



ARUNACHAL PRADESH STATE ELECTRICITY REGULATORY COMMISSION
(APSERC)

TARIFF ORDER
ARR for FY 2018-19
And
TARIFF for FY 2018-19

For

Transmission Planning & Monitoring Zone (TP&MZ)

Department of Power, Government of Arunachal Pradesh

Petition No. 2 of 2018

Issued on 07/06/2019

Arunachal Pradesh State Electricity Regulatory Commission

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List of Abbreviations

Act /EA 2003	Electricity Act, 2003
A&G	Administrative and General
APTEL	Appellate Tribunal for Electricity
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
AS	Accounting Standards
CAG/C&AG	Comptroller and Auditor General
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
Ckt-Km	Circuit Kilo meter
CPI	Consumer Price Index
CTU	Central Transmission Utility
CWIP	Capital Work-In-Progress
DoP	Department of Power
FAR	Fixed Asset Register
FCC	Financial Completion Certificate
FINER	Federation of Industry & Commerce of North Eastern Region
FY	Financial Year
GFA	Gross Fixed Assets
GPF	General Provident Fund
GOI	Government of India
Govt.	Government
IWC/loWC	Interest on Working Capital
kW	kilo Watt
kWh	kilo Watt Hour
MNRE	Ministry of New & Renewable Energy
MoP	Ministry of Power
MU	Million Units
MVA	Mega Volt Ampere
MW	Mega Watt



MYT	Multi Year Tariff
NEC	North Eastern Council
NEEPCO	North Eastern Electric Power Corporation Limited
NERPSIP	North Eastern Region Power System Improvement Project
NLCPR	Non Lapsable Central Pool of Resources
NTI	Non-Tariff Income
NTP	National Tariff Policy
O&M	Operation and Maintenance
PCC	Physical Completion Certificate
PGCIL	Power Grid Corporation of India Limited
PLR	Prime Lending Rate
PoC	Point of Connection
PSDF	Power System Development Fund
R&M	Repairs and Maintenance
RoE	Return on Equity
ROI	Rate of Interest
SAMAST	Scheduling, Accounting, Metering and Settlement of Transactions in Electricity
SC/DC	Single Circuit/ Double Circuit
SBI	State Bank of India
SLDC	State Load Despatch Centre
SLM	Straight Line Method
STOA	Short Term Open Access
STU	State Transmission Utility
TSC	Transmission Service Charges
TP&MZ	Transmission Planning And Monitoring Zone
WPI	Wholesale Price Index



Before

The Arunachal Pradesh State Electricity Regulatory Commission (APSERC)

Itanagar, Arunachal Pradesh

Petition No. TP 02 of 2018

In the matter of:

Determination of Aggregate Revenue Requirement and Determination of Transmission Tariff proposal by Transmission, Monitoring and Planning Zone, Deptt of Power Arunachal Pradesh in the State of Arunachal Pradesh for the FY 2018-19

AND

Transmission, Monitoring and Planning Zone Department of Power, Govt. of Arunachal Pradesh -----Petitioner

Present:

RP Singh, Chairperson

ORDER

(Passed on 07-06-2019)

- 1) The Transmission Planning & Monitoring Zone, Department of Power, Government of Arunachal Pradesh considering a deemed licensee in terms of section 14 of the Electricity Act 2003 is engaged in the business of transmission who is allowed to function as Transmission Utility for The State of Arunachal Pradesh. The TP&MZ is part of Department of Power (DOP), Arunachal Pradesh.
- 2) TP&MZ, DOP filed Petition for approval of Annual Revenue Requirement for FY 2018-19 and Tariff proposal for FY 2018-19 under section 61, 62 & 64 of the Electricity Act 2003 on 9th march 2018.
- 3) APSERC (Terms and Conditions for Determination of Tariff) Regulations, 2011 and as amended from time to time, specifies that Transmission Licensee shall file the tariff Petition for a FY, complete in all respects, along with requisite fee as prescribed in the APSERC (Commission's Fee) Regulations, 2011 and amendments thereof on or before



30th November of the preceding year.

- 4) The Commission taking into consideration the time lapsed and in order to avoid further delay finally admitted the petition on 19/03/2018. The Commission conducted preliminary analysis of the Petition and found that the Petition was incomplete in material particulars. Therefore, additional data and clarifications on the Petition were sought from TP&MZ, DOP vide letter no. APSERC/RA-7/II/2018-19/148-49 dated 31st May 2018. The petitioner submitted clarifications vide letter No. CE(P)/TPMZ/W-15/2018-19/1727-28 dated 24/10/2018 to few points raised by the Commission and confirmed to submit remaining points in certain period of time which till date has not been submitted.
- 5) On admission of the Petition, in accordance with Section 64 of the Electricity Act 2003, the Commission directed TP&MZ, DOP to publish a summary of the ARR and Tariff filings in abridged form in local dailies, which was finally published on 01/11/2018 by the petitioner after several follow-ups by the Commission.
- 6) Due to non-availability of sufficient data as observed during evaluation, the Commission called the petitioner for hearing vide several notices on date 21/08/2019, 18/09/2018, 31/10/2018 & 04/12/2018. But the petitioner never turned up for hearing despite allowing extensions. Hence, the tariff order is delayed considerably. The Commission hereby issues order on ex-parte basis based on available data.
- 7) The Commission, now in exercise of its powers vested under Sections 61, 62, 86 and 181 of the Electricity Act, 2003 and all other powers enabling it in this behalf and taking into consideration the submissions made by the Petitioner, has approved the ARR for FY 2018-19, and determined the Transmission Charges for FY 2018-19 as detailed in subsequent pages.
- 8) The Commission directs the licensee to publish the order in two leading newspapers, having wide circulation in the State within 7 days of the issue of this Tariff Order.
- 9) This order consists of 4 chapters that includes detailed analysis of the ARR and approved Transmission Tariff for the FY 2018-19. Further, the Commission directs the Licensee to take all necessary steps for implementation of this order so that the energy bills are



prepared accordingly, strictly in terms of the approved tariff. The directives contained in the Chapter-4 should be strictly adhered to and compliance thereof, as desired by the Commission must be placed before it within the stipulated time by TP&MZ, DOP.

- 10) This order shall be effective from 1st April 2018 and shall remain in force till the next tariff order is issued by the Commission.

Date- 07/06/2019

Place- Itanagar




(R.P. SINGH)

Chairperson



1 INTRODUCTION

1.1 Constitution of the Commission

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” as notified on 07.05.2010 (hereinafter referred to as Commission). The Commission constituted is a one-member body designated to function as an autonomous authority responsible for regulation of the power sector in the State of Arunachal Pradesh. The powers and functions of the Commission are as prescribed in the Act. The office of the Commission is presently located at Itanagar, Arunachal Pradesh. The Commission started functioning with effect from 02.03.2011 with the objective and purpose for which the commission has been established.

1.2 Functions of the Commission

As per Section 86 of the Act, the Commission shall discharge the following functions, namely

- a) Determine the Tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State, provided that where open access has been permitted to a category of consumers under Section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
- b) Regulate Electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- c) Facilitate Intra-State transmission and wheeling of electricity;
- d) Issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;

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

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

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

The Arunachal Pradesh State Commission ensures transparency while exercising its powers and discharging its functions. In discharge of its functions, the State Commission is guided by the National Tariff Policy (NTP) brought out by GOI in compliance to Section 3 of the Act . The objectives of NTP are to:

- a) Ensure availability of electricity to consumers at reasonable and competitive rates;

- b) Ensure financial viability of the sector and attract investments;
- c) Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;
- d) Promote competition, efficiency in operation and improvement in quality of supply.

1.3 Transmission Planning & Monitoring Zone, DOP, AP

The Transmission Planning & Monitoring Zone (TPMZ), Department of Power of The State of Arunachal Pradesh is responsible for transmission of power in the state. TPMZ transmitted 806 MUs of power during the FY 2016-17 from Central Sector Generating Stations, Unscheduled Injection and Free Power from NEEPCO.

The present Peak Demand for Arunachal Pradesh is 140 MW being met by power from various Central Generating Stations, Power from different Power Trading Companies and State Power Generating Department. TPMZ has about 357 Ckt-Km. of SC/DC line length on the FY 2016-17.

1.4 Filing of ARR and Tariff Petition for the FY 2018-19

As per the Regulation 17.1 of APSERC (Terms and Conditions for Determination of Tariff and Formats for Tariff Filing) Regulations, 2011, each Generating Company, Transmission and Distribution Licensee shall file the Tariff petition on or before 30th November of current year for fixing the Tariff for the next financial year. However, TPMZ, DoP filed the tariff Petition for FY 2018-19 on 09-03-2018, which should have been filed on or before 30-11-2017 as per the above said Regulations. In the petition, TP&MZ, DOP has estimated an ARR of Rs.152.98 crores and worked out a transmission tariff of 189 paisa/unit.

