	60	2011-12	0
104	Hathipani MHS	2 x 50	100	100	2009-10	0
105	Kachopani MHS	2 x 100	200	200	2014-15	232608
106	Maipani MHS	2 x 30	60	60	2010-11	0
Tira	p District					
107	Charju	3 x 200	600	600	1984-85	720557
108	Thiratju	4 x 250	1000	1000	1977	37823
109	Sumhok Nallah	2 x 50	100	100	2009-10	0
110	Tahin Nallah	2 x 50	100	100	2011-12	0
Sian	g District	interkacija i akada skomba	era e l'est propriétable de	endrantes (ald	Statistical property and the second	alaan ka Sagada sa waxa
111	Yembung	4 x 500	2000	2000	1984	3432559
East	Siang District		41			
112	Rina	2 x 1000	2000	2000	2008-09	1145655
113	Pasighat	2 x 100	200	100	1972	162205
114	Silli	1 x 30	30	30	2001-02	13884
Lohit District						
115	Tafragram	1 x 250	250	250	= 1984-85	212451
116	Doorah Nallah	2x100	200	200	2013-14	231382
		3x100	300	300	F/	0
	Total	1 3 16	62790	58290	/	65174457

Capital Cost

3.3 The Petitioner has submitted capital cost of the 116 no's of project as given in the table below:

Table 5: Capital cost of project commissioned upto 31.03.2017 as submitted by the Petitioner

S.No	Particulars Installed Capacity(MW)		Capital Cost (Rs Lakhs)		
1	79 HEPs	42.09	43032.62		
2	37 HEPs	20.70	4773.80		
Total		62.79	47806.42		

Interest on Loan Capital

3.4 The Petitioner has submitted that as per clause 16 of APSERC RE Regulations 2024, interest on loan taken to fund the cost of project shall be recovered through tariff. DHPD has not taken any loan for financing the projects. In view of the above, no interest on loan

has been claimed. DHPD submits that it will claim interest on loan in accordance with the above regulation in case loan is availed for financing of projects in future.

Depreciation

3.5 The Depreciation submitted by the Petitioner for the HEP for FY 2024-25 is given in the table below:

Table 6 Depreciation for the plants as submitted by the Petitioner for FY 2024-25

S.No	Particulars		Capital Cost(Rs Lakhs)	Depreciation (Rs. Lakhs)
1	79 HEPs		43032.62	1175.9
2	37 HEPS		4086.52	56.94
		Total	47806.42	1232.84

Return on Equity(ROE)

3.6 The Return on Equity as submitted by the Petitioner for the plants of FY 2024-25 is given in the table below:

Table 7 Return on Equity for the Plants as submitted by the Petitioner for FY 2024-25

S.No	Particulars		Capital Cost(Rs Lakhs)	Depreciation (Rs. Lakhs)
1	79 HEPs	15/	43032.62	1871.92
2	37 HEPS	0. (4086.52	207.66
		Total	47806.42	2079.58

Operation & Maintenance Expenses

3.7 The Operation and Maintenance Expenses as submitted by the Petitioner for the plants for FY 2024-25 is given in the table below:

Table 8 O&M Expenses of the plants as submitted by the Petitioner for FY 2024-25

S.No	Particulars		Installed Capacity(MW)	O&M expenses (Rs. Lakh)
1	79 HEPs		42.09	2114.52
2	37 HEPS		20.70	1107.09
		Total	62.79	3221.61

Interest on Working Capital

3.8 The Interest on Working Capital as submitted by the Petitioner for the plants for FY 2024-25 is given in the table below:

Table 9 Interest on Working Capital(in Lakhs) as submitted by the Petitioner for FY 2024-25

S.No	Particulars		79 HEPs	37 HEPs
1	O&M expense for one month	\cap	176.21	92.26

ecretary

	Total IoWC	188	.8
5	Interest on Working Capital @11.86%	137.07	51.73
4	Total	1155.81	436.25
3	Receivables @45 days of fixed cost	662.43	177.93
2	Maintenance of spares(15% of O&M)	317.18	166.06

Total Annual Fixed Charge and Tariff

3.9 The total Annual Fixed Charge and Tariff submitted by the Petitioner for FY 2024-25 for the HEPs is given in the table below:

Table 10 Annual Fixed Charge and Tariff submitted by the Petitioner for FY 2024-25

S.No	Particulars	UOM	79 HEPs	37 HEPs
1	Depreciation	Rs. Lakh	1175.90	56.94
2	Return on Equity		1871.92	207.66
3	O&M Expenses		2114.52	1107.09
4	Interest on Working Capital		137.07	51.73
5	Total Annual Fixed cost	VDERI	5299.41	1423.42
6	Installed Capacity	MW-47	42.09	20.70
7	CUF considered	%	36	36
8	Auxiliary Power Consumption	MUs	S 1.33	0.65
	(@1%)	AX.	1 3	
9	Saleable Energy	MUs	131.41	64.63
10	Tariff	Rs/kWh	4.03	2.20

CHAPTER 4: PUBLIC CONSULTATION PROCESS

4.1 A Public Hearing was held by the Commission on December 09th, 2024 for giving additional opportunity to all the stakeholders to submit their comments/suggestions on the said petition. However, no specific comments/objections have been received on the petition by the Commission. The list of the attendees in the public hearing is mentioned in Annexure-I of this Order.



CHAPTER 5: ARR & TARIFF DETERMINATION

- 5.1 The Commission has analysed the submission of the Petitioner with respect to the Annual Revenue Requirement and Tariff for the period FY 2024-25 and has undertaken the exercise for determination of ARR and Tariff for the Petitioner. The component wise description of the Petitioner's submission and the Commission's analysis thereof is provided hereunder.
- 5.2 The Commission while determining the ARR & Tariff exercise for FY 2024-25 has taken into consideration the following:
 - a) APSERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024 and its amendments.
 - b) Documents/Information/Data placed before the Commission;

OL AL

- c) Methodology adopted by the Commission in its previous Orders.
- 5.3 The component-wise details filled by the Petitioner's and the Commission's analysis and approval is made in the upcoming paragraph.

Energy Sales

Petitioners Submission

5.4 The Petitioner has submitted that the entire electricity generated by the 116 HEPs is being sold within the state to the Department of Power, GoAP. The Petitioner has submitted detailed actual generation of the plants for the FY 2022-23 as given in the table below:

Table 11 Actual Generation of 116 no's HEP as submitted by Petitioner for FY 2022-23

Sl.No	Name of the Station	Units	Installed Capacity (kW)	Firm Capacity (kW)	COD (FY)	Actual Net Generation (kWh)
Western	Zone(WZ)					
Tawang	District		10.00			FY 23
1	Chellengkang Ph-I	1 x 30	30	30	2004-05	49246.00
2	Chellengkang Ph-II	1 x 30	30	30	2008-09	102639.00
3	Shakti Nallah	2 x 50	100	50	2008-09	41945.00
4	Thimbu	2 x 50	100	100	2009-10	64471.00
5	Khet	2 x 50	100	100	2009-10	128530.00
6	Tsechu Nallah	2 x 50	100	100	2010-11	62868.00
7	Mago MHS	2 x 50	100	100	2014-15	83204.00
8	Nuranang	3 x 2000	6000	6000	1996-97	11332656
9	Kitpi Ph-I	3 x 500	1500	1500	1977-78	18039.00
10	Kitpi MHS Ph-II	2 x1500	3000	3000	2008-09	6971165.00
11	T. Gompa	1 x 50	50	50	2001-02	82529.00

12	Bongleng	2 x 50	100	100	2009-10	87807.00
13	Bramdhongchung Ph-I	2 x 50	100	100	2009-10	0.00
14	Bramdhongchung Ph-	2 X 30	100	100	2008-09	0.00
14	II	2 x 50	100	100	2010-11	0.00
	ameng District					
15	Rahung	3 x 250	750	500	1972 - 73	805321
16	Dirang	4 x 500	2000	1500	1977 - 78	2496980
17	Saktangrong MHS	3 x 100	300	300	2011-12	0
18	Zhongdongrong	2 x 500	1000	1000	2016-17	47208
19	Sessa	3 x 500	1500	1500	1992-93	0
20	Rupa	2 x 100	200	100	1997 - 98	108906
21	Dokumpani	1 x 30	30	30	2000-01	45902
22	Domkhrong	2 x 500	1000	1000	2008- 09/2019-20	2923340
23	Sinchung	1 x 30	30	30	2008-09	0
24	Ankaling	1 x 30	30	30	2009-10	0
25	Dikshi	2 x 30	60	60	2010- 11/2019-20	37706
26	Khadiyabey	2 x 100	200	200	2011-12	0
27	Jigaon	2 x 50	100	100	2016-17	238277
East Ka	ameng District			A SERVICE A		
28	Seppa	3x100	300	200	1980-81	0
29	Pakke Kessang	1 x 30	30	30	2001-02	0
30	Pacha MHS	2 x 1500	3000	3000	2008-09	8529034
31	Pakoti	2 x 50	100	100	2010-11	359796
32	Patta Nallah	2 x 50	100	100	2010-11	350843
33	Watte Mame	1 x 50	50	50 ≥	2010-11	247628
34	Kade Nallah	1 x 50	50	50	2010-11	0
Kurung	g Kumey District		TO A CONTRACT		计算是是 对1000	人 特别的主要
35	Koye	1 x 50	50	50	2009-10	0
36	Paya MHS at Hiya	2 x 50	100	100	2011-12	22557
37	Patte MHS at Tali	1 x 30	30	30	2004-05	0
38	Chambang	1 x 30	30	30	2009-10	0
	Subansiri District	e ser de pasa di est			and the second second	
39	Mai Ph-I	4 x 500	2000	1500	1977-78	1136661
40	Mai Ph-II	2 x 500	1000	500	1982-83	176657
41	Tago	3 x 1500	4500	3000	1992-93	2720508
	Subansiri District					
42	Maro	1 x 30	30	30	2002-03	0
43	Sippi	2 x 2000	4000	4000	2008-09	3667587
44	Pinto Karo MHS	1 x 25	25	25	2011-12	0
45	Sikin Karo	2 x 100	200	200	2011-12	0
46	Sinyum Koro	2 x 50	100	100	2011-12	0
47	Dulom (Daporijo)	4 x 100	400	300	1981-82	0
48	Ayingmuri MHS	2 x 125	250	250	2012-13	0
49	Limeking MHS	1 X 30	30	30	2012-13	0
50	Kojin Nallah	2 x 50	100	100	2011-12	0
	Zone (EZ)					
	ang District		100		1072 53	0====
51	Pagi (Basar)	2 x 50	100	50	1972-73	97533
52	Ego-Echi (Dali)	4 x 100	400	400	1987-88	285395
53	Liromoba	2 x 1000	2000	2000	2008-09	78058

