



**ARUNACHAL PRADESH STATE ELECTRICITY REGULATORY  
COMMISSION**

**Determination of Aggregate Revenue Requirement  
for FY 2017-18**

**&**

**Order on**

**Distribution Tariff (Retail Supply) for FY 2017-18,**

**True-up for FY 2015-16,**

**Review for FY 2016-17**

**For**

**Department of Power,**

**Government of Arunachal Pradesh**

**Issued on 26 – 09 - 2017**

**Arunachal Pradesh State Electricity Regulatory Commission**

**अरुणाचल प्रदेश राज्य विद्युत नियामक आयोग**

**2ND FLOOR, O. T. BUILDING, NITI VIHAR MARKET, T. T. MARG,**

**ITANAGAR-791111**

Telephone No: 0360-2291642, Fax : 0360-2291643, Website: [www.apserc.in](http://www.apserc.in)

टेलीफोन नः 0360- 2291642 , फैक्स नः 0360-2291643

## Table of contents

<b>1. INTRODUCTION.....</b>	<b>9</b>
1.1 Arunachal Pradesh State Electricity Regulatory Commission .....	9
1.2 Functions of the Commission.....	9
1.3 Arunachal Pradesh - Geographical Reality.....	12
1.4 Arunachal Pradesh Department of Power .....	12
1.5 ARR and Tariff Petition for FY 2017-18: Filing.....	13
1.6 Admission of Petition and public Hearing Process .....	14
1.7 Layout of the Order .....	15
<b>2. COMPLIANCE OF DIRECTIVES .....</b>	<b>16</b>
2.1. Introduction .....	16
2.2. Commission's Report on Compliance of Directives .....	18
<b>3. POWER SUPPLY POSITION AND SUMMARY OF THE PETITION.....</b>	<b>33</b>
3.1 Power Supply Position .....	33
3.2 Summary of the Petition.....	35
3.3 Tariff- Existing Vs Proposed .....	36
3.4 Prayer of Petitioner.....	38
<b>4. TRUE UP, REVIEW &amp; ANALYSIS OF ARR &amp; TARIFF PETITION .....</b>	<b>39</b>
4.1 Process of Review and Truing Up .....	39
4.2 True-up for FY 2015-16.....	40
4.3 Energy Sales.....	41
4.4 Transmission & Distribution (T&D) Losses .....	41
4.5 Total Energy Requirement.....	42
4.6 Total Power Purchase .....	43
4.7 Power Purchase Cost .....	43
4.8 Fuel Cost .....	44
4.9 Total Revenue Requirement.....	45
4.10 Revenue GAP and Average Cost of Supply .....	46
4.11 Summary of True Up for FY 2015-16 .....	47
4.12 Approach for Review of ARR for FY 2016-17 .....	48
<b>5. ANALYSIS OF ARR FOR FY 2017-18.....</b>	<b>50</b>
5.1 Growth of Consumers .....	50
5.2 Category- wise Energy Sales.....	51
5.3 Losses: T&D and AT&C .....	57
5.4 Sources of Power procurement for FY 2017-18 .....	61
5.5 Energy Requirement and Availability .....	65
5.6 Power Purchase Cost.....	68
5.7 ARR for FY 2017-18- Petitioner's Submission.....	72
5.8 Fuel Cost.....	73
5.9 Employee Cost.....	74

5.10	Repair & Maintenance Expenses .....	75
5.11	Administrative & General (A&G) Expenses .....	76
5.12	Operations & Maintenance (O&M) Expenses .....	76
5.13	Depreciation.....	77
5.14	Interest on loans & Finance Charges.....	77
5.15	Interest on Working Capital .....	78
5.16	Return on equity .....	78
5.17	Provision for Bad and Doubtful Debts.....	79
5.18	Renewable Power Purchase Obligations.....	79
5.19	Annual License Fee for Deemed Distribution Licensee .....	80
5.20	Non-Tariff Income .....	80
5.21	Investment for Training & Safety of Personnels of APDOP .....	81
5.22	Estimated Revenue at Proposed tariff for consumers .....	81
5.23	ARR for FY 2017-18 – Commission’s Approval .....	83
5.24	Recovery of Revenue Gap for the FY 2017-18 .....	85
5.25	Regulatory Assets .....	86
<b>6.</b>	<b>RENEWABLE POWER PURCHASE OBLIGATION .....</b>	<b>86</b>
<b>7.</b>	<b>DIRECTIVES .....</b>	<b>89</b>
7.1	Step towards digitization .....	89
7.2	Prepaid metering .....	90
7.3	Maintenance of accounts and records and conducting audit:.....	90
7.4	Interest on Working Capital: .....	91
7.5	Interest on Loan: .....	91
7.6	Return on Equity (ROE): .....	92
7.7	PoC loss and other charges .....	92
7.8	Energy Audit for Energy Accounting .....	92
7.9	Discrepancy in Energy drawal & Projected Data.....	93
7.10	T&D Losses & Conducting Energy Audit.....	93
7.11	Sale of Power outside the State .....	93
7.12	Introduction of Slab based tariff: .....	94
7.13	Updation of cost data accounts .....	97
7.14	Determination of Connected Load of Consumers.....	97
<b>8.</b>	<b>TARIFF PHILOSOPHY AND DESIGN .....</b>	<b>98</b>
8.1	Tariff Principles .....	98
8.2	Tariff categories .....	99
8.3	Approved Tariff by the Commission for FY 2017-18.....	100
	Schedule-I.....	103
	Schedule- II – Miscellaneous Charges .....	107
	Schedule - III General Conditions Of Supply.....	112
<b>9.</b>	<b>ANNEXURES.....</b>	<b>115</b>
	Annexure I. PoC and other charges.....	115
	Annexure II. Network/Transmission loss for NER .....	116
	Annexure III. Public Notice .....	118