1.5 Admission of Petition and Public Hearing Process

On admitting the ARR and Tariff Petition of TP&MZ, DOP for FY 2018-19, the Commission directed TP&MZ, DOP to publish the summary of its Petition and proposed tariff in local newspapers in abridged form and manner as approved in accordance with section 64(2) of the Electricity Act, 2003 and Regulation 23 of APSERC (Multi Year Tariff) Regulations, 2013 to invite comments/ objections from various stakeholders.

The notification of ARR and proposed Transmission Tariff for FY 2018-19 was published by the TP&MZ, DOP in the following newspapers though on 1/11/2018 after elapsed of considerable period.

Table 1: List of Newspapers in which salient features of the Petition were published

Sl. No.	Name of the Newspaper	Language	Date of Publication
1.	The Arunachal Times	English	1/11/2018

A Public Notice was also issued by TP&MZ, DOP inviting objections/ suggestions from various stakeholders on the petition on or before 20-11-2018 and the Copy of the above Public Notice is enclosed in Annexure I of this Order.

The Commission observed that the ARR filed by the petitioner was incomplete and lacked critical and vital information as specified in Commission's (Terms and Conditions for Determination of Tariff) Regulations, 2011 and Multi Year Tariff Regulation- 2013. For additional data and clarifications on the Petition were sought from TP&MZ, DOP vide letter no. APSERC/RA-7/II/2018-19/148-49 dated 31st May 2018 and also the Commission summoned petitioner to clarify issues raised through various notices but the petitioner did not turn up to clarifies the queries. However, the petitioner submitted clarifications vide letter No. CE(P)/TPMZ/W-15/2018-19/1727-28 dated 24/10/2018 to few points raised by the Commission and confirmed to submit remaining points which is still pending.

Hence the Commission on ex-parte issues the Tariff Order on tariff petition filed by TP&MZ DOP for FY 2018-19.

1.6 Public Response to the Tariff Petition:

The Commission did not receive any objection/ suggestions from the Public and hence the Commission did not feel the necessity of conducting the Public Hearing.

1.7 Layout of the Order

This Order is organized into 4 Chapters:

- 1) Chapter 1 provides a brief about APSERC, TP&MZ, DOP, some of the details about the tariff setting process, the admission process of petition and about the Public Hearing.



- 2) Chapter 2 provides details about the Power Supply position in Arunachal Pradesh and Summary of the Petition submitted by TP&MZ, DOP for determination of ARR and Transmission Tariff Proposal for FY 2018-19.
- 3) Chapter 3 provides analysis of the petition for determination of ARR and Transmission Tariff Proposal for FY 2018-19 and Commission's Approval on the same.
- 4) Chapter 4 list out various Directives and Advisories issued by the Commission to TP&MZ, DOP for FY 2018-19.



[Signature]

2 Power Supply Position and Summary of Petition

2.1 Power Supply Position

The Transmission Planning & Monitoring Zone (TPMZ), Department of Power of the State of Arunachal Pradesh is responsible for transmission of power in the state of Arunachal Pradesh. TPMZ transmitted 806 MUs of power during the FY 2016-17 from Central Sector Generating Stations, Unscheduled Injection and Free Power from NEEPCO.

The total area of the State of Arunachal Pradesh is 83573 sq. kms. The State is having a population of around 13.82 lacs as per 2011 census. The State is bounded by Assam in South, Bhutan in West, China in North, and Nagaland & Myanmar in East bound the State of Arunachal Pradesh. Its Capital Itanagar is about 380 kms from Guwahati.

The present Peak Demand for Arunachal Pradesh is 140 MW being met by power from various Central Generating Stations, Power from different Power Trading Companies and State Power Generating Department. TPMZ has about 357 Ckt-Km. of SC/DC line length on the FY 2016-17.

As per CEA, Load Generation Balance Report, the data's are as follow:

Table 2: Power supply position in terms of Peak Demand vs Peak Met – as per CEA

Region / State / System	Peak Demand (MW)	Peak Met (MW)	Surplus(+) / Deficit(-)	
			(MW)	(%)
Arunachal Pradesh 2016-2017	148	140	-8	-5.4
Arunachal Pradesh 2017-2018	145	145	0	0

Table 3: Power supply position in terms of Energy Requirement vs Energy Availability- as per CEA

Region / State / System	Requirement (MU)	Availability (MU)	Surplus(+) / Deficit(-)	
			(MU)	(%)
Arunachal Pradesh 2016-2017	728	713	-15	-2.1
Arunachal Pradesh 2017-2018	799	789	-10	-1.3



2.2 Summary of the Petition

TP&MZ, DOP in its petition Table 3.10 has submitted the projected ARR for FY 2018-19, estimated for FY 2017-18 and actual Figs for FY 2016-17 for meeting its expenses and the estimated revenue with the existing tariff.

2.2.1. Aggregate Revenue Requirement – Petitioner Submission

The ARR and proposed transmission tariff as submitted by the petitioner is shown in Table below.

Table 4: Aggregate Revenue Requirement (Rs. in lakhs) - Petitioner's Submission

S. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Employees Cost	814.58	833.80	853.48
2	No. of Employee	214	214	214
3	Repairs & Maintenance	545.33	554.76	564.36
4	Admin. & General Expenses	68.28	69.46	70.66
5	Depreciation	3912.04	3933.49	4164.44
6	Interest and Finance Charges	6922.82	6153.28	5823.21
7	Interest on Working Capital	398.58	476.97	498.21
8	Return on Equity	3111.96	3134.75	3324.18
9	Income Tax	0.00	0.00	0.00
11	Total Fixed Costs	15773.60	15156.52	15298.54
12	Less: Expenses Capitalized	0.00	0.00	0.00
13	Total Transmission Charges	15773.60	15156.52	15298.54
14	Less: Other Income	0.00	0.00	0.00
15	Net Annual Transmission Charges	15773.60	15156.52	15298.54

2.2.2. Transmission Loss - Petitioner's submission

TPMZ, DoP has calculated transmission loss for FY 2018-19 based on past trends. The details of energy received & energy sent and transmission loss for the FY 2015-16, FY 2016-17, FY 2017-18 (up-to January, 2018) is provided below.



Table 5: Transmission Loss - Petitioner's Submission

Year	Energy Import (MU)	Energy Export (MU)
2015-16	816.72	757.07
2016-17	805.55	729.78
2017-18 (upto Jan'18)	675.95	619.52

Table 6: Energy projection & transmission loss – Petitioner's Submission

S. No.		TPMZ Data	Units Exported (MU)
1	2016-17	Total Energy Received	805.55
2		Gross energy sent out	729.78
3		Transmission loss (1-2)	75.77
4		% Transmission losses (3/1) x 100)	9.41
1	2017-18	Total Energy Received	810.20
2		Gross energy sent out	741.14
3		Transmission loss (1-2)	69.06
4		% Transmission losses (3/1) x 100)	8.52
1	2018-19	Total Energy Received	810.20
2		Gross energy sent out	745.38
3		Transmission loss (1-2)	64.82
4		% Transmission losses (3/1) x 100)	8.00

2.2.3. Proposed Transmission Tariff

Table 7: Proposed Transmission Tariff – Petitioner's Submission

Sl. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Annual Transmission Charges (Rs. in Lakhs)	11861.56	15156.52	15298.54
2	Total MW Allocation (MW)	131.16	131.16	131.16
3	Transmission Tariff (Rs./ MW/ Day)	24776.93	31659.59	31956.24
4	Energy Transferred (MU)	805.55	810.20	810.20
5	Transmission Tariff (Paise / Unit)	147.25	187.07	188.82



2.3 Prayer of the Petitioner

The petitioner respectfully prays that Hon'ble Commission may:

- 1) Accept the Annual Revenue Requirement and Tariff petition for the FY 2018-19 for TPMZ formulated in accordance with the guidelines outlined as per the regulation of Hon'ble Arunachal Pradesh Electricity Regulatory Commission relating to Transmission Licensee and the principles contained in Tariff Regulations;
- 2) Approve recovery of ARR of FY 2018-19;
- 3) Approve the tariff charges submitted by TPMZ to meet revenue requirement for FY 2018-19;
- 4) Approve the tariff philosophy suggestions requested by TPMZ;
- 5) Condone any inadvertent delay/ omissions/ errors/ rounding off differences/ shortcomings and TPMZ may please be permitted to add/ change/ modify/ alter the petition;
- 6) Permit TPMZ to file additional data/ information as may be necessary;
- 7) Pass such further and other orders, as the Hon'ble Commission may deem fit and proper, keeping in view the facts and circumstances of the case.