54	Along	3 x 100	300	300	2004	25301
55	Yomcha	1 x 50	50	50	2001-02	0
56	Kamba MHS	3 x 2000	6000	6000	2010	2860208
57	Angu MHS	1 x 50	50	50	2010-11	0
58	Beye	1 x 30	30	30	2004-05	0
50	Mechuka	6 x				"
59	0.0000	25+1*250	400	150	2015-16	225196
60	Yingko Sikong at Rapum	1 x 50	50	50	2009-10	34413
61	Sirikorang MHS	2x250	500	500	2013-14	1456492
62	Solegomang MHS	1 x 50	50	50	2011-12	33593
Lower	Dibang Valley District				e de la completa del completa de la completa del completa de la completa del la completa de la completa del la completa de la	
63	Deopani Ph-I MHS	3x250	750	750	1986-87	0
64	Deopani Ph-II MHS	3x250	750	750	2004-05	0
65	Abhapani MHS at	1x250+2x1				
	Simari	00	450	350	1983-84	0
Dibang	Valley District		988 A (A) (A) (788)			1997 E 1995 E 19
66	Echi Ahfra at Anaya	2x200	400	400	2005-06	112436
67	Tah Ahfra Ph-I and	1 50.1 50	100	100	2001-02	
	Ph-II at Angolin	1x50+1x50	100	100	2009-10	0
68	Chini Ahfra atAmuli	1x250	Y R250///	250	2001-02	0
69	Anini/ Awapani Ph-I at LG	3x50	150	OP 150	1984-85	0
70	Awapani Ph-II at LG	2 x 250	500	250	2005-06	1116617
71	Echito Nallah at Dambien	2 x 20	40	40	2010-11	38695
72	Rupapani at Punli	2 x 20	40	40 🗠	2010-11	50590
73	Chu Nallah at Mipi	2 x 15	30	30	2011-12	30574
74	Awapani at Gepuline	2 x 250	500	500	2014-15	990596
	lang District	B A 250	4500	3004	201113	770370
75	Jongkey Nallah	1 x 50	50	50/	2011-12	18074
76	Chicklong	2 x 75	150	150	2011-12	109361
77	Tissue	4 x 100	400	300	1986-87	58287
78	Tinning	2 x 25	94 (050) Tax	50	2010-11	18585
79	Ngonalo at Vijaynagar	2 x 23	100	100	2010-11	0
	Siang District	2 x 30	100	100	2010-11	U
80	Sirnyuk SHP	2x1000	2000	2000	1996-97	2459690
81	Gosang (siri) MHS	2 x 250	500	500	2011-12	2458680
82	Selli MHS at Geku					405588
	Yingkiong Ph-I MHS	2x 250	500	500	1994-95	1051141
83	0 0	3x50	150	150	1980-81	202356
84	Yingkiong Ph-II MHS	2x100	200	200	1992-93	245323
85	Kopu MHS atTuting	1x250	250	250	2004	292661
86	Sikut/ Tuting MHS	2x50	100	100	1984-85	139921
87	Sillingri (Gelling) MHS	1x50	50	50	2008-09	135299
88	Ngaming MHS	1x50	50	50	2008-09	145358
89	Singa MHS	1x30	30	30	2008-09	76649
90	Mayung	1x5	5	5	2011	1304
91	Kote MHS	1x50	50	50	2011-12	0
92	Sika MHS at Likor	1x15	15	15	2010	0
93	Sijen MHS at Adi pasi	1x50	50	50	2011-12	0
94	Pyabung MHS	1x25	25	25	2011-12	0
	District	1743	1	4.0	2011-12	

95	Mati Nallah	2x250+1x5 0	550	500	2004-05	1142796
96	Yapak Nallah	2x100	200	200	2005-06	755703
97	Kebitho	1x30	30	30	2004-05	10181
98	Kaho	1 x 10	10	10	2004-05	3362
99	Krawti Nallah	2 x 50	100	100	2011	247418
100	Tah Nallah	2 x 50	100	100	2009-10	0
101	Teepani MHS	2 x 250	500	500	2009-10	960568
102	Langpani MHS	2 x 200	400	400	2011-12	131011
103	Ashapani MHS	2 x 30	60	60	2011-12	0
104	Hathipani MHS	2 x 50	100	100	2009-10	0
105	Kachopani MHS	2 x 100	200	200	2014-15	232608
106	Maipani MHS	2 x 30	60	60	2010-11	0
Tirap D	District					
107	Charju	3 x 200	600	600	1984-85	720557
108	Thiratju	4 x 250	1000	1000	1977	37823
109	Sumhok Nallah	2 x 50	100	100	2009-10	0
110	Tahin Nallah	2 x 50	100	100	2011-12	0
Siang D	District			THE N		
111	Yembung	4 x 500	2000	2000	1984	3432559
East Sia	ang District					
112	Rina	2 x 1000	2000	2000	2008-09	1145655
113	Pasighat	2 x 100	200	100	1972	162205
114	Silli	1 x 30	30	30	2001-02	13884
Lohit D	istrict				Constitution of the Constitution	Here we have
115	Tafragram	1 x 250	250	2500	1984-85	212451
116	Doorah Nallah	2x100	200	200	2013-14	231382
		3x100	300	300		0
	Total	1 # 1	62790	58290		65174457

Commissions Analysis

- 5.5 The Commission observes with concern that the actual generation data submitted by the Petitioner pertains to the Financial Year 2022-23, whereas the Petitioner was required to submit the actual generation data for FY 2023-24. Accordingly, the Commission directs the Petitioner to provide the actual generation data for FY 2023-24 in the subsequent petition.
- 5.6 Upon reviewing the actual generation data for the plants, the Commission has observed that the overall Capacity Utilization Factor (CUF) of the plants is approximately 11.93%, which is significantly lower than the normative value of 45% as stipulated under the APSERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024, and its amendments. Additionally, the Commission has taken note of the Petitioner's submission, wherein the Petitioner has proposed the write-off of a total of 21 plants. Of these, 7 plants have been proposed for write-off to the Government of Arunachal Pradesh (GoAP), and 14 plants have already received approval for write-off

from GoAP. The Commission has not considered the plants for which write off is granted or is under process. The Petitioner has also submitted details of plants which have been under R&M and at present is being under shut down. The details of these plants are outlined in **Annexure 2** of this order, a brief summary of the plants is provided in the table below.

Table 12 Actual Power Generation status of Plants of DHPD for FY 2022-23

S.No	Particulars	UOM	FY 2022-23
1	Total no. of Plants	No's	95
2	Total Installed Capacity	MW	55.10
3	Annual Design Energy	MU	494.21
4	Actual Net Generation	MU	65.17
5	Total Power Plant (Nil Generation)	No's	21
6	Total Installed Capacity (Nil Generation)	MW	4.04
7	CUF (For operational plant)	%	11.93%

5.7 In this context, the Commission directs the Petitioner to take necessary measures to enhance the CUF of the plants. Nevertheless, the Commission hereby approves the actual net generation data submitted by the Petitioner for FY 2022-23.

Capital Cost

Petitioners Submission

- 5.8 The Petitioner has referred to Clause 14 of the APSERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024, which stipulates that the capital cost specified in the technology-specific chapters shall be considered for the determination of Annual Fixed Charges (AFC) and Tariff. The capital cost approved by the Commission shall serve as the basis for determining project-specific tariffs.
- 5.9 However, in the present petition, the Petitioner has stated that the project cost for 79 Hydro Electric Projects (HEPs), as approved by the Hon'ble Commission in the Tariff Order for FY 2019-20, has been taken into account. For the remaining 37 projects commissioned prior to 31.03.2017, the project cost was determined in accordance with the directive of the Hon'ble Commission and in compliance with the APSERC (Terms & Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012. This data was submitted along with the Tariff Petition for FY 2022-23.
- 5.10 The capital cost of these 37 projects has been considered accordingly. The capital costs, as submitted by the Petitioner, are provided in the table below:

Table 13 Capital Cost for projects Commissioned till 31.03.2017 as submitted by the Petitioner

S.No	Particulars	Installed Capacity(MW)	Capital Cost (Lakhs)
1	79 HEPs	42.09	43032.62
2	37 HEPs	20.70	4773.80
	Total	62.79	47806.42

Commissions Analysis

- 5.11 The Commission has referred the Tariff Order of DHPD for the fiscal year 2019-20, dated 20/12/2019, in which the Commission has approved the capital cost of 79 Hydroelectric Projects (HEPs) after conducting a thorough review and analysis of the documents submitted by the Petitioner. In the present matter, the Petitioner has sought approval for the capital cost of the remaining 37 HEPs, for which approval was not granted by the Commission at that time due to inadequate data.
- 5.12 In the present context for approval of the capital cost of 37 HEPs the Petitioner has stated that the capital cost was determined considering the APSERC (Terms & Conditions for tariff Determination from Renewable Energy Sources) Regulations, 2012.
- 5.13 The Commission has reviewed the APSERC (Terms & Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012, for the purpose of determining the capital cost of the plants. The Commission has also examined the submission made by the petitioner in which the Petitioner has provided the capital cost for each individual plant. Upon scrutinizing the submitted details, the Commission has noted that the Petitioner failed to submit the base cost used for the calculation of capital costs, prior to the application of the relevant escalations, as stipulated under the APSERC (Terms & Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012.
- 5.14 In the absence of the base data, the Commission is unable to proceed with the approval of the capital cost for the 37 Hydroelectric Projects (HEPs). Consequently, the Commission does not grant approval for the capital cost of the 37 HEPs at this time. However, the Commission provides the Petitioner with an opportunity to seek approval for the capital cost of the 37 HEPs upon the submission of a detailed cost breakdown, along with the necessary supporting documentation in future petition.

Interest on Loan Capital

Petitioners Submission

5.15 The Petitioner has cited Clause 16 of the APSERC RE Regulations, 2024, which stipulates that interest on loans taken to finance the project cost shall be recovered through tariff. The Petitioner has indicated that no loan has been taken for financing of the projects and, therefore, no interest on loan has been claimed. Furthermore, the Petitioner has stated that it will seek to claim interest on loan in accordance with the applicable regulations, should any loan be availed for the financing of the projects in the future.

Commissions Analysis

5.16 The Commission has acknowledged the submission made by the Petitioner and in light of this has not considered the interest on loan component in the tariff calculations for the fiscal year 2024-25.