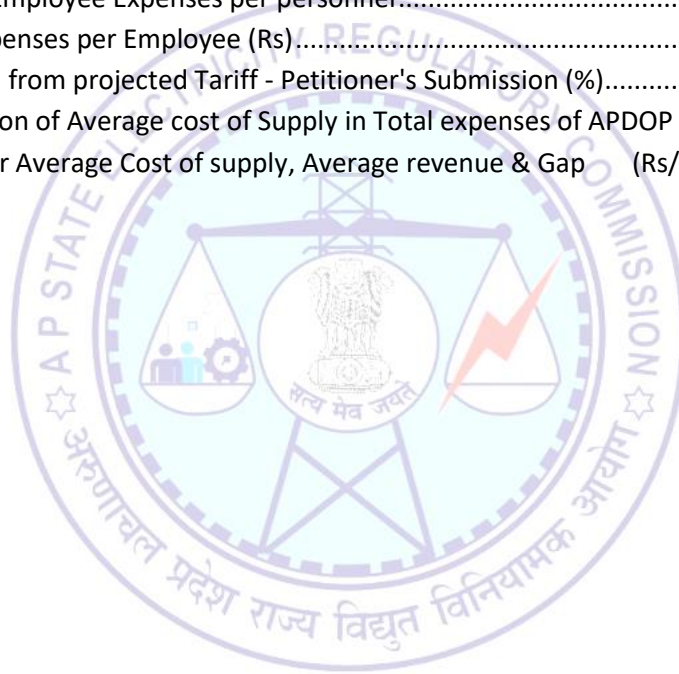
## List of Tables

Table 1 Report on Compliance of Directives by APDOP- Commission's Analysis .....	18
Table 2 ARR -Petitioner's Submission (Rs in Crs) .....	35
Table 3 Revenue Gap & Recovery-FY 2017-18 -Petitioner's Submission .....	36
Table 4 Proposed Tariff for FY 2017-18 .....	37
Table 5 Energy Sales approved by the Commission for FY 2015-16.....	41
Table 6 T&D losses approved by the Commission for FY 2015-16 .....	41
Table 7 Total Energy Requirement approved by the Commission for FY 2015-16.....	42
Table 8 Total Quantum of Approved Power Purchase for FY 2015-16 (MU) .....	43
Table 9 Total Cost of Power purchase Approved for FY 2015-16 .....	44
Table 10 Fuel Cost approved by the Commission for FY 2015-16 .....	44
Table 11 Total Revenue Requirement (Rs Crs)- Commission's Analysis .....	45
Table 12 Revenue GAP and Average Cost of Supply- Commissions' Analysis .....	46
Table 13 True Up of ARR for FY 2015-16 .....	47
Table 14 Review of ARR for FY 2016-17 .....	49
Table 15 No. of Consumers- Petitioner's Submission .....	50
Table 16 Energy sales- Petitioner's Submission.....	51
Table 17 Energy Sales (MU)- Commission's Analysis.....	54
Table 18 CAGR & Approved Energy Sales (MU).....	54
Table 19 Energy Sales (MU) for 132 KV Industrial Consumer.....	56
Table 20 Category wise Energy Sales Approved for FY 2017-18 (MU) .....	56
Table 21 Distribution and AT&C losses for FY 2017-18: Petitioner's Projections.....	57
Table 22 AT&C loss level as per UDAY .....	60
Table 23 Energy Requirement approved by the Commission for FY 2017-18.....	61
Table 24 Central Sector Allocation - Petitioner's Submission.....	62
Table 25 Firm Allocation of power from CGS- Commission's Analysis .....	63
Table 26 Approved values of Scheduled Energy to be Drawl (MU).....	64
Table 27 Energy available for purchase (MU).....	65
Table 28 Energy Requirement for FY 2017-18- Petitioner's Submission (in MU).....	66
Table 29 Energy Balance for FY 2017-18- Commission's Approval.....	67
Table 30 Power purchase Cost for FY 2017-18- Petitioner's Projection.....	68
Table 31 Power Purchase cost- Commission's Approval .....	70
Table 32 ARR, Income & Revenue Gap- Petitioner's Projection .....	72
Table 33 Employees Cost - Petitioner's Projection (Rs Crs) .....	74
Table 34 Repair Maintenance Cost- Petitioner's Submission (Rs Crs) .....	75
Table 35 A&G expenses - Petitioner's Submission (Rs Crs) .....	76
Table 36 O&M cost (Rs Crs) .....	77
Table 37 Total Annual license fee since 2012-13.....	80
Table 38 Revenue from projected Tariff- commission's Approval .....	82
Table 39 ARR for FY 2017-18 Commission's Approval .....	83
Table 40 Calculation of RPO compliance for FY 2017-18.....	86
Table 41 Minimum Quantum of Purchase (%) from Renewable Sources .....	87

Table 42 Approved Tariff Structure by the Commission for FY 2017-18 ..... 101

### List of Figures

Figure 1 No. of Consumers for FY 2017-18- Petitioner's Submission ..... 51  
Figure 2 Energy Sales (%) for FY 2017-18- Petitioner's Projection ..... 53  
Figure 3 T&D loss level for last years (%)..... 59  
Figure 4 AT&C loss Projection (%)..... 60  
Figure 5 Annual Employee Expenses per personnel..... 75  
Figure 6 A&G Expenses per Employee (Rs)..... 76  
Figure 7 Revenue from projected Tariff - Petitioner's Submission (%)..... 81  
Figure 8 Bifurcation of Average cost of Supply in Total expenses of APDOP (Rs in crs.) .. 84  
Figure 9 Trend for Average Cost of supply, Average revenue & Gap (Rs/unit)..... 84