3 Analysis of ARR & Tariff Petition

3.1 Capital Expenditure & Capitalisation

TP&MZ, DOP in its tariff petition has submitted capital expenditure of Rs.768 lakhs, Rs.4141 lakhs and Rs.1205.6 lakhs for FY 2016-17 at actuals, FY2017-18 as estimated & FY 2018-19 as projected towards strengthening of the Transmission network to meet the desirable standards of performance and provide better network reliability.

Table 8: Capital Expenditure (Rs. in lakhs) – Petitioner’s Submission

Sl. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Opening Balance	0.00	768.00	4141.41
2	Add: New Investments	768.00	4458.63	4999.33
3	Total	768.00	5226.63	9140.74
4	Less investment capitalized	0.00	1085.22	7935.14
5	Closing Balance	768.00	4141.41	1205.60

The Gross Fixed Asset of TP&MZ, DOP as submitted in Tariff Petition is as below:

Table 9: Gross Fixed Asset – Petitioner’s Submission

Financial Year	Opening Balance (Rs. In Lakhs)	Addition during the Year (Rs. In Lakhs)	Closing Balance (Rs. In Lakhs)
FY 2016-17	74094.39	0.00	74094.39
FY 2017-18	74094.39	1085.22	75179.61
FY 2018-19	75179.61	7935.14	83114.75

Commission’s Analysis:-

As per petitioner’s submission

“Total capital expenditure towards existing & new projects of TPMZ is funded through the budgetary support/ grant of the Government of Arunachal Pradesh & centrally sponsored schemes of Government of India. Therefore, the 100% funding is through equity & no debt is taken for funding the capital expenditure”.



As per guidelines and Regulation, the capital cost of the existing and new projects shall not include any assets, which have been created from any grant received from either Central or State Government, which does not carry any liability of repayment for the purpose of computation of interest on loan, return on equity and depreciation.

It is observed that the petitioner created the said assets of existing and new projects based on grants received from the Govt. (State/Central), any assets which have been created from any grant received from either Central or State Government which does not carry any liability of repayment for the purpose of computation of interest on loan, return on equity and depreciation.

Hence, the capital expenditures & capitalization of asset created cannot be admitted for calculation of ARR and Tariff since it is created based on grant.

The day Govt. of Arunachal Pradesh notifies the 'State Electricity Reforms Transfer Scheme' as per section 131, 133 of EA 2003 and other applicable provisions of the Electricity Act, 2003 which that would provide and give effect to the transfer of properties, interests, rights, assets, liabilities, obligations, proceedings and personnel of APDOP to TP&MZ (as Transmission licensee) the Aggregate Assets and Liabilities. The date of the transfer scheme shall be the effective from the date of such notification. Therefore, the admission of Gross Fixed Asset, equity capital, loan if any shall be considered for further determination of Depreciation, Return on Equity and Interest on loan as notified/transferred to the licensee by the transferee.

In addition, the Commission also observes the following, which petitioner shall have to note for next petition;

- a) The capital cost shall include the actual expenditure on the date of commercial operation of the project subject to prudence check, necessary supporting documents shall be furnished with the petition.
- b) The assets not put to use shall be excluded from the capital cost.
- c) Details of new asset created for which capital investment made for the year, project wise/ sub-station/ Transmission line etc. has to be spelt in details the new asset capitalized, along with those asset, which has been replenished/ de-capitalized if any.



- d) The petitioner has furnished the GFA in a format, which is incomprehensive to check the cost for the respective complete system. The cost details are presented in a consolidated manner on year-to-year basis, no breakup data is furnished, and no reference of the date of capitalization of each asset and cost thereof is found with the petition.

In view of the above, the petitioner is hereby directed to submit the transmission system details and the cost breakup for the respective transmission system such as number of substations along with its bays details, transformers /reactors with ratings, substation auxiliaries and transmission circuit-Km details for each line section (elaborating all transmission line sections/ towers etc.) along with date of commercial operation (COD) as per APSERC (Multi Year Tariff) Regulations, 2018 and as amended time to time.

The Commission hereby directs TP&MZ to keep/maintain all details as per preceding observations of the commission.

3.2 Capital Investment Plan – Format 12 of the Petition

TP&MZ, DOP in its tariff petition has submitted capital Investment Plan in format 12 as follows:-

Table 10: Investment Plan (Scheme - Wise) (Rs. in lakhs) – Petitioner's Submission

Sl. No.	Name of Scheme/ Project	Approved Outlay	2016-17 (Actuals)	2017-18 (RE)	2018-19 (Projections)
1	2	3	4	5	6
1	Providing additional 250 kVA 33/0.4 kV Distribution Transformer at 132/33 kV substation at Chimpu for operation of SCADA at Itanagar. (Target date of Completion 31-03-2018)	20.00	16.00	4.00	0.00
2	Renovation of 1st floor of Vidyut Bhawan to accommodate officers and officials of TPMZ including interior decoration and furnishing etc. at Itanagar. (Target date of Completion 31-03-2018)	150.00	70.00	80.00	0.00
3	Procurement of special tools, Test & Diagnostic equipment for EHV grid system in Arunachal Pradesh at Itanagar. (Target date of Completion 2018-19)	500.14	90.00	166.72	243.42
4	Construction of RR Masonry wall and anti-erosion measures of tower footing to 132 KV Transmission Line tower No. ZERO-DRJ 204 at Daporijo under Grid Station Sub Division, Daporijo. (Target date of Completion 31-03-2018)	41.72	32.00	9.72	0.00



5	Construction of 132 KV Double Circuit Transmission Line from Hoj to Itanagar including 2 x 20 MVA Sub Station at Chimpu.	7135.00	0.00	3567.50	3567.50
6	Providing RR Masonry Protection wall and anti-erosion measures of tower footing at Tower Location No. 10 of 132 KV Lekhi - Chimpu Transmission Line. (Target date of Completion 31-03-2018)	50.00	0.00	50.00	0.00
7	Providing earthing including replacements of missing tower parts at various locations of 132 KV single circuit Transmission Line from Lekhi to Chimpu. (Target date of Completion 31-03-2018)	60.00	0.00	60.00	0.00
8	Providing RCC/ RRM wall tower footing protection and anti-erosion measures of Tower No. 0007 of 132 KV from Daporijo to Aalo Transmission Line. (Target date of Completion 31-03-2018)	60.00	0.00	60.00	0.00
9	Construction of SLDC building at 132/33 KV s/s at Chimpu. a) SLDC Control Room. b) SLDC Transmission Division Office. c) SLDC Sub Division Office. d)Transmission Circle Office. e) Residential building of EE(E), AE(E) & JE(E) of SLDC. f) Other Residential Building / Barrack for Operators & 3rd Grade. (Target date of Completion 31-03-2020)	2000.00	0.00	167.19	916.41
10	Installation of additional 10 MVA Transformer at 132/33 KV Sub Station at Khuppi. (Target date of Completion 31-03-2019)	300.00	0.00	150.00	150.00
11	Special repairs of tower arms of tower No. 13 & 17 of Daporijo to Aalo 132 KV Transmission Line. (Target date of Completion 31-03-2018)	100.00	80.00	20.00	0.00
12	Construction of non-residential office building and residential quarters under Transmission Division No. III, Pasighat. (Target date of Completion 31-03-2019)	372.00	150.00	100.00	122.00
13	Special repairs of damaged tower arms of tower No. DRJ - ALO 0013 & 0017 and shifting to tower No. DRJ - ALO 0003 of Daporijo to Aalo 132 KV Transmission Line under Grid Sub Station, Daporijo. (Target date of Completion 31-03-2018)	103.50	80.00	23.50	0.00
14	Construction of Staff Quarter, Auditorium and buildings for the staff of 220/132/33 KV Sub Station at Deomali	250.00	250.00	0.00	0.00
15	Total=====>	11142.36	768.00	4458.63	4999.33

D. S. Deka

Commission Analysis:-

The Commission observes the following on Capital Investment Plan;