Depreciation

Petitioners Submission

- 5.17 The Petitioner has referred to Regulation 17 of APSERC RE Regulations, 2024 which states that depreciation is to be calculated on the capital cost admitted by the Commission considering salvage value as 10%. The Petitioner has further stated that depreciation is to be calculated at 4.67% for the first 15 years and remaining depreciation is to be spread over the remaining useful life of the project. The Petitioner has considered rate of depreciation as 4.67% as per RE Regulations 2024.
- 5.18 The Petitioner in accordance with the approach adopted by the Hon'ble Commission in the tariff order for the fiscal year 2019-20, depreciation for Hydroelectric Projects (HEPs) commissioned before March 2012 has been calculated at a rate of 2.57%. For projects commissioned after the fiscal year 2012, the rate of depreciation has been set at 4.67%, in compliance with Regulation 17 of the APSERC RE Regulations, 2024.
- 5.19 Additionally, the Petitioner has further stated that for SHPs commissioned before FY 2012, the operational life of these projects has been considered as 35 years, in line with the APSERC (Terms & Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012, and consistent with the principles followed by the Hon'ble Commission in previous tariff orders. The salvage value has been set at 10% of the cost, as per the applicable regulations. Consequently, depreciation has not been charged for SHPs that have completed 35 years of operation. Furthermore, depreciation has also been excluded for SHPs that have already depreciated up to 90% of their cost.
- 5.20 A brief of the depreciation claimed by the Petitioner for the plants is given in the table below:

Table 14: Depreciation(in Lakhs) for the plants as submitted by the Petitioner for FY 2024-25

S.No	Particular	Capital Cost	Depreciation Amount
1	69 numbers HEPs commissioned before 2012	38946.10	985.06
	(As per the Annual Depreciation approved in		
	the Tariff Order Dt. 20.12.2019 for the FY		8
	2019-20)		,

\$e¢retary

APSERC

	Total	47806.42	1232.84
3	37 numbers HEPs commissioned before 2012	4773.80	56.94
	Regulations,2024)		
	per regulation 17 of APSERC RE		
2	10 numbers HEPs commissioned after 2012 (As	4086.52	190.84

Commissions Analysis

- 5.21 The Commission has acknowledged the submission made by the Petitioner with respect depreciation claimed for FY 2024-25. The Commission is aware of the fact that the entire capital cost of the Petitioner is being funded by Government of Arunachal Pradesh as a grant hence for such instance's depreciation charge shall not be applicable for tariff calculation.
- 5.22 Consequently, if the capital cost is provided as a grant, the depreciation is not charged on the portion of the capital cost that is funded by the grant. The rationale is that depreciation is typically calculated on the actual capital invested by the project owner, and if the government has provided the funding as a grant, there is no obligation for the project owner to recover this cost through depreciation.
- 5.23 The Commission has also referred to the accounting standard Regarding treatment of Grant, wherein as per the Accounting Standards 12 of Institute of Charted Accountants of India (ICAI), the principle for treatment of grants is laid as under:
 - "Government grants related to specific fixed assets should be presented in the balance sheet by showing the grant as a deduction from the gross value of the assets concerned in arriving at their book value. Where the grant related to a specific fixed asset equals the whole, or virtually the whole, of the cost of the assets, the asset should be shown in the balance sheet at a nominal value. Alternatively, government grant related to depreciable fixed assets may be treated as deferred income which should be recognized in the profit and loss statement on a systematic and rational basis over the useful life of the asset, i.e., such grant should be allocated to income over the periods and in the proportion in which depreciation on those assets is charges."
- 5.24 The Commission had further observed that the Accounting Standards issued by the Chartered Accountants of India provides for two methods for treatment of the grant identifiable to the asset. Under first alternative, the gross block is reduced by the amount of grant and the depreciation is provided on reduced gross block. Under second alternative, depreciation is provided on the total gross block but the amount equal to the depreciation on the specific assets related to grant is shown as income in the respective year in the Profit

and Loss Account and would be deductible from the tariff. Since no asset has been created by the licensee through its own equity or capital, and the entire funding is done through government grant / aid, no depreciation is allowed for the project.

5.25 Considering the above facts and information, the Commission hereby disallows the consideration of any depreciation in the tariff component for the fiscal year 2024-25 which is referred in the table below:

Table 15: Depreciation (in Rs. Lakhs) as approved by the Commission for FY 2024-25

S.No	Particulars	Petition	Approved
1	Depreciation (for 116 no's HEPs)	1232.84	Nil

Return on Equity

Petitioners Submission

- 5.26 The Petitioner has referred to provision under Regulation 18 of APSERC Regulations,2024 for calculation of RoE and accordingly has considered RoE @ 14.5% pa. The Petitioner has not considered MAT rate as DHPD being Government Department hence there is no MAT/Corporate Tax Liability.
- 5.27 The Petitioner has considered the capital cost as referred in para 5.8 of this order and has accordingly calculated RoE for the 116 no's of HEPs as per clause 15 of the APSERC RE Regulations, 2024. The Petitioner has considered debt: equity ratio to the tune of 70:30 of the capital cost and has calculated RoE for the plants which is mentioned in the table below:

Table 16 RoE (in Lakhs)as submitted by the Petitioner for FY 2024-25

S.No	Particulars		Capital Cost(Rs Lakhs)	RoE @14.5%
1	79 HEPs		43032.62	1871.92
2	37 HEPs		4773.80	207.66
		Total	47806.42	2079.58

Commissions Analysis

5.28 The Commission is aware of the fact that the entire funding of capital cost is being availed by the Petitioner as a grant from the GoAP with no obligation to pay back. Hence no equity is being infused either from shareholder or the Petitioner for development of projects. As a result, return on equity on capital does not arise in the tariff calculation of the plants. Accordingly, the Commission does not find any rationale in approving the RoE for the plants as submitted by the Petitioner. Hence the Commission has considered the Return on Equity of the plants as nil for FY 2024-25. The details of RoE approved by the

Commission is given in the table below:

Table 17 Return on Equity as approved by the Commission for FY 2024-24(Rs Lakhs)

S.No	Particulars	Petition		Approved
		Capital Cost(Rs Lakhs)	RoE @14.5%	
1	79 HEPs	43032.62	1871.92	
2	37 HEPs	4773.80	207.66	Nil
	Total	47806.42	2079.58	AND THE RESIDENCE OF THE PARTY

Operation & Maintenance Expenses

Petitioners Submission

- 5.29 The Petitioner has referred to Regulation 29 of the APSERC RE Regulations, 2024, which stipulates that the normative O&M expenses for Small Hydropower Projects (SHPs) with a capacity below 500 kW shall be ₹41.78 Lakh/MW, and for SHPs with a capacity between 500 kW and 1 MW, shall be ₹31.34 Lakh/MW for the base year FY 2024-25. The Petitioner has further applied an annual escalation rate of 5.89% on the above normative O&M expenses for subsequent years.
- 5.30 The Petitioner has taken into account the O&M expenses already approved for the Small Hydropower Projects (SHPs) in the previous tariff order. Additionally, the Petitioner has referred to Regulation 29 of the APSERC RE Regulations, 2018, and has applied an annual escalation rate of 5.72% on the normative O&M expenses for the subsequent years.
- 5.31 Accordingly, the approved O&M expenses have been considered by the Petitioner as the base and have been escalated at a rate of 5.72% year-over-year up to the fiscal year 2023-24. The O&M expenses derived for FY 2023-24 have then been further escalated at a rate of 5.89%, in accordance with Clause 29 of the APSERC RE Regulations, 2024, to determine the applicable O&M expenses for FY 2024-25. The summary of O&M expenses as submitted by the Petitioner is provided in the table below:

Table 18 O&M expenses as submitted by the Petitioner for FY 2024-25

S.No	Particulars	Installed Capacity (MW)	O&M cost(Lakhs)
1	79 HEPs	42.09	2114.52
2	37 HEPs	20.70	1107.09
	Total	62.79	3221.61

Commissions Analysis

5.32 The Commission has also referred to Clause 38 of the APSERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024, as the foundational basis

for determining the O&M expenses applicable to the subjected plants. The relevant extract from the regulations is cited below:

"38. Operation and Maintenance Expenses

The Commission shall determine only project specific O & M expenses based on prevailing market trends for Small Hydro project."

5.33 Pursuant to the aforementioned provisions, the Commission has undertaken an analysis of the O&M expenses adopted by neighbouring states and hilly states of India, as well as the norms prescribed by the CERC. Based on this analysis, the Commission has calculated the average of these parameters and applied the same for determining the O&M expenses of the plants for the financial year 2024-25. The details is referred in the table below:



June

Fable 19 O&M expenses (Rs Lakh/MW) followed across various hilly states in India

			Himachal					Mizoram	J&K &	
FY25	CERC	Uttarakhand	Pradesh	Assam	Meghalaya	Tripura	Sikkim	& Manipur	Ladakh	Avg
Below 5 MW	49.24	59.33	45.76	53.14	51.37	49.49	48.73	48.73	41.78	49.73
5 MW - 25 MW	36.93	50.38	35.43	39.85	38.53	35.63	35.09	35.09	31.34	37.58

to GoAP (a total of 7 plants), as well as for the plants for which GoAP has already sanctioned write-off (a total of 14 plants). The details of 5.34 The Commission would like to highlight that it has excluded O&M expenses for those plants for which the Petitioner has proposed write-off such plants are specified in Annexure 2 of this order.

5.35 The O&M expenses approved by the Commission for the plants for the Financial Year 2024–25 is detailed in the table below:

Table 20 O&M expenses(in Lakhs) as approved by the Commission for FY 2024-25

Iable	am (a majorida em (summa m)samada atras a areas	Alda ma farman			THE RESERVE TO THE PARTY OF THE	THE PARTY OF THE P	1	NO. SERVICE AND PERSONS ASSESSED.	100	
SI.No	Name of the Station	e Station			Installed	Firm	Year of		O&M Exp	
Western	Vestern Zone(WZ)		CDIIIS		Capacity (kW)	Capacity(kW)	Commissioning (FY)	FY	(Rs Lakh/MW)	O&M Expense FY 25 (Rs Lakh)
Tawang	Fawang District									
-	Chellengkang Ph-I		1 x 30	30 / 18	30	30	2004-05		49.73	1 49
2	Chellengkang Ph-II		1 x 30	30 08	30	130	2008-09		49.73	1.49
3	Shakti Nallah		2 x 50	50 p	100	50	2008-09		49.73	2.49
4	Thimbu		2 x 50	50.	100	100	2009-10	and the same	49.73	4.97
5	Khet		2 x 50	50 1 5	001	× 001	2009-10	-	49.73	4.97
9	Tsechu Nallah		2 x 50	20	001	100	2010-11	ASSES	49.73	4.97
7	Mago MHS	Mary Stranger	2 x 50	20 1	001	100	\$2014-15	Second	49.73	4.97
8	Nuranang	The state of	3 x 2000	000	0009	0009	Z6-9661 & //	The same of the sa	49.73	225.48
6	Kitpi Ph-I		3 x 500	00.	1500	1500	81-1791 35		49.73	74.60
10	Kitpi MHS Ph-II	3	2 x 1500	200	3000	3000	5008-09		49.73	149.19
11	T. Gompa		1 x 50	20	20 2	4 C 50 Tal.	2001-02		49.73	2.49
12	Bongleng	0	2 x 50	20	100	00L	2009-10		49.73	4.97
13	Bramdhongchung Ph-II	5	2 x 50	20	100	100	2010-11		49.73	4.97
West Ka	West Kameng District									
14	Rahung	le,	3 x 250	50	750	200	1972 - 73	1	49.73	24.87
15	Dirang		4 x 500	00	2000	1500	1977 - 78		49.73	74.60
16	Saktangrong MHS		3 x 100	00	300	300	2011-12	1	49.73	14.92
17	Zhongdongrong		2 x 500	00	1000	1000	2016-17	i Ni Para	49.73	49.73
18	Sessa		3 x 500	00	1500	1500	1992-93	o and	49.73	74.60
19	Rupa		2 x 100	00	200	100	1997 - 98		49.73	4.97
20	Dokumpani		1 x 30	30	30	30	2000-01	1	49.73	1.49
21	Domkhrong		2×500	00	1000	1000	2008-09/2019-20	0	49.73	49.73
22	Ankaling	*	1 x 30	30	30	30	2009-10		49.73	1.49
23	Dikshi		2 x 30	30	09	09	2010-11/2019-20	0	49.73	2.98