### List of Abbreviations

Abbreviation	Explanation
APSERC	Arunachal Pradesh State Electricity Regulatory Commission
ARR	Aggregate Revenue Requirement
APDOP	Arunachal Pradesh Dept. of Power
AT&C	Aggregate Technical & Commercial
AGTPP	Agartala Gas Thermal Power Plant
AGBPP	Assam Gas Based Power Project
BPL	Below poverty line
CGS	Central Generating Stations
DHPD	Dept. of Hydro Power Development
DG	Diesel Generator
FY	Financial Year
EA	Electricity Act, 2003
GOI	Government of India
HEP	Hydro Electric Project
HT	High Tension
KJP	Kutir Jyoti Program
kV	Kilo Volt
LT	Low Tension
MU	Million Unit
MOU	Memorandum of Understanding
MW	Mega Watt
NTPC	National Thermal Power Corporation
NTP	National Tariff Policy
NEEPCO	North Eastern Electric Power Corporation Ltd.
NERLDC	North Eastern Regional Load Despatch Centre
NERPC	North Eastern Regional Power Committee
O&M	Operation & Maintenance
OTPC	ONGC Tripura Power Company
PGCIL	Power Grid Corporation of India Limited
RHEP	Ranganadi Hydro Electric Project
SHP	Small Hydro Power
SAC	State Advisory Committee
TP	Tariff petition
T&D	Transmission & Distribution
UI	Unscheduled Interchange

Before

**The Arunachal Pradesh State Electricity Regulatory Commission (APSERC)**

**Itanagar, Arunachal Pradesh**

**Petition No. TP 01 of 2017**

**In the matter of:**

***Determination of Aggregate Revenue Requirement and Retail Supply Tariff for sale of electricity by Arunachal Pradesh Department of Power to the consumers in the State of Arunachal Pradesh for the FY 2017-18***

AND

***Department of Power, Govt. of Arunachal Pradesh -----Petitioner***

**And in the matter of Suo Moto :**

***True-up of ARR for FY 2015-16,  
Review of ARR for FY 2016-17***

In respect of Department of Power, Govt. of Arunachal Pradesh

***Present:***

**RP Singh, Chairperson**

**ORDER**

(Passed on 26 -09-2017)

The Commission in exercise of the powers vested in it under section 62(1)(d) read with Section 62(3) and Section 64 (3)(a) of the Electricity Act, 2003 and APSERC (Terms and Conditions for Determination of Tariff) Regulations, 2011 and other enabling provisions in this regard, issues this order, determining the ARR and the Retail Tariff for the Financial Year 2017-18 for supply of electricity by the Department of Power, Arunachal Pradesh (APDOP) to the

Consumers of Electricity in the state of Arunachal Pradesh. The Regulations state that the Distribution 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. Hence the tariff petition for the FY 2017-18 should have been filed by the Licensee on or before 30th November 2016.

However, APDOP filed the petition for FY 2017-18 before the Commission on 18-01-2017. After verification it was found that the Petition lack some critical information. After several interactions with the petitioner wherein the Commission sought additional information, the petition finally admitted on 30-03-2017 by the Commission.

This order consists of nine chapters which includes detailed analysis of the ARR and approved Retail Supply Tariff Rates for the FY 2017-18. The Commission directs the licensee to publish the order in two leading newspapers, one in Hindi and the other in English, having wide circulation in the State within 7 days of the issue of this Tariff Order. The publication shall include a general description of the tariff and its effect on the various classes of consumers. 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-9 should be strictly adhered to and compliance thereof, as desired by the Commission must be placed before it within the stipulated time by APDOP.

This order shall be effective from 01.04.2017 and shall remain in force till the 31.03.2018.

**Date-**

**(R.P. SINGH)**

**Place- Itanagar**

**Chairperson**

## 1. Introduction

### 1.1 Arunachal Pradesh State Electricity Regulatory 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

**1.2.1.** 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.

**1.2.2.** Further, the Commission 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.

**1.2.3.**The Arunachal Pradesh State Commission ensures transparency while exercising its powers and discharging its functions.

**1.2.4.**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.

**1.2.5.**The Commission has so far notified the following Regulations to facilitate its functioning.

- (a) State Advisory Committee (SAC) Notification- 2011 and amendments thereof
- (b) Conduct of Business Regulations- 2011
- (c) Redressal of Grievances and Electricity Ombudsman Regulations- 2011 and amendments thereof
- (d) Fee Regulations-2011 and amendments thereof
- (e) Grant of Intra State Trading License Regulations-2011
- (f) Determination of ARR and retail tariff Regulations-2011
- (g) Terms and Conditions for Tariff Determination from Renewable Energy Sources Regulations- 2012 and amendments thereof
- (h) Renewable Power Purchase Obligations and Its Compliance Regulations- 2012 and amendments thereof

- (i) State Grid Code Regulations-2012
- (j) Terms and Conditions of Intra-state Open Access Regulations-2012
- (k) Electricity Supply Code Regulation-2013
- (l) Multi Year Tariff Regulation - 2013
- (m) Service Conditions of Staff Regulations-2015
- (n) Standard of Performance Regulations- 2015
- (o) Rooftop Solar Grid Interactive Systems Based On Net Metering- 2016

### **1.3 Arunachal Pradesh - Geographical Reality**

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

### **1.4 Arunachal Pradesh Department of Power**

Arunachal Pradesh Department of Power (APDOP) is a deemed licensee in terms of Section 14 of the Electricity Act, 2003. It being an integrated utility, is responsible for transmission and distribution of electricity in the State of Arunachal Pradesh and also for trading of Electricity. Basically, it is responsible for power supply in the State of Arunachal Pradesh.