- a) The petitioner has submitted that no capitalization is done during the FY 2016-17 against investment of 768 lakhs as per table 3.2 of the petition. It is also observed that the opening balance of FY 2016-17 (as on 31.03.2016) is mentioned as 74094.39 lakhs as per table 3.3 of the petition. Whereas, the asset mentioned as 74094.39 lakhs (as on 31.03.2017) as per Annexure-2 of the petition. This shows discrepancy in data as submitted by the petitioner.
- b) The Commission further gathered that as per Annual Asset report FY 2016-17 and FY 2017-18 as displayed on the website, the asset value as on 31.03.2016 is 72220.75 lakhs and for FY 2017-18, the asset value as on 31.03.2017 mentioned as 74094.39 lakhs hence the difference is around 1874 lakhs. This shows that asset of around 18 Cr (=740.94-722.02). has been capitalized during FY 2016-17 where as zero capitalization has been done as per petition.
- c) The capitalization of asset for 132 KV Double Circuit Transmission Line from Hoj to Itanagar including 2 x 20 MVA Sub Station at Chimpu has been shown in the FY 2017-18 and FY 2018-19 of capital 3567.50lakh and 3567.50 lakh respectively. The Commission observes that the said asset would have been capitalized before the date petitioner submitted.
- d) The Tower repair works at sl. No. 11 and 13 of Format -12 appears to be same, need clarification. The cost for repair of 2 no's tower as 1 cr. Also appears too high a value.
- e) The estimated cost of different works mentioned at Format-12 appears to be high. The Commission needs detail/clarification.
- f) The petitioner has to get approved Business Plan along with the capital investment as per provisions of Clause 12 APSEER (MYT) Regulation 2013 as amended time to time
- g) As per APSERC (MYT) Tariff regulation 2013 clause 67, the "Capital Investment Plan shall be accompanied by such information, particulars and documents as may be required including but not limited to the information such as number of bays, name, configuration and location of grid substations, substation capacity (MVA), transmission line length (ckt-km) showing the need for the proposed investments, alternatives considered, cost/benefit



analysis and other aspects that may have a bearing on the transmission charges.”

The Commission, in view of the above, is unable to comprehend due to discrepancies, lack of details regarding the said Capital Investment Plan as submitted by the petitioner hence unable to comment. The commission hereby directs TP&MZ to submit the details with due care along with details in future petitions.

3.3 Operation and Maintenance Expenses

TP&MZ, DOP has filed O&M expenses consisting of the employee cost, Repairs and Maintenance and Administrative Expenses at Rs. 1428.19 lakhs, Rs.1458.03 lakhs and Rs.1488.50 lakhs for the FY 2016-17, FY 2017-18 and FY 2018-19 respectively vide Table 3.1 of the petition for ARR for the FY 2018-19

Table 11: Operation & Maintenance Expenses (Rs. in lakhs) – Petitioner’s Submission

Sl. No.	Particulars	FY 2016-17 (Actual)	FY 2017-18 (Estimated)	FY 2018-19 (Projected)
1	Employee Cost	814.58	833.80	853.48
2	Repair & Maintenance Expenses	545.33	554.76	564.36
3	Administration & General Expenses	68.28	69.46	70.66
Total		1428.19	1458.03	1488.50

TP&MZ, DOP has further stated that the actual employee cost for the FY 2016-17 has been taken as base and the same has been escalated on the basis of Consumer Price Index (CPI) for estimating the employee cost for the FY 2017-18 & projecting the employee cost for the FY 2018-19. Similarly, R&M and A&G have been escalated on the basis of Wholesale Price Index (WPI) for estimating the employee cost for the FY 2017-18 & projecting the employee cost for the FY 2018-19. The increase in CPI & WPI during the FY 2016-17 was 2.36% & 1.73%. The same has been applied for projecting the expenses for the FY 2018-19.

Commission’s Analysis:-

The Commission observed that the petitioner considered the CPI and WPI for FY 2017-18 and FY 2018-19 same as base year (FY 2016-17) which should have been average



increase for immediately preceding three years which is defined as below in order to have better probability;

“CPI inflation – is the average increase in the Consumer Price Index (CPI) for immediately preceding three years; WPI inflation – is the average increase in the Wholesale Price Index (CPI) for immediately preceding three years.’

Considering the above, the Commission has re-calculated the CPI, WPI and accordingly the O&M cost is calculated.

3.3.1 As per the average growth rate of CPI & WPI

The Commission here calculated O&M Expenses by considering the O&M Expenses for FY 2016-17 as base year as per petition’s clause 3.1. Further the base year is escalated at 3 year average rate of growth CPI and WPI (detailed in Annexure II & III) as shown below:

1. Employee Cost

Table 12: Employee Cost – Commission’s analysis

Sl. No.	Particulars	FY 2016-17 (Base Year)	FY 2017-18	FY 2018-19
1	Actual employee expenses for the previous year (Rs. In Lakh)	814.58	814.58	858.17
2	CPI Inflation (as per Labour Bureau report)		5.35%	4.28%
3	Employee expenses (Rs. in Lakhs)	814.58	858.17	894.92

2. Repairs and Maintenance Expenses

Table 13: Repairs and Maintenance Expenses – Commission’s Analysis

Sl. No.	Particulars	FY 2016-17 (Base Year)	FY 2017-18	FY 2018-19
1	R & M Expenses for Previous Year (Rs. in Lakhs)	545.33	545.33	544.13
2	WPI Inflation		-0.22%	0.33%
3	R&M Expenses (Rs. in Lakhs)	545.33	544.13	545.94

Dumkha

3. Administration and General Expense

Table 14: Administration and General Expenses – Commission’s Analysis

Sl. No.	Particulars	FY 2016-17 (Base Year)	FY 2017-18	FY 2018-19
1	Actual A & G Expenses for the previous year (Rs. in Lakhs)	68.28	68.28	68.13
2	WPI Inflation		-0.22%	0.33%
3	A & G expenses (Rs. in Lakhs)	68.28	68.13	68.36

4. Operation & Maintenance Expenses for FY 2018-19

Table 15: Operation & Maintenance Expenses for FY 2018-19 – Commission’s Analysis

Sl. No.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1	Employee Cost (Rs. in Lakhs)	814.58	858.17	894.92
2	Repair & Maintenance Expenses (Rs. in Lakhs)	545.33	544.13	545.94
3	Administration & General Expenses (Rs. in Lakhs)	68.28	68.13	68.36
Total		1428.19	1470.43	1509.22

In addition to the above, the Commission also calculated the O&M cost on normative basis to analyse further, which is as follows;

3.3.2 As per the CERC Tariff Regulation 2014-19

The Operation and maintenance cost for Transmission System(Transmission line including substation) for 2018-19 as per CERC Tariff Regulation 2014-19 (regulation 29 ,subsection-3(a)) comes around Rs.1385.298 lacs .Detailed Calculation is shown in Annexure-III.

Considering the above, the Commission hereby approves the O&M costs as Rs. 1509.22 lakhs for the FY 2018-19.



3.4 Depreciation

As per APSERC (MYT) Regulations 2013,

“Depreciation shall be calculated annually based on Straight Line Method and at rates specified, on the GFA in use at the beginning of the year and addition in assets during the financial year. In case of the existing projects, the balance depreciable value as on 1st April 2014, shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to March 31, 2014, from the gross value of the assets”.

Further, as per the guidelines of Institute of Chartered Accountant of India (ICAI), Accounting Standard 12, depreciation should not be claimed as net expenditure for assets funded through government grants State/ Central. In TP&MZ, DOP, the funding is through government grants and therefore, depreciation shall not be included under ARR on the assets funded through government grants. This is because TP&MZ is not required to repay or recover the amount received as grants from the Government.

TP&MZ, DOP has submitted depreciation for its asset based on historical value of assets as per table below:

Table 16: Depreciation (Rs. in Lakhs) - Petitioner's Submission

Sl. No.	Particulars	FY 2018-19
1	Gross Block in Beginning of the year	75179.61
2	Addition during the Year	7935.14
3	Withdrawn during the Year	0.00
4	Value of Assets of the Year	83114.75
5	Depreciation for the Year	4164.44
6	Net Block in the End of the Year	78950.31

Commission's Analysis:-

The Commission observed from the petition that, the assets acquired by the TP&MZ deemed to be funded by the Central Government and Government of Arunachal Pradesh as per petitioner's submission **“Total capital expenditure towards existing & new projects of TPMZ is funded through the budgetary support of the Government of Arunachal Pradesh & centrally sponsored schemes of Government of India”** which



does not carry any liability of repayment. As per the Regulation 58 of APSERC Regulation 2011, depreciation shall be admissible on the opening balance as per the Transfer Scheme notification excluding the value of contribution and capital subsidy/grants provided by the Government.

In the absence of the details of assets addition and contributions/grants/subsidies from the State / Central Governments, the Commission does not consider any depreciation for ARR for the FY 2018-19.

In continuation to the above, the Commission also noted the petitioner's submission as "in this regard, it is submitted that the details of assets have been compiled but asset register is yet to be prepared. Accordingly, the year of commissioning of each assets and cumulative depreciation as at the beginning of the base year on the assets could not be arrived". *The petitioner need to maintain asset register system wise along with date of commercial operation.*

Hence, the Commission approves Depreciation as Nil for the ARR of FY 2018-19.