LA INII	Khadiyabey	2 x 100	200	200	2011-12	49.73	50.6
25 Jigaon	ton	2 x 50	100	100	2016-17	49.73	4.97
East Kameng District	District						
	Pakke Kessang	1 x 30	30	30	2001-02	49.73	1.49
27 Pacl	Pacha MHS	2 x 1500	3000	3000	2008-09	49.73	149.19
28 Pakoti	oti	2 x 50	100	100	2010-11	49.73	4.97
	Patta Nallah	2 x 50	100	100	2010-11	49.73	4.97
30 Wat	Watte Mame	1 x 50	50	50	2010-11	49.73	2.49
Kad	Kade Nallah	1 x 50	50	50	2010-11	49.73	2.49
rung K	y District						
	./e	1 x 50	50	50	2009-10	49.73	2.49
33 Pay	Paya MHS at Hiya	2 x 50	100	100	2011-12	49.73	4.97
34 Cha	Chambang	1 x 30	30	30	2009-10	49.73	1.49
Lower Subansiri District	iri District						desire de la constante de la c
35 Mai	Mai Ph-I	4 x 500	2000	KE1500/	1977-78	49.73	74.60
Mai	Mai Ph-II	2 x 500	1000	200	1982-83	49.73	24.87
Tago	0.	3 x 1500	4500	3000	1992-93	49.73	149.19
Upper Subansiri District	iri District						- Note
Sippi	ic	2 x 2000	4000	× 4000	2008-09	49.73	198.92
Pint	Pinto Karo MHS	1 x 25	25 // 25	25	2011-12	49.73	1.24
Siki	Sikin Karo	2 x 100	200	200	2011-12	49.73	9.95
Siny	Sinyum Koro	2 x 50	/ 001	100	2011-12	49.73	4.97
Dul	Dulom (Daporijo)	4 x 100	400	300	1981-82	49.73	14.92
Ayi	Ayingmuri MHS	2 x 125	250	250	2012-13	49.73	12.43
Eastern Zone	(EZ)						
West Stang District	strict						
Pag	Pagi (Basar)	2 x 50	001	50	1972-73	49.73	2.49
Ego	Ego-Echi (Dali)	4 x 100	400	400	1987-88	49.73	19.89
Lirc	Liromoba	2 x 1000	2000	2000	2008-09	49.73	99.46
Along	ng	3 x 100	300	300	2004	49.73	14.92
Kan	Kamba MHS	3 x 2000	0009	S 0009 E	2010	37.58	225.48
Mec	Mechuka	6 x 25+1*250	400	150	2015-16	49.73	7.46
Yin	Yingko Sikong at Rapum	1 x 50	50	50	2009-10	49.73	2.49
Siri	Sirikorang MHS	2x250	200	500	2013-14	49.73	24.87
Sole	Solegomang MHS	1 x 50	50	50	2011-12	49.73	2.49
Dibang Valley District	District						
Ech	Echi Ahfra at Anaya	2x200	400	400	2005-06	49.73	19.89
Tah	Tah Ahfra Ph-I and Ph-II at Angolin	1x50+1x50	100	100	2001-02 2009-10	49.73	4.97
Chi	Chini Ahfra at Amuli	1x250	250	250	2001-02	49.73	12.43
Awa	Awapani Ph-II at LG	2 x 250	500	250	2005-06	49.73	12.43
Ech	Echito Nallah at Dambien	2 x 20	40	40	2010-11	49.73	1.99
Rup	Rupapani at Punli	2 x 20	40	40	2010-11	49.73	1.99
Chu	Chu Nallah at Mipi	2 x 15	30	30	2011-12	49.73	1.49

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	1 x 50	50	50	2011-12	49.73	2.49
	2 x 75	150	150	2011-12	49.73	7.46
63 Tissue	4 x 100	400	300	1986-87	49.73	14.92
64 Tinning	2 x 25	50	50	2010-11	49.73	2.49
Upper Siang District						
65 Sirnyuk SHP	2x1000	2000	2000	16-9661	49.73	99.46
	2 x 250	200	500	2011-12	49.73	24.87
	2x 250	005	500	1994-95	49.73	24.87
68 Yingkiong Ph-I MHS	3x50	150	150	1980-81	49.73	7.46
69 Yingkiong Ph-II MHS	2x100	200	200	1992-93	49.73	9.95
	1x250	250	250	2004	49.73	12.43
71 Sikut/ Tuting MHS	2x50	100	100	1984-85	49.73	4.97
-	1x50	50	50	2008-09	49.73	2.49
	1x50	50	V RE (50	2008-09	49.73	2.49
74 Singa MHS	1x30	300	30 -47	2008-09	49.73	1.49
75 Mayung	1x5	501	Same of the same o	2011	49.73	0.25
76 Kote MHS	1x50	205	90	2011-12	49.73	2.49
77 Sika MHS at Likor	1x15	SW A	1 ST	2010	49.73	0.75
jaw Dis						
78 Mati Nallah	2x250+1x50	055	200	2004-05	49.73	24.87
79 Yapak Nallah	2x100	007	1 200	2005-06	49.73	9.95
	1x30 n	/30	30 / /	2004-05	49.73	1.49
81 Kaho	1 x 10	01	10 //	2004-05	49.73	0.50
82 Krawti Nallah	2 x 50	001	100	2011	49.73	4.97
	2 x 250	500	200	2009-10	49.73	24.87
	2 x 200	400	400	2011-12	49.73	19.89
	2 x 100	200	200	2014-15	49.73	9.95
86 Maipani MHS	2 x 30	09	09	2010-11	49.73	2.98
ap Dis						
	3 x 200	6009	C 600 Par	1984-85	49.73	29.84
88 Thiratju	4 x 250	1000	0001	1977	49.73	49.73
89 Sumhok Nallah	2 x 50	100	100	2009-10	49.73	4.97
ng Dist						
90 Yembung	4x500	2000	2000	1984	49.73	99.46
st Siang						
	2 x 1000	2000	2000	2008-09	49.73	99.46
	2 x 100	200	100	1972	49.73	4.97
93 Silli	1 x 30	30	30	2001-02	49.73	1.49
Lohit District						
	1 x 250	250	250	1984-85	49.73	12.43
95 Doorah Nallah	2x100	200	200	2013-14	49.73	24.87
	3x100	300	300		49.73	10:51
Total		59405	55105			2594.57

Interest on Working Capital

Petitioners Submission

5.36 The Petitioner has submitted that the requirement of working capital and interest thereon has been computed as per clause 19 "Interest on Working Capital" of the APSERC RE Regulations 2024. The Petitioner has considered interest @11.86% pa on working capital which is 325 basis points above the SBI MCLR (One Year tenor) for last six months. The average SBI MCLR (one-year tenor) for last six months is 8.61%. The summary of Interest on Working Capital as submitted by the Petitioner for FY 2024-25 is given in the table below:

Table 21Interest on Working Capital as submitted by the Petitioner for FY 2024-25(in Lakhs)

S.No	Particulars	For 79 HEPs	For 37 HEPs
1	Operation & Maintenance Expense (1 month)	176.21	92.26
2	Maintenance of Spares (15% of O&M)	317.18	166.06
3	Receivables (45 days of fixed cost)	662.43	177.93
4	Total CITY REGULATE	1155.81	436.25
5	Interest on Working Capital @11.86%	137.07	51.73

Commissions Analysis

5.37 The Commission has referred to clause 19.1 & clause 19.4 of the of the APSERC (Terms & Conditions for Determination of Renewable Energy Tariff) Regulations,2024 for computing Interest on Working Capital. The relevant extract from the regulations is referred below:

"19. Interest on Working Capital

- 19.1 The Working Capital requirement in respect of wind power projects, small hydro projects, solar PV power projects, solar wind hybrid projects shall be computed in accordance with the following:
- (a) Operation and Maintenance expenses for one month;
- (b) Receivables equivalent to 45 days of tariff for sale of electricity calculated on normative Capacity Utilization Factor or Plant Load Factor, as the case may be; and
- (c) Maintenance spares equivalent to 15% of Operation and Maintenance expenses.

19.4 Interest on Working Capital shall be at interest rate equivalent to the normative interest rate of three hundred and twenty-five (325) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months."

5.38 The Commission in accordance with the provision mentioned in the Regulation referred

above has computed and approved the Interest on Working Capital of the plants of FY 2024-25 as referred in the table below. The Commission would like to highlight that it has excluded Interest on Working Capital expenses for those plants for which the Petitioner has proposed write-off to GoAP (a total of 7 plants), as well as for the plants for which GoAP has already sanctioned write-off (a total of 14 plants). The details of such plants are specified in **Annexure 2** of this order. The Commission has considered the last six-month MCLR and has computed the interest rate @12.10% (Average last six-month MCLR: 8.85 + 325 basis points=12.10%).

Table 22 Marginal Cost Lending Rates for the last six months released by SBI

Effective Date	1 year Tenor-wise MCLR Rates (Source: SBI Monthly Press Releases)
15.10.2024	8.95%
15.09.2024	8.95%
15.08.2024	8.95%
15.07.2024	8.85%
15.06.2024	8.75%
15.05.2024	8.65%
Avg. for last Available 6 months	8.85%

5.39 The Interest on Working Capital as approved by the Commission of the plants for FY 2024-25 is given in the following table:

Secretary APSERC

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2 Table 23 Interest on Working