It has an allocation of Power from Central Generating Stations of 166 MW (inc 156 MW from firm share and 10 MW unallocated power), that translates to about 751.56 MU/ year based on % allocation of MW from each plant and a normal PLF of each plant which is wheeled through the PGCIL network of North Eastern Region out of which 48.60 MW, around 157.84 MU is free power from Ranganadi HEP as 12% quota is being allocated for home state as per the latest allocation order by NERPC dated 31.07.2016.

Further, APDOP also receives about 58 MU from DHPD @ Rs. 2.46/ Unit (as per

Actual figs for FY 2015- 16).

It also owned some small diesel generating units and kept as standby with annual generation capacity of about 0.25 MUs / year and a total installed capacity of 30 MW which is to be operated in exigencies as and when required as per Tariff Order for FY 2016-17. The Power generated by these DG sets is not included in the total energy balance of APDOP. However, the cost of Fuel and lubricants is added in the O&M expenses of ARR.

During the FY 2017-18, APDOP has projected to serve about 2,41,361 consumers with an annual energy consumption of about 382.23 MU as per the Tariff petition.

The consumers are broadly classified into five categories as follows:

- I. Domestic
- II. Commercial
- III. Industrial (both HT & LT)
- IV. Public Lighting and water Supply
- V. Bulk Mixed

### **1.5 ARR and Tariff Petition for FY 2017-18: Filing**

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 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, APDOP filed the tariff Petition for FY 2017-18 on 18-11-2016 which should have been filed on or before 30-11-2016 as per the above said Regulations. In the petition APDOP has estimated an ARR of Rs. 432.20 crores and worked out a Revenue gap of Rs. 257.86 crores.

## **1.6 Admission of Petition and public Hearing Process**

The Commission observed that the ARR filed by the petitioner was incomplete and lacking critical and vital information as specified in Commission's (Terms and Conditions for Determination of Tariff) Regulations, 2011 and Multi Year Tariff Regulation- 2013. Pending receipt of additional information, the Tariff Petition was finally admitted on 30-03-2017 and marked as case No. TP 1 of 2017 to avoid further delay in processing of ARR.

On admitting the ARR and Tariff Petition of APDOP for FY 2017-18, the Commission directed APDOP 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 to invite comments/ objections from various stakeholders.

The copies of the Petition and other related documents were made available to Consumers and other interested parties at a nominal price of Rs 250/ copy in the office of the Chief Engineer (Power), Western Electrical Zone, Department of Power, Vidyut Bhawan, Itanagar- 791111. A copy of the Petition was made available on the website of APDOP ([www.arunachalpower.org.in](http://www.arunachalpower.org.in)) and also on the website of the Commission ([www.apserc.in](http://www.apserc.in)) in downloadable format.

A Public Notice was also issued by APDOP inviting objections/ suggestions from various stakeholders on the petition on or before 15-03-2017 and subsequent to that the date of filing replies by APDOP was fixed on or before 25.03.2017 by the Commission.

The Copy of the above Public Notice is enclosed in Annexure I of this Order.

### **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.

However, the Commission in future will try for conducting some Public meetings in

different districts of the State to discuss on various issues and problems faced by the Consumers and will try to gain some insights and ground reality about the Power Sector condition in the State.

## 1.7 Layout of the Order

This Order is organised into nine Chapters:

- (a) **Chapter 1** provides a brief about APSERC, APDOP, some of the details about the tariff setting process, the admission process of petition and about the Public Hearing.
- (b) **Chapter 2** provides details of the Status on Compliance of Directives and Advisories by APDOP which were issued by the Commission in its last Tariff order for FY 2016-17.
- (c) **Chapter 3** provides details about the Power Supply position in Arunachal Pradesh and Summary of the Petition submitted by APDOP for determination of ARR and Retail Supply Tariff for FY 2017-18.
- (d) **Chapter 4** covers the True up for FY 2015-16 and Review for FY 2016-17.
- (e) **Chapter 5** provides analysis of the petition for determination of ARR and Retail Supply Tariff for FY 2017-18 and Commission's Approval on the same.
- (f) **Chapter 6** provides details about the Renewable Power Purchase Obligation of various Obligated Entities.
- (g) **Chapter 7** provides details about the Tariff Philosophy, Design and Approved Tariff Structure for FY 2017-18 by the Commission.
- (h) **Chapter 8** describes about the Wheeling and Transmission Charges for APDOP for FY 2017-18.
- (i) **Chapter 9** list out various Directives and Advisories issued by the Commission to APDOP for FY 2017-18.

\*\*\*\*\*

## 2. Compliance of Directives

### 2.1. Introduction

As per Regulation 17.3 of APSERC (Terms and Conditions for Determination of Tariff and Formats for Tariff Filing) Regulations, 2011 the Generating Company and Licensee shall submit a statement on compliance of the directives issued by the Commission in its last tariff order.

But it is found that not only the Licensee i.e. APDOP didn't submit any Statement on Compliance of the Directives issued by the Commission in its last Tariff Order but also gave petty reasons for not complying the Directives issued by the Commission.