3.5 Interest and Finance Charge

TP&MZ, DOP has submitted interest and finance charges in its tariff petition for the FY 2018-19 as per below table:

Table 17: Interest and Finance Charge (Rs. in Lakhs) – Petitioner's Submission

Sl. No.	Particulars	FY 2016-17 (Actual)	FY 2017-18 (Estimated)	FY 2018-19 (Projected)
1	Opening Loan	51866.07	46679.47	42176.55
2	Loan Additions	0.00	759.65	5554.60
3	Repayment	5186.61	5262.57	5818.03
4	Closing Loan	46679.47	42176.55	41913.11
5	Average Loan	49272.77	44428.01	42044.83
7	Interest on Loan	6922.82	6153.28	5823.21
8	Total Interest & Finance Charges	6922.82	6153.28	5823.21

Anusha

Commission's Analysis:-

As per petitioner's submission, "the entire funding of the capital expenditure has been done through the budgetary support from Government of Arunachal Pradesh & centrally sponsored schemes of Govt. of India, **hence, there is no actual loans**. Therefore, actual applicable interest rate would not be available for calculating the interest charges on the normative loan." It means, no loan availed.

As per different data available with public domain, the Commission gathered that the entire capital expenditure of TP&MZ since its inception has been funded by the State Government through grants from Central Government Ministries and Agencies like Ministry of Power (MoP) through schemes of NEC, NLCPR or through State Plan Scheme. Therefore, the utility does not have any liabilities on account of long-term loans.

As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, "any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation".

Interest on loans shall not be admissible as per the Regulation 55 of APSERC Regulations 2011 provided any loan in actual as taken by TP&MZ shall be considered by the Commission to allow interest/finance charges on loan in ARR.

Hence, the Commission approves the Interest and Finance Charges as Nil for FY 2018-19

3.6 Return on Equity

As per APSERC (MYT) Regulation 2013, Return on equity shall be computed on the paid up equity capital determined in accordance with Regulation relating to the Generating Company or Transmission Licensee or Distribution Licensee as the case may be and shall be allowed at the rate of 14%.

TP&MZ, DOP has submitted Return on Equity in its tariff petition for the FY 2018-19 as per below table:



Table 18: Return on Equity (Rs. in Lakhs) – Petitioner’s Submission

Sl. No.	Particulars	FY 2016-17 (Actual)	FY 2017-18 (Estimated)	FY 2018-19 (Projected)
1	Opening Equity	22228.317	22228.32	22553.88
2	Equity Addition (30% Capex for the FY)	0.00	325.57	2380.54
3	Closing Equity	22228.32	22553.88	24934.43
4	Average Equity	22228.32	22391.10	23744.15
5	Rate of Return on Equity	14%	14%	14%
6	Return on Equity	3111.96	3134.75	3324.18

Commission’s Analysis:-

As per Petitioner’s submission “...total capital expenditure towards existing & new projects of TPMZ are funded through the budgetary support of the Government of Arunachal Pradesh & centrally sponsored schemes of Government of India. Therefore, the 100% funding is through equity & no debt is taken for funding the capital expenditure”.

The preceding statement for considering the 100% equity of Central /State Govt. grant is not a true interpretation of the terms and condition of tariff determination.

It may be noted that funding for most of the schemes are covered by grants from State Government or grants from Central Government bodies like NLCPR and NEC. As such, there are no loans or equity for funding of such schemes admissible.

The TP&MZ is a State Government Department, the Assets and Liabilities are not transferred to the TP&MZ yet. The claim of TP&MZ as to treat the Debt-Equity Ratio 70:30 referred as at Para 3.6 of the petition cannot be made applicable, as long as the utility is functioning as State Government Department and Assets and Liabilities are not transferred to the TP&MZ. The funding of capital assets so far acquired for TP&MZ are with the support of grants/subsidies from GOI/Government of Arunachal Pradesh and in the absence of the details of actual equity invested by the petitioner, Return on Equity shall not be admissible as per the Regulation 54 of APSERC Regulations 2011.

Hence, the Commission approves Return on Equity for FY 2018-19 as Nil.



3.7 Interest on Working Capital

TP&MZ, DOP has submitted Interest on Working Capital in its tariff petition for the FY 2018-19 as per below table.

Table 19: Working Capital (Rs. in Lakhs) – Petitioner’s Submission

Sl. No.	Particulars	2016-17 (Actual)	2017-18 (Estimated)	2018-18 (Projected)
1	2	3	4	5
1	One month’s employee costs	67.88	69.48	71.12
2	One month’s A&G Exp.	5.69	5.79	5.89
3	One month’s R&M Cost	45.44	46.23	47.03
4	Maintenance of Spares	740.94	796.25	923.38
5	Two month’s receivables	1976.93	2526.09	2549.76
6	Total	2836.89	3443.84	3597.18
7	Rate of Interest	14.05%	13.85%	13.85%

Commission’s Analysis:-

In accordance with regulation APSERC (Multi Year Tariff) Regulations, 2013 and its amendments the O&M cost for working capital has been considered and recalculated as per clause 39.2 of the above regulation. Since GFA is not allowed, hence Maintenance of spares @ 1% of the GFA cannot be used for working capital. Therefore, the Commission considered Maintenance of spares (as a part of Working capital) as 15% of O&M cost which is also standard practice.

The rate of interest on working capital has been considered as the SBI PLR as on 1st April 2016 i.e. 14.05% and has been considered for the FY 2016-17. The SBI PLR as on 1st April 2017 is 13.85% and has been considered for calculating interest on working capital for the FY 2017-18 & FY 2018-19.

IoWC approved by the Commission for FY 2018-19 is shown in the table below:



Table 20: IoWC (Rs.in Lakhs) – Commission's approved

Sl. No.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1	One month's employee costs	67.88	71.51	74.58
2	One month's R&M expense	45.44	45.34	45.50
3	One month's A&G expense	5.69	5.68	5.70
4	Maintenance of Spares (15% of O & M)	214.23	220.56	226.38
5	Two month's receivables	251.73	258.97	265.80
6	Total	584.97	602.07	617.95
7	Rate of Interest (%)	0.141	0.139	0.139
8	Interest on Working capital	82.19	83.39	85.59

Hence, the Commission approves Interest on working capital for FY 2018-19 as 85.59 lakhs.

3.8 Target Availability

TPMZ, DOP has submitted transmission availability of 98% as per APSERC (MYT) Regulations, 2013, the petitioner has not provided any detailed document stating the same however as it is in line with the regulation hence the Commission approves the transmission availability of 98% for FY 2018-19.

The Commission also directs TPMZ, DOP to submit month wise network availability data henceforth.

3.9 Transmission Loss

TP&MZ, DOP has submitted Transmission loss for FY 2018-19 based on past trends. The data shows that losses are abnormally high and seems unrealistic. The petitioner has also not provided any valid justification on the losses projected and have not provided any substantial details on the metering at various system levels.



The Transmission Losses for the AP State transmission system as 8.5% is too high a value considering the line length (357 Ckt-km), energy transmitted (805 MUs) and transformation capacity (140 MVA) as 8.5%

Table 21: Transmission Loss- Petitioner's submission

Years	2016-17	2017-18	2018-19
Total Energy Received (MU)	805.55	810.2	810.2
Gross energy sent out (MU)	729.78	741.14	745.38
Transmission loss (MU)	75.77	69.06	64.82
Transmission losses (%)	9.41	8.52	8.00

Table 22: Loss Trajectory – Petitioner's Submission

Sl. No.	Year	Current Year (T)	T +1	T +2	T+3	T +4
1	Transmission Loss Trajectory (%)	8.52	8.00	7.00	6.00	5.00

*T+1= ensuing year and so on.....

Commission's Analysis

The petitioner has submitted Transmission loss trajectory as per table no 22. Wherein the Commission feels that 8.52% for FY 2018-19 as transmission loss as a very high value, which is substantially higher than average loss for various state across India. Petitioner, TP&MZ has submitted the transmission loss at 9.41% to 5.00 % during the period FY 2016-17 to FY 2022-23. In view of the accelerated renovation and up gradation of the Network contemplated during the control period FY 2018-19 to FY 2022-23 there is a scope to reduce Transmission losses. However, the Commission is not satisfied with the calculations and therefore at this stage without proper energy audit the present level of losses are continued to be allowed @ 5%. Since the level of losses in the transmission plays an important role while determining the open access charges etc., the projected transmission loss during the period at 5% is found to be acceptable.

Thus, the commission approves intra state transmission loss at 5% for the period of FY 2018-19.



The Commission hereby directs TP&MZ, DOP to carry out energy audit/metering status/suitable study etc. in order to reduce transmission loss of such a transmission network having 357 ckt-km line, 140 MVA transmission and 800 MU of energy transmissions and accordingly submit the revised loss trajectory in the next petition.