Lable	Table 23 Interest on Working Capital as approved by the Commission for FY 2024-25(in Lakhs)	ing Capital as appre	oved by the	Commis	sion for FY	2024-25(ii	n Lakhs)					
SINO	Name of the Station		Units	Install	Firm							
				ed Capaci	Capacity (kW)			Inter	Interest on Working Capital	Capital		
				ty (kW)								
Wester	Western Zone (WZ)					O&M FY	O&M@ 1	M&S@15	Receivables	Total	Interest Rate	IOWC
Tawang	Tawang District					2024-25	MONIA	ZOOKINI	(#+5days	FV2024-25		
-	Chellengkang Ph-I	111	1 x 30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
2	Chellengkang Ph-II	7	1 x 30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
3	Shakti Nallah		2 x 50	100	5005	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
4	Thimbu	1 1 1 1	2 x 50	100	C/1 J00 20	16.4.97	0.41	0.75	0.64	1.80	12.10%	0.22
S	Khet		2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
9	Tsechu Nallah		2 x 50	400	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
7	Mago MHS		2 x 50	C100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
∞	Nuranang		3 x 2000	0009	0009	225.48	2 18.79	33.82	29.02	81.63	12.10%	88.6
6	Kitpi Ph-I	S	3 x 500	1500	1500	74.60	6.22	11.19	09.6	27.00	12.10%	3.27
10	Kitpi MHS Ph-II		2 x 1500	3000	3000	149.19	(T2.43	22.38	19.20	54.01	12.10%	6.54
=	T. Gompa	C	1 x 50	50	V 50 HS	2.49	50.21	0.37	0.32	06.0	12.10%	0.11
12	Bongleng		2 x 50	100	100	4.97	6.41	0.75	0.64	1.80	12.10%	0.22
13	Bramdhongchung Ph-II	L	2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
West k	West Kameng District											
14	Rahung		3 x 250	45	500	24.87	2.07	3.73	3.20	00.6	12.10%	1.09
15	Dirang		4 x 500	2000	1500	74.60	6.22	11.19	09.6	27.00	12.10%	3.27
16	Saktangrong MHS		3 x 100	300	300	14.92	1.24	2.24	1.92	5.40	12.10%	99.0
17	Zhongdongrong		2 x 500	1000	1000	49.73	4.14	7.46	6.40	18.00	12.10%	2.18
18	Sessa		3 x 500	1500	1500	74.60	6.22	11.19	09.6	27.00	12.10%	3.27
19	Rupa	8	2 x 100	200	100 GE	4.97	0.41	0.75	19.0	1.80	12.10%	0.22
20	Dokumpani	2	1 x 30	30	30	1.49	0.12	0.22	61.0	0.54	12.10%	0.07
21	Domkhrong	1	2 x 500	1000	1000	49.73	4.14	7.46	6.40	18.00	12.10%	2.18
22	Ankaling		1 x 30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
23	Dikshi	S	2 x 30	09	09	2.98	0.25	0.45	0.38	1.08	12.10%	0.13
24	Khadiyabey		2 x 100	200	200	9.95	0.83	1.49	1.28	3.60	12.10%	0.44
25	Jigaon	and the same of th	2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
East K	East Kameng District									and the		
26	Pakke Kessang		1 x 30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
27	Pacha MHS		2x 1500	3000	3000	149.19	12.43	22.38	19.20	54.01	12.10%	6.54
28	Pakoti		2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
29	Patta Nallah		2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
30	Watte Mame	7	1 x 50	50	50	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
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31	Kade Nallah	1 x 50	20	50 50 249 021	2 49	0.21	0.37	0.32	000	12 100%	-110
Kurun	Kurung Kumey District		25	25	71.7	17:0	7.5.0	20.0	0.30	12.1070	0.11
32	Koye	1 x 50	50	50	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
33	Paya MHS at Hiya	2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
34	Chambang	1 x 30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
Lower	Lower Subansiri District										
35	Mai Ph-I	4 x 500	2000	1500	74.60	6.22	11.19	09.6	27.00	12.10%	3.27
36	Mai Ph-II	2 x 500	1000	009	24.87	2.07	3.73	3.20	00.6	12.10%	1.09
37	Tago	3 x 1500	4500	3000	149.19	12.43	22.38	19.20	54.01	12.10%	6.54
Upper	Upper Subansiri District										
38	Sippi	2 x 2000	4000	4000	198.92	16.58	29.84	25.60	72.01	12.10%	8.71
39	Pinto Karo MHS	1 x 25	25	25	1.24	0.10	0.19	0.16	0.45	12.10%	0.05
40	Sikin Karo	2 x 100	200	200	9.95	0.83	1.49	1.28	3.60	12.10%	0.44
41	Sinyum Koro	2 x 50	100	DANOUL	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
42	Dulom (Daporijo)	4 x 100	400	300	14.92	1.24	2.24	1.92	5.40	12.10%	0.65
43	Ayingmuri MHS	2 x 125	250	250	12.43	1.04	1.86	1.60	4.50	12.10%	0.54
Easteri	n Zone (EZ)										
West S	West Siang District										
44	Pagi (Basar)	2 x 50 / A	100	50	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
45	Ego-Echi (Dali)	4 x 100	/ 400	400	19.89	1.66	2.98	2.56	7.20	12.10%	0.87
46	Liromoba	2 x 1000 co	2000	70000	99.46	8.29	14.92	12.80	36.01	12.10%	4.36
47	Along	3 x 100 a.	300	300	14.92	J.24	2.24	1.92	5.40	12.10%	0.65
48	Kamba MHS	3 x 2000	0009	0009	225.48	18.79	33.82	29.02	81.63	12.10%	88.6
49	Mechuka	6x 5+1*250	400	150	7.46	0.62	1.12	96.0	2.70	12.10%	0.33
50	Yingko Sikong at Rapum	1 x 50	90	50	2.49	V ~ 0.21	0.37	0.32	06.0	12.10%	0.11
51	Sirikorang MHS	2x250	200	500	24.87	7.07	3.73	3.20	00.6	12.10%	1.09
52	Solegomang MHS	1 x 50	50	50	2.49	6 0.21	0.37	0.32	0.00	12.10%	0.11
Dibang	Dibang Valley District										
53	Echi Ahfra at Anaya	2x200	400	400	68.61	1.66	2.98	2.56	7.20	12.10%	0.87
54	Tah Ahfra Ph-I and Ph-II at Angolin	1x50+1x50	100	00元	H 4.97	0.41	0.75	0.64	1.80	12.10%	0.22
55	Chini Ahfra at Amuli	1x250	250	250	12.43	1.04	1.86	1.60	4.50	12.10%	0.54
99	Awapani Ph-II at LG	2 x 250	500	250	12.43	1.04	1.86	1.60	4.50	12.10%	0.54
57	Echito Nallah at Dambien	2 x 20	40	40	1.99	0.17	0.30	0.26	0.72	12.10%	0.09
58	Rupapani at Punli	2 x 20	40	40	1.99	0.17	0.30	0.26	0.72	12.10%	60.0
59	Chu Nallah at Mipi	2 x 15	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
09	Awapani at Gepuline	2 x 250	200	500	24.87	2.07	3.73	3.20	9.00	12.10%	1.09
Chang	Changlang District	1 60	2	00	7 40	100	0.37		900	7001.01	0
10	Jongkey Naman	0C X I	30	30	2.49	0.21	0.57	0.92	0.90	12.10%	0.33
70	Tissue	4 x 100	400	300	14 97	1 24	2.12	1 97	5.40	12 10%	0.65
6 49	Timning	2 x 25	20	50	2.49	0.21	0.37	0.32	0.90	12.10%	0.11
Upper	Upper Siang District										
65	Simyuk SHP	2x1000	2000	2000	99.46	8.29	14.92	12.80	36.01	12.10%	4.36
99	Gosang (siri) MHS	2 x 250	500	500	24.87	2.07	3.73	3.20	00.6	12.10%	1.09
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69 70	Sell MHS at Ciecu	0×2×0	200	200	24.87	207	2.73	3 30	000	/001 C1	1 00
69	Vingkiong Ph-1 MHS	3x50	150	150	7.46	0.62	51.7	0.2.0	2.00	12.1070	1.09
70	Viscalisase DL II MITC	2000	200	000	04.7	0.02	1.12	0.20	2.70	12.10%	0.33
70	Y Ingklong Fn-11 MHS	001X7	700	700	6.65	0.83	1.49	1.28	3.60	12.10%	0.44
71	Kopu MHS at Tuting	1x250	250	250	12.43	1.04	1.86	1.60	4.50	12.10%	0.54
1.1	Sikut/ Tuting MHS	2x50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
72	Sillingri (Gelling) MHS	1x50	50	50	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
73	Ngaming MHS	1x50	50	50	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
74	Singa MHS	1x30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
75	Mayung	1x5	5	5	0.25	0.02	0.04	0.03	60.0	12.10%	0.01
9/	Kote MHS	1x50	90	50	2.49	0.21	0.37	0.32	06.0	12.10%	0.11
77	Sika MHS at Likor	1x15	15	15	0.75	90'0	0.11	0.10	0.27	12.10%	0.03
Anjaw District	istrict										
78	Mati Nallah	2x250+1x50	550	500	24.87	2.07	3.73	3.20	00.6	12.10%	1.09
79	Yapak Nallah	2x100	200	C/1200	26.670	0.83	1.49	1.28	3.60	12.10%	0.44
80	Kebitho	1x30	30,	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
81	Kaho	1 x 10	OI-	10	0.50	5 0.04	0.07	90.0	0.18	12.10%	0.02
82	Krawti Nallah	2 x 50	100	100	4.97	2 0.41	0.75	0.64	1.80	12.10%	0.22
83	Teepani MHS	2 x 250	200	500	24.87	2.07	3.73	3.20	00.6	12.10%	1.09
84	Langpani MHS	2 x 200 %	400	400	19.89	99.10	2.98	2.56	7.20	12.10%	0.87
85	Kachopani MHS	2 x 100 🕰	200	200	9.95	0.83	1.49	1.28	3.60	12.10%	0.44
98	Maipani MHS	2 x 30	09	09	2.98	-0.25	0.448	0.38	1.08	12.10%	0.13
Tirap District	strict										
87	Charju	3 x 200	009	600	29.84	2.49	4.48	3.84	10.80	12.10%	1.31
88	Thiratju	4 x 250	0001	1000	49.73	4.14	7.46	6.40	18.00	12.10%	2.18
68	Sumhok Nallah	2 x 50	100	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
Siang District	strict								ASS 10		
06	Yembung	4 x 500	2000	2000	99.46	8.29	14.92	12.80	36.01	12.10%	4.36
East Sian	East Siang District										
91	Rina	2 x 1000	2000	2000	99.46	8.29	14.92	12.80	36.01	12.10%	4.36
92	Pasighat	2 x 100	200	100	4.97	0.41	0.75	0.64	1.80	12.10%	0.22
93	Silli	1 x 30	30	30	1.49	0.12	0.22	0.19	0.54	12.10%	0.07
Lohit District	strict										
94	Tafragram	1 x 250	250	250	12.43	1.04	1.86	1.60	4.50	12.10%	0.54
95	Doorah Nallah	2x100	200	200	24.87	2.07	3.73	3.20	00.6	12.10%	1.09
		3x100	300	300		0	0	0.00	0.00	12.10%	0.00
	Total		59405	55105	2594.57	216.21	389.19	=	605.40	12.10%	73.25



Capacity Utilization Factor

Petitioners Submission

5.40 The Petitioner has submitted that the CUF for the HEPs commissioned upto 31.03.2017 has been considered as 36% based on the order of the Commission for the FY 2019-20. Accordingly, the Petitioner has computed the saleable energy for the FY 2024-25 as mentioned in the table below:

Table 24 Saleable Energy as submitted by the Petitioner for FY 2024-25 for the HEPs

S.No	Particulars	UOM	79 HEPs	37 HEPs
1	Installed Capacity	MW	42.09	20.70
2	CUF considered	%	36%	36%
3	Gross Energy	MU	132.74	65.28
4 .	Auxiliary Consumption	%	1%	1%
5	Auxiliary Consumption	MU	1.33	0.65
6	Saleable Energy	MU	131.41	64.63

Commission's Analysis

5.41 The Commission has referred to the CUF of the plants considering the actual generation as submitted by the Petitioner for FY 2022-23 referred in the table below:

Table 25 CUF of plants computed by the Commission based on actual generation for FY 2022-23