For eg. On page (i) of the TP filed by APDOP for FY 2017-18 the petitioner states that-

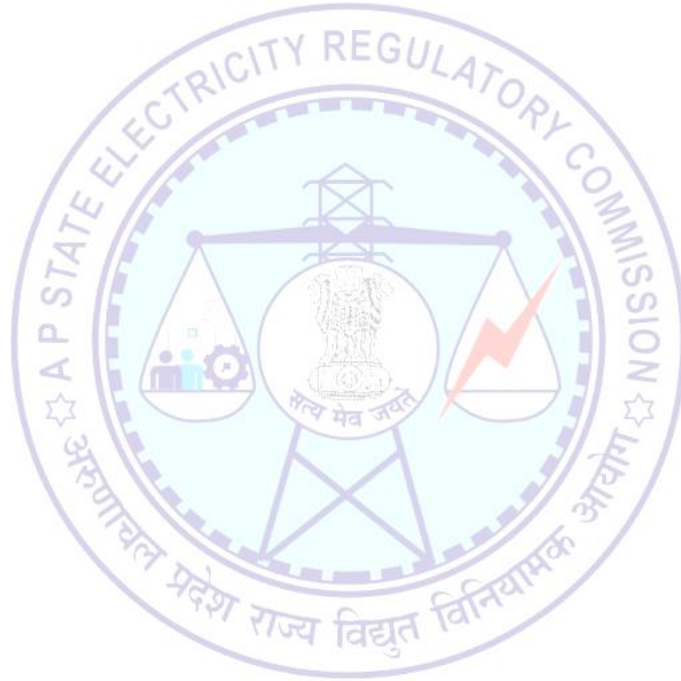
**Quote** "4. The petitioner though has to file petition under Multi Year Tariff Format, but because of non-availability of sufficient data, the petitioner is filing for single year tariff.

5. The petitioner, being government department, is unable to function like incorporated company in the matter of profit making business plan, audits, accounts etc. Hence, data/information as required by MYT regulation is not available, as a result, petition for single year i.e. for FY 2017-18 is hereby filed for necessary action of Hon'ble Commission as deemed fit. "Unquote.

How come the Petitioner can make an excuse of being a Govt. Dept for not functioning efficiently and productively and for not maintaining the sufficient data which is not only a duty of the licensee but also a statutory requirement as per the Electricity Act, 2003. This isn't just a matter of casual negligence by the Licensee but also a breach of Laws and Regulations laid down under EA, 2003. Despite regular notifications and directions by the Commission APDOP hasn't been able to show any

progress on Directives and Advisories issued by the Commission time and again.

The Commission once again directs the Licensee to submit the Compliance report on all the Directives and Advisories issued by the Commission in its Tariff Order and also to comply strictly with the Regulations laid down under EA, 2003 and issued by APSERC from time to time for development of Power Sector of the State.



## 2.2. Commission's Report on Compliance of Directives

**Table 1 Report on Compliance of Directives by APDOP- Commission's Analysis**

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
1	<p><b>Annual Accounts</b></p> <p>APDOP was directed to prepare annual accounts, Annual Profit and Loss Account and Balance Sheet at the CE's office level and get it audited by C&amp;AG regularly on annual basis. In line with the notification of the MYT regulations-2013 by APSERC, the preparation of Annual Accounts at the level of the Head of Dept. is mandatory.</p>	NIL	<p>This directive was given in Commission's Tariff Order for FY 2013-14 and 2014-15 which has not been compiled by the APDOP till now.</p>	<p>APDOP shall maintain the books of accounts and Database as prescribed by Ministry of Power, GOI in the Commercial Accounting system for State Electricity utilities, the Electricity (Supply) (Annual- Accounts) Rules 1985 and Section 185 of EA 2003.</p>

APERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
2	<p><b>Management Information System (MIS)</b></p> <p>The Commission directed APDOP to maintain data for category wise voltage-wise connected load and sales in the format given to them as APERC regulation.</p>	NIL	<p>It has not been doing for the last 3 year's petitions. Though it has been committing for submittals of the same every year.</p>	<p>APDOP shall accordingly build up the database required for regulatory process and submit the same every year in the ARR &amp; Tariff Petition</p>
3	<p><b>Fixed Assets Register</b></p> <p>It was directed that APDOP shall build up the fixed asset registers separately for Diesel Generation, Transmission and Distribution. Existing assets as on 31.3.2013 and new assets being added with new investments are to be entered in this register with quantities and costs.</p>	NIL	<p>APDOP informed in its letter dated 20.03.2013 that the fixed assets register is not available.</p>	<p>A separate register shall be maintained by the APDOP for Diesel Generators, Transmission and the Distribution Assets. Format of the fixed asset register is already given by the Commission</p>

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
4	<p><b>Conducting Energy Audit</b></p> <p>It was directed that APDOP should conduct energy audit immediately and assess losses accurately in the distribution system. The DOP was directed to compile the above information as on 31-03-2017 and submit it to the commission by 30-10-2017.</p>	NIL	No intimation is received from APDOP in this regard till date.	For carrying out energy audit, meters are required to be provided for all the feeders at 220 KV, 132 KV, 33KV & 11 kV levels and DTs on LT side. As per UDAY MoU, Energy Audit shall be undertaken upto 11KV level in rural areas by 30/09/2019.
5	<p><b>Connected load details consumer</b></p> <p>DOP was directed repeatedly and regularly in every Tariff order to furnish the connected load details consumer category wise/voltage wise.</p>	NIL	No response received from DOP despite several reminders.	Connected load details of Consumers helps in determining the Losses accurately and projecting Energy Sales within the State