3.10 Annual Revenue Requirement of FY 2018-19

TP&MZ, DOP has submitted Annual Revenue Requirement in its tariff petition for the FY 2018-19 as per below table:

Table 23: Annual Revenue Requirement (Rs. in lakhs) – Petitioner’s Submission

Sl. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Employees Cost	814.58	833.80	853.48
2	No. of Employee	214	214	214
3	Repairs & Maintenance	545.33	554.76	564.36
4	Admin. & General Expenses	68.28	69.46	70.66
5	Depreciation	3912.04	3933.49	4164.44
6	Interest and Finance Charges	6922.82	6153.28	5823.21
7	Interest on Working Capital	398.58	476.97	498.21
8	Return on Equity	3111.96	3134.75	3324.18
9	Income Tax	0.00	0.00	0.00
11	Total Fixed Costs	15773.60	15156.52	15298.54
12	Less: Expenses Capitalized	0.00	0.00	0.00
13	Total Transmission Charges	15773.60	15156.52	15298.54
14	Less: Other Income	0.00	0.00	0.00
15	Net Annual Transmission Charges	15773.60	15156.52	15298.54

Signature

Commission's Analysis

Considering the above heads of expense and revenue, the net ARR approved for FY 2018-19 is shown Table below:

Table 24: Annual Revenue Requirement (Rs. in lakhs) – Commission's Approved

S. No.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1	Employees Cost	814.58	858.17	894.92
2	Repairs & Maintenance	545.33	544.13	545.94
3	Admin. & General Expenses	68.28	68.13	68.36
4	Depreciation	0.00	0.00	0.00
5	Interest and Finance Charges	0	0	0
6	Interest on Working Capital	82.19	83.39	85.59
7	Return on Equity	0	0	0
8	Income Tax	0	0	0
9	Total Fixed Costs	1510.38	1553.81	1594.81
10	Less: Expenses Capitalised	0		
11	Total Transmission Charges	1510.38	1553.81	1594.81
12	Less: Other Income	0		
13	Net Annual Transmission Charges	1510.38	1553.81	1594.81

Hence, the Commission approves Annual Revenue Requirement for FY 2018-19 as 1594.81 lakhs.



3.11 Tariff for FY 2018-19

TP&MZ, DOP has proposed Transmission Tariff for FY 2018-19 as per below table:

Table 25: Tariff Proposed – Petitioner’s Submission

S. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Annual Transmission Charges (Rs. Lakhs)	11861.56	15156.52	15298.54
2	Total MW Allocation (MW)	131.16	131.16	131.16
3	Transmission Tariff (Rs/ MW/ Day)	24776.93	31659.59	31956.24
4	Energy Transferred (MU)	805.55	810.20	810.20
5	Transmission Tariff (Paise/ Unit)	147.25	187.07	188.82

Commission Analysis

Based on approved Annual Revenue Requirement and MW/MU transmitted through the transmission system, the transmission tariff approved by the Commission is furnished in the table below:

Table 26: Tariff Approved– Commission’s Submission

Sl. No.	Particulars	2018-19
1	Annual Transmission Charges (Rs. Lakhs)	1594.81
2	Total MW Allocation (MW)**	186.52
3	Transmission Tariff (Rs/ MW/ Day)	2342.55
4	Energy Transferred (MU)	810.2
5	Transmission Tariff (Paise/Unit)	19.68

**Details of MW allocation shown in Annexure IV

Hence, the Commission approves the Transmission Tariff for FY 2018-19 as 19.68 Paise/Unit.

Signature

4 Directives

The Commission issues certain directives to TP&MZ, with an objective of attaining operational efficiency and streamlining the flow of information, which would be beneficial to the sector and the Petitioner, both in the short-term and long-term.

As regards the directives issued by the Commission, TP&MZ has to submit the report to the Commission on compliance within 3 months from the date of issue of this order. Thereafter the Commission will review the compliance of directives submitted by TP&MZ. The Commission hereby issues the following directives to TP&MZ as under:

1) **MYT form Petition**

The petitioner has to submit petition on multiyear Tariff basis as per APSERC (Multi Year Tariff) - 2013, Regulations and its amendments time to time. TP&MZ, DoP is directed to fill up judiciously all Forms relevant to MYT Regulations, while submitting Tariff Petition for future.

2) **Non Compliance of directives/notices of Commission**

The Commission in due course of processing the Tariff petition found that there is negligence on the part of the Petitioner to respond to various notices issued by the Commission seeking vital information related to the petition. The Commission feels that the Petitioner is generally non-responsive to the queries/hearing/directions of the Commission, which further affected in processing the Tariff order within a considerable period. Henceforth for all future petitions, the Commission directs the petitioner to be responsive towards any communications/notices issued by the Commission.

3) **Arunachal Pradesh Transmission Infrastructure data**

- a. The Petitioner is directed to furnish transmission system data such as- the number of substations along with bays, transformers with ratings, and transmission circuit-Km details (elaborating all transmission line sections) along with cost details of each Substations and Transmission sections (along with length) and its COD (Date of commercial operations with ARR Tariff Petition of FY 2019-20. The updated transmission system data shall be maintained and be available in the website.



b. TP&MZ, DOP is directed to maintain database on the individual Projects under each Scheme with the following details and submit the following details for all ongoing projects at the time of true-up and Tariff for ensuing year. Further, for all Projects that have not commenced by March 31, 2019, TP&MZ shall obtain the Commission's prior approval based on the necessary details as identified below, even if in-principle approval has been received:

- i. Details/Scope of Project including activities, area covered, etc.;
- ii. Start date of Project;
- iii. Scheduled completion date of Project;
- iv. Funding Plan;
- v. Cost-Benefit-Analysis of the Project
- vi. Present Status of Project, indicating physical progress in percentage terms and in monetary terms;
- vii. Status of Capitalisation as per Field Reports and as per Accounts;
- viii. Whether the intended benefits of the Project have been achieved, etc.

4) Arunachal Pradesh Transmission Availability data.

The Petitioner is directed to maintain record of transmission availability data of its network and to submit such data to the Commission on a quarterly basis.

5) Discrepancy in Capital asset

The Commission observes that the value of assets given in Annexure – II, which is a copy of Annual Asset Report published yearly by Department of Power, is not justified, after analysis it is observed that there is abrupt increase in assets value between 2014 to 2015 as shown in table below. Therefore, the Commission directs the Petitioner to give a rational justification on increase in value of assets.



Table 27: Comparison Sheet of Annual Asset Reports, DoP AP

Sl. No.	Particulars	Unit	2011		2012		2013		2014		2015		2016		2017	
			Quantity	Capital Cost (In lakhs)	Quantity	Capital Cost (In lakhs)	Quantity	Capital Cost (In lakhs)	Quantity	Capital Cost (In lakhs)	Quantity	Capital Cost (In lakhs)	Quantity	Capital Cost (In lakhs)	Quantity	Capital Cost (In lakhs)
1	Grid Sub stations															
A	220/132 KV															
i	33.3	MVA	4	1248.85	4	1600	4	1600	4	1600	4	2083.18	4	2083.18	4	2083.18
B	132/33 KV															
i	30	MVA	2	1185.41									0	0.00	0	0
ii	20	MVA	1	577.78			3	2586.29	3	2586.29	3	3738.47	3	3738.47	3	3597.43
ii	16	MVA	2	900			2	900	2	900	2	2159.26	2	2159.26	2	2159.26
i	15	MVA	1	900	1	800			1	900						
v	10	MVA	1	865.2	2	1200	1	865.2								
vi	5	MVA			6	4385.41	4	2785.41	6	3650.61	6	5894.15	10	6005.48	10	6005.48
2	Transmission Lines															
i	220 KV S/C lines	Ckt Km	19	301.75	19	1235	19	1235	19	1235	19	3610	19	3610.00	19	3610
ii	132 KV S/C lines	Ckt Km	267	10285.35	306	15300	302	15100	269	13450	291.5	44873.51	292	46707.08	299.5	48121.38
iii	132 KV D/C lines	Ckt Km					33	2235.33	33	2500	37.5	6870.37	38	6870.37	37.5	7369.2
Total :-				16264.34		24520.41		27307.23		24235.61		69228.94		71173.84		72945.93

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6) Capitalization of Completed Projects

It is observed by the Commission that TP&MZ, DOP is not capitalizing the expenses on account of new projects even after many years of completion. Petitioner is directed to take measures for capitalization of the expenses soon after projects are completed.