Sl.No	Name of the Station	Installed Capacity (kW)	Year of Commissioning (FY)	Actual Net Generation (kWh)	Actual CUF (%)
Wester	rn Zone(WZ)				
Tawan	g District			FY 23	
1	Chellengkang Ph-I	30	2004-05	49246.00	19%
2	Chellengkang Ph-II	30	2008-09	102639.00	39%
3	Shakti Nallah	100	2008-09	41945.00	10%
4	Thimbu	100	2009-10	64471.00	7%
5	Khet	100	2009-10	128530.00	15%
6	Tsechu Nallah	100	2010-11	62868.00	7%
7	Mago MHS	100	2014-15	83204.00	9%
8	Nuranang	6000	1996-97	11332656	22%
9	Kitpi Ph-I	1500	1977-78	18039.00	0.14%
10	Kitpi MHS Ph-II	3000	2008-09	6971165.00	27%
11	T. Gompa	50	2001-02	82529.00	19%
12	Bongleng	100	2009-10	87807.00	10%
13	Bramdhongchung Ph-II	100	2010-11	0.00	0%
West k	Kameng District	Maryland		用的是是一个人的	
14	Rahung	750	1972 - 73	805321	18%
15	Dirang	2000	1977 - 78	2496980	19%
16	Saktangrong MHS	300	2011-12	0	0%
17	Zhongdongrong	1000	2016-17	47208	1%
18	Sessa	1500	1992-93	0	0%
19	Rupa	200	1997 - 98	108906	12%
20	Dokumpani	30	2000-01	45902	17%
21	Domkhrong	1000	2008-09/2019-20	2923340	33%
22	Ankaling	30	2009-10	0	0%
23	Dikshi	60	2010-11/2019-20	37706	7%

24	Khadiyabey	200	2011-12	0	0%
25	Jigaon	100	2016-17	238277	27%
	Kameng District	100	2010-17	238211	2770
26	Pakke Kessang	30	2001-02	0	0.00%
27	Pacha MHS	3000	2008-09	8529034	32.43%
28	Pakoti				
		100	2010-11	359796	41.04%
29	Patta Nallah	100	2010-11	350843	40.02%
30	Watte Mame	50	2010-11	247628	56.50%
31	Kade Nallah	50	2010-11	0	0.00%
	ng Kumey District	And the same of			
32	Koye	50	2009-10	0	0.00%
33	Paya MHS at Hiya	100	2011-12	22557	2.57%
34	Chambang	30	2009-10	0	0.00%
	r Subansiri District				
35	Mai Ph-I	2000	1977-78	1136661	8.6%
36	Mai Ph-II	1000	1982-83	176657	4.0%
37	Tago	4500	1992-93	2720508	10.3%
Uppe	r Subansiri District	The State of the S		97. GA 31 (37 (4 SA))	
38	Sippi	4000	2008-09	3667587	10.46%
39	Pinto Karo MHS	25	2011-12	0	0.00%
40	Sikin Karo	200	2011-12	0	0.00%
41	Sinyum Koro	100	2011-12	0	0.00%
42	Dulom (Daporijo)	400	1981-82	0	0.00%
43	Ayingmuri MHS	-\1 250 EG			
		250	2012-13	0	0.00%
	rn Zone (EZ)				
	Siang District				
44	Pagi (Basar)	100	1972-73	97533	22.25%
45	Ego-Echi (Dali)	400	1987-88	285395	8.14%
46	Liromoba	2000	2008-09	78058	0.45%
47	Along	300	2004	25301	0.96%
48	Kamba MHS	6000	2010	2860208	5.44%
49	Mechuka	400	2015-16	225196	17.13%
50	Yingko Sikong at Rapum	50	2009-10	34413	7.85%
51	Sirikorang MHS	500	2013-14	1456492	33.23%
52	Solegomang MHS	50	2011-12	33593	7.66%
Diban	g Valley District				
53	Echi Ahfra at Anaya	400	2005-06	112436	3.21%
54	Tah Ahfra Ph-I and Ph-II at Angolin	100	2001-02/2009-10	0	0.00%
55	Chini Ahfra at Amuli	250	2001-02/2009-10	0	0.00%
56	Awapani Ph-II at LG	500	2005-06	1116617	50.95%
57	Echito Nallah at Dambien	40			
58			2010-11	38695	11.04%
	Rupapani at Punli	40	2010-11	50590	14.43%
59	Chu Nallah at Mipi	30	2011-12	30574	11.63%
60	Awapani at Gepuline	500	2014-15	990596	22.60%
	glang District				
61	Jongkey Nallah	50	2011-12	18074	4.12%
62	Chicklong	150	2011-12	109361	8.32%
63	Tissue	400	1986-87	58287	2.22%
64	Tinning	50	2010-11	18585	4.24%
Upper	Siang District				
65	Sirnyuk SHP	2000	1996-97	2458680	14.02%
66	Gosang (siri) MHS	500	2011-12	405588	9.25%
67	Selli MHS at Geku	500	1994-95	1051141	23.98%
68	Yingkiong Ph-I MHS	150	1980-81	202356	15.39%
20.20		200	1992-93	245323	13.99%
	Vingkiong Ph-II MHS		1994-93		
69	Yingkiong Ph-II MHS Kopu MHS at Tuting		2004	202661	12 250/
69 70	Kopu MHS at Tuting	250	2004	292661	13.35%
69 70 71	Kopu MHS at Tuting Sikut/ Tuting MHS	250 100	1984-85	139921	15.96%
69 70 71 72	Kopu MHS at Tuting Sikut/ Tuting MHS Sillingri (Gelling) MHS	250 100 50	1984-85 2008-09	139921 135299	15.96% 30.87%
69 70 71 72 73	Kopu MHS at Tuting Sikut/ Tuting MHS Sillingri (Gelling) MHS Ngaming MHS	250 100 50 50	1984-85 2008-09 2008-09	139921 135299 145358	15.96% 30.87% 33.16%
69 70 71 72	Kopu MHS at Tuting Sikut/ Tuting MHS Sillingri (Gelling) MHS	250 100 50	1984-85 2008-09	139921 135299	15.96% 30.87%

	Total	14/1	59405	100	65174457	11.93%
		ECTR	300		0	0.00%
95	Doorah Nallah	CIR	200	2013-14	231382	13.20%
94	Tafragram	1	250	1984-85	212451	9.69%
Lohit	District	The property of				
93	Silli		30	2001-02	13884	5.28%
92	Pasighat	-	200	1972	162205	18.50%
91	Rina		2000	2008-09	1145655	6.53%
East	Siang District				Harris Control	
90	Yembung		2000	1984	3432559	19.58%
Siang	District					
89	Sumhok Nallah		100	2009-10	0	0.00%
88	Thiratju		1000	. 1977	37823	0.43%
87	Charju		600	1984-85	720557	13.70%
Tirap	District					
86	Maipani MHS		60	2010-11	0	0.00%
85	Kachopani MHS		200	2014-15	232608	13.27%
84	Langpani MHS		400	2011-12	131011	3.74%
83	Teepani MHS		500	2009-10	960568	21.92%
82	Krawti Nallah		100	2011	247418	28.22%
81	Kaho		10	2004-05	3362	3.84%
80	Kebitho		30	2004-05	10181	3.87%
79	Yapak Nallah		200	2005-06	755703	43.10%
78	Mati Nallah		550	2004-05	1142796	26.07%
	w District		Out to the second			South Control
77	Sika MHS at Likor		15	2010	0	0.00%
76	Kote MHS	***************************************	50	2011-12	0	0.00%

- 5.42 Upon analysis of the actual generation data for the financial year 2022-23, the Commission observes that the overall Capacity Utilization Factor (CUF) for all plants is 11.93%, which is significantly lower than the normative CUF of 45% stipulated under the APSERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024. The Commission expresses its concern regarding the underperformance of the plants and directs the Petitioner to implement necessary measures to improve the overall CUF.
- 5.43 The Commission has referred refers to Clause 36 and Clause 37 of the APSERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2024 which outline the parameters for determining CUF and Auxiliary Consumption for such plant and has considered accordingly for the calculation of gross and net generation for the plants. The relevant excerpt from the Regulations is referred below:

"36. Capacity Utilisation Factor

The minimum CUF for Small Hydro project shall be 45%. Provided that the Commission may deviate from above norm in case of project specific tariff determination based on designed load factor / CUF.

37. Auxiliary Consumption

The auxiliary consumption factor shall be 1% of gross generation. Provided that the Commission may deviate from the above norm in case of project specific tariff determination in pursuance of Regulation 8 and Regulation 9."

5.44 The Commission has accordingly considered a Capacity Utilization Factor (CUF) of 45% and auxiliary consumption of 1% for the plants. Furthermore, the Commission has excluded the capacity of plants for which the Petitioner has submitted a proposal to GoAP for write-off, as well as those plants for which write-off has already been granted by the GoAP. The details of generation approved by the Commission for the financial year 2024-25 is provided in the table below:

Table 26 Saleable Energy approved by the Commission for FY 2024-25

CNo	Particulars	HOM	Petit	tion	
5.110	rarticulars	UOM	79 HEPs	37 HEPs	Approved
1	Installed Capacity	MW	42.09 47	20.70	55.10
2	CUF considered /	· '%	36%	7.36%	45%
. 3	Gross Energy /	MU	132.74	65.28	217.22
4	Auxiliary Consumption	%	1%	1%	1%
5	Auxiliary Consumption	MU	1.33	0.65	2.17
6	Saleable Energy	MU	131.41/	64.63	215.05

Annual Fixed Charge & Tariff

Petitioners Submission

5.45 The Annual Fixed Charge and Tariff submitted by the Petitioner is given in the table below:

Table 27 AFC and Tariff of the plants as submitted by the Petitioner for FY 2024-25

S.No	Particulars	UOM	79 HEPs	37 HEPs
1	Depreciation	Rs. Lakh	1175.90	56.94
2	Return on Equity		1871.92	207.66
3	O&M Expenses		2114.52	1107.09
4	Interest on Working Capital		137.07	51.73
5	Total Annual Fixed cost		5299.41	1423.42
6	Installed Capacity	MW	42.09	20.70
7	CUF considered	%	36	36
8	Auxiliary Power Consumption	MUs	1.33	0.65
	(@1%)			
9	Saleable Energy	MUs	131.41	64.63
10	Tariff	Rs/kWh	4.03	2.20

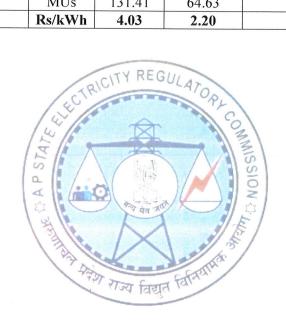
Commissions Analysis

5.46 The Commission in accordance with the approval as provided in the above para of this

order approves the Annual Fixed Charge and Tariff for the plants as referred in the table below:

Table 28 AFC and Tariff as approved by the Commission for FY 2024-25

S.No	Particulars	UOM	Pet	ition	
5.110	Tarticulars	UOM	79 HEPs	37 HEPs	Approved
1	Depreciation	Rs.	1175.90	56.94	0.00
2	Return on Equity	Lakh	1871.92	207.66	0.00
3	O&M Expenses		2114.52	1107.09	2594.57
4	Interest on Working		137.07	51.73	73.25
-	Capital				
5	Total Annual Fixed		5299.41	1423.42	2667.83
3	cost				
9 .	Saleable Energy	MUs	131.41	64.63	215.05
10	Tariff	Rs/kWh	4.03	2.20	1.241