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
6	<p><b>Segregation of T&amp;D and AT&amp;C losses</b></p> <p>DOP was requested to furnish voltage wise sales, losses, and power procurement data as per sheet format of which is already provided to APDOP, and to segregate T&amp;D losses from AT&amp;C losses for further analysis.</p>	NIL	The data furnished regarding losses is not sufficient to analyse and interpret the area of concern.	Commission need to plan measures to reduce the different components of losses using this data. In this regard, a judgment passed by APTEL in <b>Appeal No. 103 of 2010 &amp; IA Nos. 137 &amp; 138 of 2010</b> may please be referred.
7	<p><b>Un-metered connections</b></p> <p>DOP had to furnish the data for Unmetered Connections as per the Format of APSERC Tariff Regulation, 2011. In this connection, DOP was requested to furnish data for un-metered energy consumed category wise to further analyse.</p>	NIL	DOP has not furnished any data against the un-metered energy account. In absence of this data, the AT&C loss data can't be authenticated	It is a non-compliance to the Regulation. DOP can have this data from the upstream network data. As per UDAY MoU, APDOP has to improve its Billing efficiency up to 88% by 2020-21 for which metering in required.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
8	<p><b>UI not allowed for Power procurement</b></p> <p>Keeping provision of UI for power purchase is not a fair practice and hence not encouraged. APDOP can make a strategic plan to purchase the required units via smart procurement channels i.e. Power exchanges, trading, Power Banking etc.</p>	NIL	Despite regular advisories to APDOP by the Commission in this regard, the licensee still follow UI as a regular practise to purchase power.	This only disobeys the Regulations but also increases the overall power purchase cost and increases the financial burden on Ex- chequer.
9	<p><b>Creation of Regulatory Cell</b></p> <p>APDOP shall create/ constitute a Tariff Regulatory Cell (under an senior Officer not below the rank of SE) 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 act on the directives of the Commission.</p>	NIL	No response from APDOP in this regard.	The said officer shall be the primary source of all data and submissions being filed before the Commission, so as to ensure consistency and timelines of the data to be submitted and to have proper co-ordination with the Commission in the Tariff determination process.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

Sl No.	Directives	Compliance Status	Commission's Observation	Additional Observation
10	<p><b>Compiling of Accounts at CE's Office Level</b></p> <p>The APDOP was directed to compile and create all necessary data base and adopt required procedures of compiling Annual Accounts at CE's office level.</p>	NIL	No response from APDOP in this regard.	This process will ensure filing of tariff petition for the FY 2018-9 as per the Multi Year Tariff Regulations 2013.
11	<p><b>100% Metering</b></p> <p>DOP was directed that No connection shall be given to any category of consumer without a correct automatic meter. Defective meters, if any, in the consumer premises shall be identified and replaced on top priority with correct automatic meter.</p>	NIL	No response from APDOP in this regard.	As per UDAY, MoU signed with Gol by GoAP, 100% DT metering shall be achieved by 31/09/2019 and 100% feeder metering by 30/09/2018.

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
12	<p><b>Replacement of electromagnetic meters with automatic meters.</b></p> <p>DOP was directed that all defective meters are to be replaced with automatic meters to record the consumption correctly. A report on the status of metering, type of meters provided in HT, Bulk and others high value LT installations, was need to be submitted to the Commission.</p>	NIL	No intimation/ response from APDOP in this regard.	Due to ageing, the existing electromagnetic meters/ static might have become sluggish/defective and thus recording less consumption

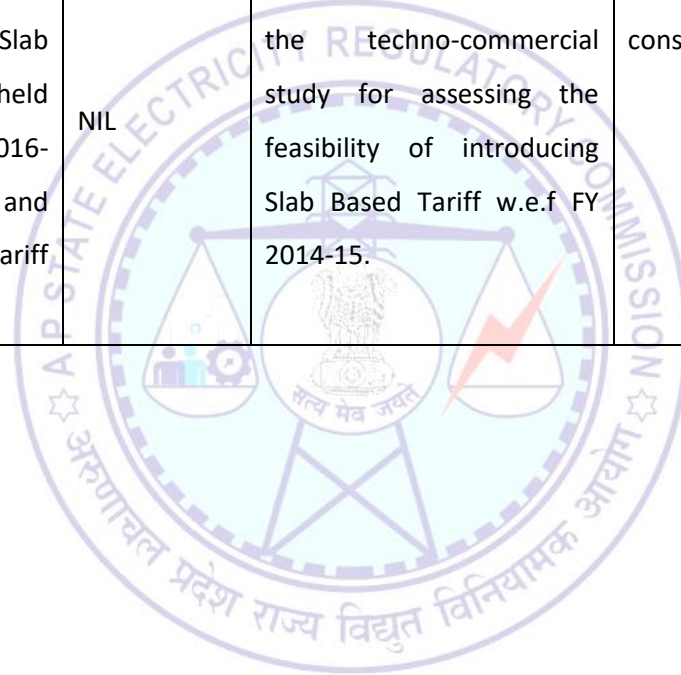


APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
13	<p><b>Payment of Power Purchase Cost to DHPD by Petitioner</b></p> <p>The APDOP was directed in the Commission's Tariff Order for 2013-14 to make payment to the Deptt. of Hydro Power Development (DHPD) for the power (in kWH) received by it w.e.f FY 2013-14 onwards from them at the rate determined by the Commission from time to time, and report compliance to the Commission.</p>	NIL	The Tariff Petitions filed by the APDOP for the FY 2014-15, FY 2015-16 FY 2016-17 and FY 2017-18 reveal that the DOP did not abide by the Commission's directive in this regard till now.	APDOP is once again directed to make all efforts to utilize the generation of DHPD to the maximum possible extent so as to gradually reduce the dependence on external power purchases. The APDOP should in consultation with DHPD should make a road map in this regard and intimate to the Commission.
14	<p><b>Reforms and Restructuring of DOP in Arunachal Pradesh</b></p> <p>Department of Power was directed to take urgent steps for complete restructuring of the power sector in the State.</p>	NIL	Transmission and Distribution functions are being performed by the DOP as a Government functionary as of now.	As per the provisions of the Electricity Act 2003, the functions are to be separated and entrusted to reorganized entities that have to function as independent bodies.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
15	<p><b>Introduction of Slab based tariff</b></p> <p>Commission in its tariff order 2013-14 directed APDOP for the Introduction of Slab based Tariff. During the last SAC Meeting held on 18-3-2015, it was decided that w.e.f 2016-17 slab based tariff shall be introduced and the APDOP shall propose the same in its tariff petition of 2016-17</p>	NIL	<p>APDOP has not done the same. It did not conduct the techno-commercial study for assessing the feasibility of introducing Slab Based Tariff w.e.f FY 2014-15.</p>	<p>This will have an added advantage to encourage the habit of energy conservation amongst the consumers.</p>



APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
16	<p><b>Procurement of Power during Lean Hydro Season</b></p> <p>The APDOP was directed to explore the possibility of drawing short term and medium term power purchase agreements during Lean Hydro season to avoid Power cuts by-</p> <ol style="list-style-type: none"> <li>1. Banking summer/ monsoon surpluses with neighbouring States/Utilities.</li> <li>2. Power swap arrangements under banking i.e. disposing off power in the surplus slots to neighbouring State/Utilities and thereafter taking back during the deficit slots of the same day.</li> <li>3. Purchasing need based power at the platform of Energy Exchanges.</li> </ol>	NIL	<p>It is observed that the DOP hasn't taken any initiative/ made any efforts in this regard as assured. However, DOP vide their letter no. CE (P)/WEZ/ COM/10/14-15/106 Dtd.16-4-2015 has mentioned to consider all available options in this regard.</p>	<p>Also APDOP vide their letter no. CE(P)/WEZ/COM-10/Tariff/2014-15/446, Dated 22-5-14 had assured the Commission at the time of finalizing the tariff petition for FY 2014-15 that it will consider the option of power banking arrangements of its surplus power during the peak hydro season with other state govt./utilities.</p>

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
17	<p><b>Renewable Power Purchase Obligation (Solar RPO)</b></p> <p>As intimated by the APDOP vide their letter no. CE(P)/WEZ/SLDC/Tariff/ Part-I/2013-14/148 Dtd. 02/3/2013, they will either procure the quantity of solar power on account of FY 2012-13 in FY 2013-14 or will purchase equivalent solar REC. The APDOP is also required to Comply the Solar RPO for the FY 2013-14, 2014-15,2015-16, 2016-17 and 2017-18.</p>	NIL	The compliance of the same has not been submitted to the Commission as yet in spite of regular reminders by the Commission.	As per the APSERC (Renewable Power Purchase Obligation and Its Compliance, 2nd Amendment) Regulations, 2016, the applicable RPO levels for the FY 2017-18 are 9.50% for Non-Solar and 4.75% for Solar based on Ministry of Power vide order no. 23/3/2016-R&R dated 22 <sup>nd</sup> July 2016.
18	<p><b>Accounting for of Solar Energy</b></p> <p>APDOP was directed to account for the solar energy received by it from the solar installations of the APEDA with mutual consultation and</p>	NIL	No response from APDOP in this regard.	This Solar Energy can be utilized for fulfilling the solar RPO.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
19	<b>Road Map for Smart Grid</b> Subsequent to the launching of Smart Grid Vision and Road Map for India by Gol in August'2013, the APDOP was directed to intimate whether it has formulated any Smart Grid road map for the State of Arunachal Pradesh and the steps being taken in this regard if the road map has not been prepared as yet.	NIL	The report is still awaited and should be submitted at the earliest.	As per UDAY MoU, Smart meters have to be installed for all consumers except for Agricultural, consuming above 500 units/ month by 31/03/2019 and for consumers consuming above 200 units/ month by 31/03/2020.
20	<b>Filing of ARR and Tariff Petition</b> APDOP has to build up required data as directed in above directives and file the ARR and Tariff Petition timely in complete shape i.e by Nov 2016 for each FY as per MYT Regulations, 2013 of the Commission.	NIL	Not maintained by the Licensee	For FY 2017-18, APDOP filed the Tariff Petition on 17/01/2017 which should have been on or before 30/11/2016.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
21	<p><b>Payment of Annual License Fees</b></p> <p>APDOP was directed to pay the Annual License Fee for the FYs 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17 as per the APSERC fees Regulation for the following entities separately before November of each FY:</p> <p>i) Transmission License (Deemed)</p> <p>ii) Distribution License (Deemed)</p>	NIL	APDOP has not paid the Annual License Fee since inception of the Commission.	In accordance to the Clause 5 (ii) of the APSERC Fees Regulations 2011, amended in 2017 all Distribution licensee and Transmission licensee are required to pay Annual License Fee at the rate as mentioned in Schedule of the above Regulation.
22	<p><b>Repairs and Maintenance (R&amp;M)</b></p> <p>APDOP should ensure the reduction of expenses and achieve sustainable levels compared with the value of the network in operation.</p>	NIL	No compliance report has been send by the Licensee.	R&M is controllable item. APDOP shall strive to control its R&M expenses.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

SI No.	Directives	Compliance Status	Commission's Observation	Additional Observation
23	<p><b>Collection of security deposit</b></p> <p>The APDOP was directed to provide the data as provided below in (a), (b) and (c) for the FY 2014-15, 2015-16, 2016-17 and 2017-18 to the Commission including the nos. of consumers covered in this exercise (a) Payment of additional deposit, (b) Adjustment of excess or deficit deposit, (c) Payment of interest on security deposit as per the A.P. Electricity Supply Code-2013 notified by the Commission at the SBI's Base Rate.</p>	NIL	No response from APDOP in this regard.	<p>Estimated security deposit for different categories of consumers shall be calculated as per the methodology indicated by the Commission in the Arunachal Pradesh Electricity Supply Code-2013.</p> <p>Security Deposit has to be paid by all the consumers of electricity covering the period of billing cycle.</p>
24	<p><b>Bad and Doubtful Debts</b></p> <p>The APDOP shall make an analysis of the existing debts and segregate the un-realizable debts.</p>	NIL	No response from APDOP in this regard.	The records of bad and doubtful debts should be invariably maintained to seek approval of the Commission to withdraw the un-realizable debts for supply of energy.