7) MW allocation & Energy Transferred

The allocation submitted in petition for FY 2016-17, FY 2017-18 & FY 2018-19 as 131.16 MW is not rational. It seems there is error in submission of data as this cannot be same for three years. Moreover, there seems discrepancy in data submitted by TP&MZ for total allocation, as the data submitted by APDoP in their tariff petition is different in spite of the fact that APDoP being the only recipient of TP&MZ. It also does not match with the Load Generation Balance Report data as published by CEA. Commission also feels that even today with huge area and less population the per capita consumption of the state is quite less and emphasis has to be given such that lines are loaded.

The Commission hereby directs TP&MZ, DOP to share actual data as being compiled by SLDC to the Commission during submission of Petition for ARR.

8) Maintenance of asset and depreciation registers

TP&MZ owns and operates all parts of transmission network of the state and supplies the power to the DISCOM i.e. APDoP. Proper physical division of assets on the ground should be ensured for energy audit, T& D loss assessment and determination of availability of network can be done separately for both the licensees.

9) Annual Accounts

TP&MZ is directed to prepare separate annual accounts such as balance sheet, profit and loss account and relevant schedules and statements, every year for regulatory purpose and submit to the Commission duly got them audited.

10) Ongoing projects

It is observed that, there are number of ongoing Projects, which are continuing for more than four to five years. The Commission directs TP&MZ to complete the Ongoing Projects as per schedule. Efforts and funds should be channelized towards completion of the



ongoing projects on priority.

11) Segregation of SLDC from TP&MZ

It is gathered that SLDC is a part of Transmission Planning and Monitoring Zone (TP&MZ) and that it is not functioning independently. The personnel have been deployed from TP&MZ to run the daily operations of the SLDC.

The Commission directs TP&MZ to complete the process of segregating the accounts of SLDC business and the transmission business and file separate Aggregate Revenue Requirement Petition for SLDC and transmission business from the next year so that same shall be charged/recovered from Generators, Distribution licensees/ open access consumers. TP&MZ should submit present status and future action plan along with timelines.

12) Approval for deviation in Capital Expenditure scheme approved in Business Plan Order

The Commission directs TP&MZ to take prior approval of the Commission in case of any addition and/or deletion of schemes or any change in funding pattern of schemes approved in Business Plan. TP&MZ shall also take prior approval of the Commission in case of any emergency works, apart from the works approved in Business Plan, to be carried out during the Control Period from FY 2018-19.

13) Petition Completeness

TP&MZ is directed to fill up judiciously all Forms in detail relevant to MYT Regulations, along with supporting document to avoid additional information queries after submission of petition.

14) Transmission loss Trajectory

Transmission loss reduction trajectory for each year of the control period, including details of the measures proposed to be taken for achieving the target loss.

The petitioner need to submit details of energy received and sent out with metered data and substantiate reason of such huge loss along with transmission section.



15) Energy Audit and Implementation of SAMAST

The reports based on the metered energy at different interconnection points, including the status of metering, functional meters, etc. with details of Transmission Losses, should be submitted to the Commission along with the next Tariff Petition. TP&MZ is directed to give status of implementation of SAMAST.

16) Business Plan :

The Business Plan for the Transmission License, TP&MZ shall have to submit business plan for the control period. The Capital investment plan which should include yearly phasing of capital expenditure along with the source of funding, financing plan and corresponding capitalization schedule as a part of Capital Investment Plan by the Transmission Licensee shall be consistent with the load growth forecast/ generation evacuation requirement with the plans made by the CEA/CTU/STU/Distribution Licensee. The Licensee has not disclosed the details of grants and contributions by State or Central Schemes for implementation of the new investment, whereas capitalization of assets has been projected for the entire value of proposed capital investment during the control period in the business plan. As the ARR is considered on the basis of estimates, the Commission considers that the grants and contributions may be made available during the course of project execution. The Licensee shall furnish the details of the grants and contributions.

17) Capacity Building Program

The Commission directs TP&MZ, DOP to conduct training and capacity building of employees in SLDC and submit the detailed expenditure on account of capacity building, separately to the Commission, at the time of true up.

Further, TP&MZ, DOP is directed to submit the status of compliance of above Directives to the Commission at the end of each quarter. The Commission will review the status in the month following the end of the quarter.


(R.P. Singh)

Chairperson, APSERC

5 ANNEXURES

Annexure-I

Public Notice

7

GOVERNMENT OF ARUNACHAL PRADESH
DEPARTMENT OF POWER

No. CEP/TPMZ/W-15/2017-18/2448-50 Dated Itanagar the

PUBLIC NOTICE

1. The Transmission Planning & Monitoring Zone Department of Power, Arunachal Pradesh, the deemed Transmission Licensee for Transmission of power in the State of Arunachal Pradesh, under the provisions of Electricity Act 2003, has filed a petition for approval of Aggregate Revenue Requirement (ARR) and Tariff for the FY 2018-19 before the Hon'ble Arunachal Pradesh State Electricity Regulatory Commission (APSERC), under the Section 61, 62 and 64 of the Electricity Act, 2003. The Summary of the ARR filed before the Commission for FY 2018-19 is as follows:

ANNUAL REVENUE REQUIREMENT FOR THE YEAR 2018-19 (Rs. in Lakhs)

S. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Employees Cost	814.58	833.80	853.48
2	No.of Employee	214	214	214
3	Repairs & Maintenance	545.33	554.76	564.36
4	Admin. & General Expenses	68.28	69.46	70.66
5	Depreciation	3912.04	3933.49	4164.44
6	Interest and Finance Charges	6922.82	6153.28	5823.21
7	Interest on Working Capital	398.58	476.97	498.21
8	Return on Equity	3111.96	3134.75	3324.18
9	Income Tax	0.00	0.00	0.00
11	Total Fixed Costs	15773.60	15156.52	15298.54
12	Less: Expenses Capitalised	0.00	0.00	0.00
13	Total Transmission Charges	15773.60	15156.52	15298.54
14	Less: Other Income	0.00	0.00	0.00
15	Net Annual Transmission Charges	15773.60	15156.52	15298.54

PROPOSED TRANSMISSION TARIFF (Rs. In lakhs)

S. No.	Particulars	2016-17 (Actuals)	2017-18 (Estimated)	2018-19 (Projected)
1	Annual Transmission Charges (Rs. Lakhs)	11861.56	15156.52	15298.54
2	Total MW Allocation (MW)	131.16	131.16	131.16
3	Transmission Tariff (Rs/ MW/ Day)	24776.93	31659.59	31956.24
4	Energy Transferred (MU)	805.55	810.20	810.20
5	Transmission Tariff (Paise/ Unit)	147.25	187.07	188.82

TRANSMISSION LOSSES FROM THE FY 2016-17 to FY 2018-19

Year	2016-17	2017-18	2018-19
Transmission losses (%)	9.41	8.52	8.52

Gross Fixed Assets Movement

Financial Year	2016-17	2017-18	2018-19
Rs. In lakhs	74094.39	75179.61	83114.75

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DETAILS OF TRANSMISSION LINES

S. No.	Line Details	S/C or D/C	Voltage level kV	Line Length Ckt- Km	Date of Commercial Operation
1	Deomali Electrical Division TD - III	S/C	220	19	09.05.2007
2	Capital Electrical Division TD - I	S/C	132	15	
3	Capital Electrical Division TD - I	D/C	132	38	
4	Daporijo Electrical Division TD - III	S/C	132	77	
5	Nirjuli Electrical Division TD - II	S/C	132	137	
6	Aalo Electrical Division TD - III	S/C	132	71	27.02.2007
Total Line				357	

DETAILS OF SUB-STATIONS

S. NO	Name of Sub- Station	Type of Sub-Station Conventional/ GIS	Voltage Ratio	No. of Transformers (with capacity)	Date of Commercial Operation
1	Deomali Electrical Division TD - III	C	220/132	4(33.3MVA)	09.05.2007
2	Capital Electrical Division TD - I	C	132/33	2(20MVA)	
3	Capital Electrical Division TD - I	C	132/33	1(20MVA)	
4	Daporijo Electrical Division TD - III	C	132/33	2(16MVA)	
5	Aalo Electrical Division TD - III	C	132/33	4(5MVA)	27.02.2007
6	Nirjuli Electrical Division TD - II	C	132/33	2(5MVA)	09.05.2007