CHAPTER 6: Status of Earlier Directives

6.1 The Commission has time and again issued various directives in order to improve the functioning of the Petitioner. The compliance status submitted by the Petitioner to the Commission earlier directions is tabulated below:

Table 29 Status of Earlier directives issued by the Commission

S.No	Directives	Petitioner response
1 1	Electricity Regulatory Cell DHPD shall create an Electricity Regulatory Cell (under a senior Officer) from the existing staff strength. The Cell so created shall be provided with necessary authority and resources so as to look after all the Tariff and Regulatory matters primarily to keep an vigil on the parameters approved and directives issued by the Commission and also to provide correct and timely information to the Commission. The said officer shall be the primary source of all data and submissions being filed before the Commission, to ensure consistency and timelines of the data submitted and proper co-ordination with the Commission in the tariff determination process. As per DHPD the Department have a nodal officer for Tariff and Regulatory matters. But due to lack of officers Electricity Regulatory Cell is still under process. However, the	The Petitioner has submitted that as per Commissions observation the Petitioner is planning to set up an Electricity Regulatory Cell under a senior officer for which the proposal is under process.
	Commission direct DHPD it is very urgent to have this cell headed by some senior officials from DHPD and furnish details of Concern officer, their phone nos. and email IDs for faster and efficient working.	
2	Unbundling and transfer of Asset Electricity functions covering Generation is being performed by the DHPD as a Government functionary as of now. As per the provisions of the Electricity Act 2003, the functions are to be separate and entrusted to reorganized entities that have to function as independent bodies. DHPD is once again directed to take urgent	The Petitioner has submitted that the restructuring of the Department into separate entity independent from the Government is to be decided by the Government of Arunachal Pradesh. As directed by the Hon'ble Commissioned shall take up the matter for consideration of the Government.

steps for complete restructuring and get transferred of asset as per Govt. transfer scheme section 131-33 of the power sector in Arunachal Pradesh. 3 Generation The Petitioner has submitted that it is making all efforts to maximize generation however there are DHPD has generated and supplied only 46.50 technical and operational constraints as a result of MU (upto Dec 2018) during FY 2018-19 which the HEPs are not operating at desired capacity. against saleable energy of 198.48 MU, which Most of the HEPs are operating in isolation mode not is quite low. It indicates that the Performance connected to grid. The energy generated from the is poor. DHPD shall take necessary steps to HEPs are catering to the energy requirement of local improve the performance of the stations and area. Hence generation depends on the demand of the generate additional power. The DHPD shall connected area. Further there are redundant make an all-out effort to increase the present capacities to meet the energy requirement in case of generation at least by 19.85 MU (i.e. 10o/o of failure of any unit. The availability of water saleable energy 198.48 MU) more in the discharge has reduced due to deforestation, global present generation energy. This will facilitate warming apart from the water diversion by PHE & additional the generation with Irrigation department. Frequent landslides damage nonconventional source within the state. the HEPs and disrupt generation however steps are Further, this low-cost energy shall not only being taken to connect the HEPs to the grid to reduce the burden of APDOP of buying improve generation. energy at higher cost but shall also give relief to the consumers of the state. The DHPD shall submit a report to the Commission on the steps proposed to be taken in this regard with improvements carried out, within Six months The Commission hereby also directs the 4 The Petitioner has submitted that all efforts are being Petitioner/ DHPD to keep project wise data's made to collect & compile regulatory details. The such as all ongoing projects updated as formats have been devised and circulated to all divisions. It is submitted that DHPD shall try to estimated cost, revised Capital cost if any, progress physical & financial, O&M expenses submit the required details in the future fillings. (Employees, R&M and AG), Additional capitalization etc. that shall have to be submitted along with the petition supported by documents. 5 For newly Hydro Electric Plant to be The Petitioner has submitted that the petitions for determination of levelised tariff for all the HEPs with commissioned installed capacity above 1MW commissioned from 01.04.2018 onwards shall be submitted shortly for For newly Hydro Electric Plants below 1 MW, approval of the Hon'ble Commission. the petitioner should get tariff fixed for entire useful life of plant on levelised basis by adopting the Generic tariff order published by the Commissioned whose COD is March, 2018 or by filling separate for project specific tariff as per APSERC RE Regulation,201S and its amendment time to time. For 1 MW and above upto 25 MW project specific Tariff. Petitioner is hereby directed to keep all data updated like

estimated & completed cost, Equity, Debt, O&M expenses (Employees, R&M and AG), Additional capitalization etc. and to be submitted along with the petition. Also, it has been informed to the department that no tariff has been determine for the following SHP commissioned in FY 18-19, whose project data not available with the Commission

- a) Payu MHS at Koloriang;
- b) Mukto MHS;
- c) Subbung.

6 Accounting of O&M expenses

The Deptt. is directed to maintain project wise accounting of expenses in respect of the following: a) Expenses on salary and wages of the staff working in that generating station. b) Expenses incurred on repair & maintenance of that generating station. c) Any other general expenses incurred on the staff of that generating station. These project wise details should be provided in the tariff Petition from next year onwards as these are regulatory requirements.

The Petitioner has submitted that it is making all efforts to maintain and compile the required details. The required details shall be provided along with next Tariff Petition.

7 O&M Activities

The Commission suggests that the O & M activities of major Power Station i.e. above one MW capacity may be carried out on PPP Model (Public Private Partnership Model). Initially one or two Power Plant of sizable capacity, which is under performing, may be taken up on experiment basis to carry out O&M activities and its performance shall be monitored. DHPD is requested to prepare a blue print of such PPP Model Project and furnish the same to APSERC for appraisal and comment.

The Petitioner has submitted that as directed by the Hon'ble Commission DHPD shall take up proposal of carrying out O&M activities of major power station i.e. above 1 MW on PPP (Public Private Partnership Model) and AOMC (Annual Maintenance Contract) for consideration of the State Government. One Hydel station from each circle is being identified and process is on for operation and maintenance contract from private parties.

8 Reassessment of the value of the existing assets of DHPD.

The Deptt. is directed to reassess the value of its assets and provide the correct asset value to the Commission in the next petition. If the Deptt. feels proper and necessary, it is suggested that Deptt. may seek the services of professional valuers & estimators in this field/

The Petitioner has submitted that as per Commission's suggestion and guidance DHPD has initiated the process to assess the value of its assets. DHPD shall prepare the Fixed Asset & Depreciation Register for all the HEPs with the required details & submit to the Hon'ble Commission.

for assessing the proper value of the assets of the Deptt. as it is a one-time exercise and it is in the benefit of the Deptt. that it should be done with fair amount of accuracy. Project wise asset registers, containing land details, civil structures, dams, spill ways, power house buildings, office buildings, the machinery, and equipment together with costs shall be prepared in standards format and shall be submitted the same to the Commission

9 Hydro Power Stations with" Nil" Power Generation

The Commission received a status sheet from DHPD (Refer Annexure 1) where it is observed that 4l numbers of plant totalling to an installed capacity of about 14.25 MW has been shown to be generating nil energy over the past few years. Hence, the Commission observe an urgency to recover at least those plants which has nil generation or operating below its rated capacity due to some minor repair replacement/refurbishment of components/parts/works etc.

The Commission hereby directs DHPD to take up the recovery of those plants and present it to the Commission along with the commercial justification, sources of funding, annual targets, and time lines of restoration of generation.

10 Reassessment of Installed Capacity of the existing stations

It is felt that the generation from the hydro stations does not commensurate with the installed capacity of the projects. As clarified by the DHPD on various occasions, one of the reasons stated for this was that many of the projects are very old and the capacity of the machinery has got de-rated due to ageing. Moreover, over a period of time the hydrology of the project has also changed leading to reduction in water discharge and hence reduction in the generating capacity. It was

The Petitioner has submitted that most of the DHPD's mini and micro projects are operating in isolation mode and located in remote hilly areas. Often times due to natural calamities like landslides, Flash Floods and flooding of river, power house and hydel equipment's are damaged beyond economical repair. Also, it leads to damage of the approach terrain, initiating the speedy repair and carrying out of necessary R&M works. Many of the hydel stations have also decreased efficiency due to ageing and reduction in discharge on account of deforestation. The action taken on the noted 41 no's of hydel stations in the Tariff Order FY 2019-20 is hereby annexed as (A, B, C & D) listed as (A) Hydel Station renovated and put into operation-9 No's. (B) Hydel Station under R&M, Derating & Augmentation-11 No's. (C) Hydel Stations proposed for write off sanction-7 No's and (D) Hydel Station which has been accorded write off sanction 14 No's. DHPD is making all efforts to make the plants operational in technically & economically feasible cases. However, those plants which are beyond economical repairs are processed for write off sanction from the competent authority.

The Petitioner has submitted that DHPD has initiated the process to assess the installed capacity based on the geographical and hydrological conditions and revised installed capacity shall be fixed and submitted to the Hon'ble Commission.

also stated that during earlier day's one machine in the station used as standby but whose capacity is added in the installed capacity. In view of the above the DHPD is directed to reassess the actual generating capacity of all such projects and re-fix the installed capacity and get it approved.

11 Depreciation for FY 2019-20

The Commission has been requesting the details of GFA from DHPD but didn't receive any input till date. Further, Commission has worked out depreciation based on limited data with the available Commission accordingly approved the cost as calculated. The Commission hereby directs the DHPD to re-evaluate the project asset value by deploying the professional value and estimator for all the old plants whose capital is not available with the department so that a realistic depreciation can be calculated. The Commission also directs the DHPD to do revaluation exercise of the old plants whose project life obtained more than thirty-five years and furnish the same to the Commission

The Petitioner has submitted that as per Commissions suggestion and guidance DHPD has initiated the process to assess the value of its assets. DHPD shall prepare the Fixed Asset & Depreciation Register of all the HEPs with the required details & shall submit to the Hon'ble Commission.

12 Training and skill development of the employees of DHPD

The Deptt. is directed to give top most priority to training and skill development of O&M staff and the supervisory staff (JEs and AEs) of the generating stations so as to increase the longevity & efficiency of the machines. The Deptt. should work out a well thought plan of imparting training in phased manner and allocate necessary fund in its annual budget for the same. Further to the above, Commission also observes that DHPD may undertake training/skill development for technicians/un-skilled worker to improve plant availability and performance.

The Petitioner has submitted that it has taken steps for training and skill development of O&M staff and the supervisory staff (JEs and AEs)/unskilled workers of the generating stations to improve plant availability and performance this regard, one hydel station of each circle has been identified to be operated by private party on AOMC basis with a condition that training will also be provided in those identified hydel stations.