- The Hon'ble Commission has taken the filing of the petition on record for the Financial Year 2018-19.
- The TP & MZ Department of Power has proposed the tariff petition first time before the Commission.
- The Petition is available in the website of Department of Power, Arunachal Pradesh viz. www.arunachalpower.org.in and also on the website of the Commission www.apserc.nic.in and can be downloaded from there.
- Objections/suggestion, if any on the ARR filings and tariff proposals submitted by the Transmission Planning & Monitoring Zone, Department of Power, Government of Arunachal Pradesh, may be filed with the Secretary, Arunachal Pradesh State Electricity Regulatory Commission, O.T. Building, 2nd floor, Niti Vihar Market, T.T. Marg, Niti Vihar, Itanagar – 791111 in person or through registered post or through email at apserc-arn@gov.in so as to reach the Secretary, APSERC on or before 20th November 2018, and simultaneously endorsing a copy to the Chief Engineer (Power), Transmission Planning & Monitoring Zone, Department of Power, Itanagar, Arunachal Pradesh.
- The Objection/suggestions as above should carry full name and postal address including contact mobile/telephone no's of the person sending the objections. If the objection is filed on behalf of any organization or any class of consumers, same should also be mentioned. It may also be specifically mentioned if the person putting in objection/comments also wants to be heard in person by the Commission.
- As per clause 19 of APSERC Terms and condition for determining of tariff and formats for tariff filing regulation 2011, the Commission shall initiate a proceeding on the revenue calculations and tariff proposal given by the applicant and may hold public hearing(s) to decide on such revenue calculations and tariff proposal, the date of public hearing shall be specified in due course through public notice by the commission.
- The Arunachal Pradesh State Electricity Regulatory Commission (APSERC), after perusing the written objections received in response to this notice may invite such objectors as it may consider appropriate for a hearing on the specified date, which will be notified by the Commission in due course through a Public Notice.

****at least 15 days' time be given from the date of Publication.**

Sd/-
Chief Engineer (Power)
Transmission Planning & Monitoring Zone,
Department of Power
Vidyut Bhawan, Itanagar-791111

DIPR/ARN/2909-10/2018

D. S. Dhar

Annexure - II**WPI Index (Base Year: 2011-12 = 100)**

Month	FY 2011- 12	FY 2012- 13	FY 2013- 14	FY 2014- 15	FY 2015- 16	FY 2016- 17	FY 2017- 18	FY 2018- 19
Apr		104.7	108.6	114.1	110.2	109.0	113.2	116.8
May		105.3	108.6	114.8	111.4	110.4	112.9	117.9
Jun		105.3	110.1	115.2	111.8	111.7	112.7	
Jul		106.2	111.2	116.7	111.1	111.8	113.9	
Aug		106.9	112.9	117.2	110.0	111.2	114.8	
Sep		107.6	114.3	116.4	109.9	111.4	114.9	
Oct		107.4	114.6	115.6	110.1	111.5	115.6	
Nov		107.3	114.3	114.1	109.9	111.9	116.4	
Dec		107.1	113.4	112.1	109.4	111.7	115.7	
Jan		108.0	113.6	110.8	108.0	112.6	116.0	
Feb		108.4	113.6	109.6	107.1	113.0	116.1	
Mar		108.6	114.3	109.9	107.7	113.2	116.3	
Average	100.0	106.9	112.5	113.9	109.7	111.6	114.9	
Average Increase in Indices		6.90%	5.20%	1.26%	-3.65%	1.73%	2.92%	
Average of three years								
FY 2014-15 to FY 2016-17							- 0.22%	
FY 2015-16 to FY 2017-18							0.33%	



CPI Index (Base 2001=100)

Month	FY 2011-12	FY 2012- 13	FY 2013- 14	FY 2014- 15	FY 2015-16	FY 2016- 17	FY 2017- 18	FY 2018- 19
Apr	186	205	226	242.0	256.0	271.0	277	288
May	187	206	228	244.0	258.0	275.0	278	
Jun	189	208	231	246.0	261.0	277.0	280	
Jul	193	212	235	252.0	263.0	280.0	285	
Aug	194	214	237	253.0	264.0	278.0	285	
Sep	197	215	238	253.0	266.0	277.0	285	
Oct	198	217	241	253.0	269.0	278.0	287	
Nov	199	218	243	253.0	270.0	277.0	288	
Dec	197	219	239	253.0	269.0	275.0	286	
Jan	198	221	237	254.0	269.0	274.0	288	
Feb	199	223	238	253.0	267.0	274.0	287	
Mar	201	224	239	254.0	268.0	275.0	287	
Average	194.83	215.17	236.00	250.83	265.00	275.92	284.42	
Average of three years								
FY 2014-15 to FY 2016-17							5.35 %	
FY 2015-16 to FY 2017-18							4.28 %	



Annexure III**Norms for Operation and Maintenance Cost**

As per CERC Tariff Regulation 2014-19, Regulation 29, subsection 3(a),

“The following normative operation and maintenance expenses shall be admissible for the transmission system”

Norms for Sub stations (in Rs Lakh per bay)	2014-15	2015-16	2016-17	2017-18	2018-19
765 kV	84.42	87.22	90.12	93.11	96.20
400 kV	60.30	62.30	64.37	66.51	68.71
220 kV	42.12	43.61	45.06	46.55	48.1
132 kV and below	30.15	31.15	32.18	33.25	34.36
400 kV Gas Insulated Substation	51.54	53.25	55.02	56.84	58.73

Norms for AC and HVDC lines (in Rs. Lakh per km)	2014-15	2015-16	2016-17	2017-18	2018-19
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.707	0.731	0.755	0.78	0.806
single Circuit (Bundled Conductor with four sub conductors)	0.606	0.627	0.647	0.669	0.691
Single Circuit (Twin & Triple Conductor)	0.404	0.418	0.432	0.446	0.461
Single Circuit (Single Conductor)	0.202	0.209	0.216	0.223	0.23
Double Circuit (Bundled Conductor with four or more sub conductors)	1.062	1.097	1.133	1.171	1.21
Double Circuit (Twin Conductor & Triple conductors)	0.707	0.731	0.755	0.78	0.806
Double Circuit (Single Conductor)	0.303	0.313	0.324	0.334	0.346
Multi Circuit (Bundled Conductor with four or more sub-conductors)	1.863	1.925	1.989	2.055	2.123
Multi circuit (Twin & Triple Conductor)	1.24	1.282	1.324	1.368	1.413



O&M Expenses as per CERC Guideline Normative Basis for FY 2018-19 for substations							
Sl. No	Division	Name of Substation	Voltage level	No. of Bays	rate per bay (in Rs Lakh)	O&M Cost (Rs. in Lakh)	
1	TD-I	Chimpu S/S,	132/33	5	34.36	171.8	
2	TD-I	Lekhi S/S	132/33	5	34.36	171.8	
3	TD_II	Pashighat S/S	132/33	5	34.36	171.8	
4	TD-III	Daporijo S/S	132/33	4	34.36	137.44	
5	TD-III	Aalo S/S	132/33	5	34.36	171.8	
6	TD-III	Deomali S/S	220	7	48.1	336.7	
			132	4	34.36	137.44	
		Total				1298.78	
O&M Expenses as per CERC Guideline Normative Basis for FY 2018-19 for Transmission lines							
Sl.No	Division	Line Details	S/c or D/c	Voltage level	Line length CKT-KM	Rates per KM (in Rs. Lakh)	O&M Cost (Rs. in Lakh)
1	CED	Ranganadi HEP - Chimpu	D/C	132	38	0.346	13.148
2	NED	Chimpu -Lekhi Lines	S/C	132	15	0.23	3.45
3	PED	Aalo-Pashighat	S/C	132	116	0.23	26.68
4	DED	Ziro - Daporijo	S/C	132	87	0.23	20.01
5	AED	Daporijo to Aalo	S/C	132	82	0.23	18.86
6	DED	Kathalguri to Deomali	S/C	220	19	0.23	4.37
Total					357		86.518
Total O&M Cost for FY 2018-19						1385.298	



Annexure IV

Details of MW allocation

Name of Plants			
	Installed Capacity (MW)	Allocated (%)	Allocated MW
Kopili (200MW)	200	5.191	10.38
Kopili-II (25 MW)	25	5.992	1.50
Khandong (50 MW)	50	4.194	2.10
RHEP (405 MW)	405	18.462	74.77
DHEP (75 MW)	75	6.852	5.14
AGBPP (291 MW)	291	5.694	16.57
AGTPP (84MW)	130	6.702	8.71
Loktak (105 MW)	105	4.94	5.19
BGTPP (250 MW)	250	5.1325	12.83
OTPC (726.6 MW)	726.6	3.03	22.02
Pare (110 MW)	110	18.83	20.71
Farakka (1600MW)	1600	0.19	3.04
Kahalgaon-I (840 MW)	840	0.19	1.60
Kahalgaon-II (1000 MW)	1000	0	0.00
Talcher (1000 MW)	1000	0.1968	1.97
Farakka – III (500 MW)	500	0	0.00
Total			186.52

*Data has been taken from NERPC Annual Report 2017-18 except Pare HEP