13 Scheduling of generation from the Deptt.'s Hydro Stations

The Deptt. is directed to start scheduling the generation from its generating stations for proper and optimum utilization of the generation by the Deptt. of Power. In this

The Petitioner has submitted that DHPD shall take steps for scheduling the generation from its generating stations for proper and optimum utilization of the generation by the Deptt of Power DHPD shall intimate the status to the Hon'ble Commission as directed.

	regard, the DHPD shall have to co-ordinate with SLDC, which is being upgraded to have communication with the plants in Generation with SLDC. The DHPD need to update the Commission.	
14	Fixing of project wise generation target The Deptt. is also directed to fix monthly/quarterly target of generation project wise based on various factors like the seasonal availability of the water, condition of the machines etc. This will also help the Deptt. in self-assessment of its performance. Details of Project wise target and actual generation should be incorporated in the next tariff petition of the Deptt.	The Petitioner has submitted that DHPD shall take steps for fixing generation targets based on various factors like the seasonal availability of the water, conditions of the machines etc as directed.
15	Raising of bills to Deptt. of Power DHPD directed to immediately confirm if it is raising monthly bills to AP DoP for the energy consumed by them at the tariff fixed by the Commission w.e.f 2013-14 onwards. On the basis of joint meter readings or as mutually decided by both the department for such station where meter are not installed. Persons authorized to sign the joint meter reading, format of the bill etc. should be worked out between the Chief- Engineers of DHPD and Chief Engineer's DOP to avoid any kind of disputes.	The Petitioner has submitted that DHPD shall take steps for raising monthly bills to AP DOP for the energy drawn by them at the tariff fixed by the Commission regularly. Efforts are being made to obtain JMR (Joint Meter Reading) with DoP while recording monthly generation data. In this regard all the circle and divisional offices have been directed to inspect hydel stations under their jurisdiction and submit the requirement of appropriate meters required for conducting JMR wherever the provision is missing at present.
16	Data Deficiencies and submission of Tariff Petition. The Deptt. is directed to start scheduling the generation from its generating stations for proper and optimum utilization of the generation by the Deptt. of Power.	The Petitioner has submitted that DHPD shall take steps for scheduling the generation from its generating stations for proper and optimum utilization of the generation by the Deptt of Power.
17	The Commission observed through the previous petitions filled that the various activities are being taken by the petitioner/DHPD and listed in their petition as Annexure 'Outlays and Expenditure of On-Going Schemes and hydel improvement, special repair (Hydel Improvement), R&M works etc. for different plants in operation. The petitioner did not furnish any proposal along with technical details, expenditure etc.	The Petitioner has submitted that details of planned CAPEX shall be submitted to the Hon'ble Commission.

	for the said projects for information/			
	accounting to the Commission.			
18	Filing of the Petition in time	The Petitioner has submitted that DHPD shall make all efforts to file the next petition within 30 th		
	Tariff petition with all the required data in the	November.		
	formats shall be submitted by 30th November			
	of every year.			

Commissions View:

6.2 The Commission expresses its concern over the Petitioner's failure to comply with most of the directives issued for FY 2019 and FY 2020. It has been observed that there has been no substantial effort by the Petitioner to initiate action on these directives, as majority of them remain unaddressed or uninitiated. The action proposed is also without a time frame which implies the non-committal approach to resolve the issues at Petitioners end. The Commission takes serious note of the Petitioner's casual approach and hereby reiterates its directive to ensure compliance with the pending directives. The Petitioner is further directed to submit a compliance report to the Commission along with the next tariff petition for FY2025-26. A presentation on the compliance shall be taken by the Commission before admitting the next tariff petition for FY 2025-26.

मेर्ग राज्य विद्युत विक्रियमि

CHAPTER 7: Directives

1. Timely Submission of Petition

7.1 The Petitioner is directed to strictly adhere to the timeline for filing tariff petition complete in all aspects with all required data in prescribed format by 30th November of each year. In this regard the Petitioner is directed to submit Petition for FY 2025-26 within 2 weeks from the date of issue of this order complete in all aspects and accompanied by requisite fee.

2. Reassessment of Installed Capacity of the existing stations

- 7.2 The Commission has noted the discrepancy regarding the installed capacity as stated by the Petitioner in relation to actual generation. The Petitioner has claimed to have an installed capacity of 84.15 MW, but the actual energy generation table shows a capacity of only 62.79 MW. Additionally, the current petition references certain plants proposed for write-off approval. As clarified by DHPD on several occasions, one of the reasons for this discrepancy is the advanced age of many of the projects, leading to de-rating of the machinery over time. Moreover, changes in the hydrology of the project have resulted in reduced water discharge, which in turn has decreased the generating capacity. These explanations are not justifiable in regards to discrepancy in installed capacity. In light of these factors, the DHPD is hereby directed to reassess the actual generating capacity of all affected projects, revise the installed capacity accordingly through a due process, and obtain approval for the revised capacity from the Commission.
- 7.3 The petitioner is directed to adhere to the Capacity Utilization Factor (CUF) approved by the Commission and shall operate the plants on must run basis. However, in the event that the petitioner is unable to achieve the 45% CUF due to external constraints beyond their control, other than force majeure events, the petitioner shall be entitled to claim the benefits under the "Must-Run Status" as per the Electricity (Promotion of Generation of Electricity from Must-Run Power Plants) Rules, 2021, and its amendment.
- 7.4 The Purchaser of the generated energy of DHPD i.e APDOP has already been allowed purchase of power from petitioner and accordingly provisions have been made in ARR of APDOP for FY 2024-25. Therefore the Petitioner is directed to raise bill based on actual

energy transferred to the distribution licensee i.e. APDOP in accordance to the tariff approved by the Commission.

- 7.5 The petition is hereby disposed of in accordance with the aforesaid directions.
- 7.6 This order shall be effective from 1st **April 2024** and shall remain in force till the next tariff order issued by the Commission.

Date: 31.12.2024

Place: Itanagar

Sd/-

Shri Nich Rika

Member(Law)



Sd/-

Shri R.K. Joshi

(Chairperson)

Annexure-1

Table 30 List of Participants during public hearing

S.No	Name	Designation
1	Mr.Duyu Tacho	CE(Commercial) cum CEI
2	Mr.Anirban Hazra	Consultant DHPD
3	Mr.Sayank Mondal	Consultant DHPD
4	Mr.Habung Opo	JE(DHPD)



Secretary

Annexure 2

Table 31 List of HEP under DHPD which is under renovation and plants which have been renovated and put into operation

S.NO	Name of HEP	Installed Capacity(kW)	Firm Capacity(kW)	COD	Remarks
1	Khet	2 x 50	100	2009-10	Unit-1 in operation. Unit-II shutdown due to gen, panel, transformer & switchyard component damage
2	Dokumpani	1 x 30	30	2000-01	Plant in Operation
3	Domkhrong	2 x 500	1000	2008-09	Unit-I shutdown due to leakage from Nozzle. Unit-II
4	Mai Ph-II	2 x 500	1000	1982-83	Unit-I shutdown due to excitation panel defect. Unit-II in operation
5	Kamba MHS	3 x 2000	6000	2008-09	Plant is operated in isolation mode supplying power to Kamba, Kaying and Darak.
6	Tah Ahfra Ph-I and Ph- II at Angolin	1x50+1x50	TRICITY REGI	2009-10	Shut down since May 2024 due to flood damage of water conducting system.
7	Kibitho	1x30	30	2004-05	Due to low discharge, kibitho area is fed from Dichu Nallah MHS.Due to landslide on 29 th June2024, Power house been washed away.
8	Maipani MHS	2 x 30	60	2010-11	Power channel is damaged. Plant shutdown.
9	Sumhok Nallah	2 x 50	100	2009-10	
	Total	9420	8840	100	

Table 32 List of HEP under DHPD which is under R&M, Derating and augmentation

S.NO	Name of	Installed	Firm	COD	Remarks
HERITA	HEP	Capacity(kW)	Capacity(kW)		
1	Saktangrong MHS	3 x 100	300	2011-12	Proposed under Renovation.
2	Ankaling	1 x 30	30	2009-10	Proposed under Renovation.
3	Khadiyabey	2 x 100	200	2011-12	Proposed for derating from (2x100kW) to (2x50kW) vide SE/KB/HPD/W-59/22-23/1640-42 Dtd 17/01/23
4	Kade Nallah	1 x 50	50	2010-11	Proposed under Renovation.
5	Pakke Kessang	1 x 30	30	2001-02	Plant shutdown for augmentation into 2x50kW
6	Koye	1 x 50	50	2009-10	Proposed for Write off sanction
7	Dumi Dutte	1x30	30	2017-18	Proposed under Renovation
8	Dulom (Daporijo)	4 x 100	400	1981-82	Hydel station shutdown since 2008 and presently R&M works on EM is in progress.
9	Pinto Karo MHS	1 x 25	25	2011-12	Proposed under Renovation.

10	Sinyum Koro	2 x 50	100	2011-12	Proposed under Renovation.
11	Ayingmuri MHS	2 x 125	250	2012-13	Plant under augmentation of power from 250 to 500kW
	Total	1465	1365		

Table 33: List of existing HEPs of DHPD against which write off has been proposed to GoAP

S.NO	Name of HEP	Installed Capacity(kW)	Firm Capacity(kW)	COD	Remarks
1	Bramdhongc hung Ph-I	2 x 50	100	2008-09	Proposed for Write off sanction
2	Sinchung	1 x 30	30	2008-09	Proposed for Write off sanction
3	Seppa	3x100	300	1980-81	Proposed for Write off sanction
4	Patte MHS at Tali	1 x 30	30	2004-05	Proposed for Write off sanction
5	Maro	1 x 30	30	2002-03	Proposed for Write off sanction
6	Limeking MHS	1 X 30	30	2012-13	Proposed for Write off sanction
7	Kojin Nallah	2 x 50	100 PEG/	2011-12	Proposed for Write off sanction
	Total	620	520	LATO	

Table 34 List of existing HEPs of DHPD against which write off has been sanctioned by GoAP

S.NO	Name of HEP	Installed Capacity(kW)	Firm Capacity(kW)	COD	Remarks
1	Yomcha	1 x 50	50 V 4nd 4	2001-02	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
2	Angu MHS	1 3	⁵⁰ राज्य विद्य	2010-11	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
3	Beye	1 x 30	30	2004-05	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
4	Deopani Ph-I MHS	3x250	750	1986-87	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
5	Deopani Ph-II MHS	3x250	750	2004-05	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
6	Abhapani MHS at Simari	1x250+2x100	450	1983-84	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
7	Anini/ Awapani Ph-I at LG	3x50	150	1984-85	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
8	Ngonalo at	2 x 50	100	2010-11	Write off sanctioned vide Memo

	Vijaynagar				No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
9	Sijen MHS at Adi pasi	1x50	50		Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
10	Pyabung MHS	1x25	25	2011-12	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
11	Tah Nallah	2 x 50	100	2009-10	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
12	Ashapani MHS	2 x 30	60	2011-12	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
13	Hathipani MHS	2 x 50	100/CITY REG		Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
14	Tahin Nallah	2 x 50	100	2011-12	Write off sanctioned vide Memo No.HPD-EZ-14012/2/2021- CE(EZ)DHPD/38-43 Dtd.24 th April 2024
	Total	2765%	1840		S
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