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

Sl No.	Directives	Compliance Status	Commission's Observation	Additional Observation
25	<b>Providing of breakup of cost of providing Electric Plant &amp; Meter to the premises of an Electricity Consumer as</b> to be furnished by the APDOP to the Commission at an early date.	NIL	No response from APDOP in this regard.	This break up of cost has to be furnished by APDOP as per A.P. Electricity Supply Code Regulation, 2013
26	<b>Consumers' Grievances Redressal Forum (CGRF)</b> APDOP was directed to constitute CGRF in accordance to the Commission's "Redressal of Grievances & Ombudsman Regulation-2015".	Followed	-	

\*\*\*\*\*

### 3. Power Supply Position and Summary of the Petition

---

#### 3.1 Power Supply Position

APDOP meets the energy demand of its Consumers by getting power from 3 different sources which are shown below:

- 1) Power from CGS- APDOP has a firm allocation of Power from CGS of 166 MW (including 156 MW from firm share and 10 MW unallocated power), that translates to about 751.56 MU/ year based on % allocation of MW from each plant and a normal PLF of each plant, including free power from Ranganadi HEP, NEEPCO. It is getting free Power from RHEP to the tune of 157.84 MU. It also purchases power through open market to meet its requirement in the State particularly, during peak hours and lean hydro season and also sells surplus power from allocated energy outside the State during the peak hydro season.
- 2) Power from DHPD- It receives about 58 MU from DHPD @ Rs. 2.46/Unit (as per Actual figs for FY 2015- 16). This includes drawl of entire power generated by DHPD.
- 3) Power from DG Sets- It also has small diesel generating units of its own with annual generation capacity of about 0.25 MUs / annum to be operated in exigencies as and when required.
- 4) However, Per Capita Consumption of Power in Arunachal Pradesh is much lower than that of All India's average. As per the Actual figs submitted by APDOP the per capita consumption of electricity for FY 2015-16 comes out to be a meagre 233.03 kWh while the National Average fig for FY 2015-16 is 1075 kWh.
- 5) During FY 2017-18, APDOP has projected to serve around 2,41,361 consumers with an annual energy consumption of about 382.23 MU as per the Tariff petition for FY 2017-18.

6) However, as per North Eastern Regional Power Committee/Load Generation Balance Report of the north eastern region for the year 15-16 and Year 16-17 the State of Arunachal Pradesh has the following table on demand, availability and surplus (+)/deficit (-) energy data;

Sl.NO	Particulars	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Total 15-16
1	<b>Arunachal Pradesh</b>													
i)	Net Energy Requirement	66	70	67	67	72	72	72	67	67	67	57	72	<b>816</b>
ii)	Net Energy Availability - Own Source	5	5	4	6	6	6	6	4	4	3	3	4	<b>56</b>
	Net Energy Availability - Central Sector	33	49	60	78	75	68	55	41	41	40	36	40	<b>617</b>
iii)	Surplus(+)/Deficit(-)	-28	-16	-3	17	9	2	-11	-22	-22	-24	-17	-28	<b>-143</b>

SL.No	Particulars	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Total 16-17
1	<b>Arunachal Pradesh</b>													
i)	Net Energy Requirement	67	71	68	68	73	73	73	68	68	68	59	74	<b>830</b>
ii)	Net Energy Availability- Own Source	5	5	4	6	6	6	6	4	4	3	3	4	<b>56</b>
	Net Energy Availability - Central Sector	41	53	78	86	73	68	61	48	50	48	42	51	<b>700</b>
iii)	Surplus(+)/Deficit (-)	-21	-13	14	24	6	1	-6	-16	-14	-17	-14	-19	<b>-74</b>

\*Source: NERPC website

Further to the above, APDOP may also refer the below latest Totals sales (MU) and no. of Consumer's as per DOP Website data.

SL. No.	Particulars	FY 2016-17	FY 2015-16
1	No of Consumers	222204	218897
2	Total Sales in MU	377.63	346.94

\*Source: DOP Management Information system website

Keeping in view of the above, the Commission feels, APDOP may take reference/co-relate the latest data for future load forecasting/projection and Power Purchase etc.

### 3.2 Summary of the Petition

#### A. Aggregate Revenue Requirement

APDOP in its petition Table 4.1 has submitted the ARR and Revenue gap Projected for FY 2017-18, Estimated for FY 2016-17 and actual Figs for FY 2015-16 for meeting its expenses and the estimated revenue with the existing tariff. The ARR and revenue gap as submitted by the petitioner is shown in Table below.

**Table 2 ARR -Petitioner's Submission (Rs in Crs)**

S.L No.	Particulars	Previous Year 2015-16 (Actual)	Current Year 2016-17 (Estimated)	Ensuing Year 2017-18 (Projected)
1	Cost of Power Purchase	213.31	206.72	203.19
2	Fuel Cost	4.50	4.68	4.87
3	Employee costs	183.20	190.50	197.50
4	O&M expenses	22.10	23.10	25.50
5	Adm. & Gen. Expenses	1.05	1.10	1.15
6	Depreciation	0.00	0.00	0.00
7	Interest charges	0.00	0.00	0.00
8	Return on equity	0.00	0.00	0.00
9	Income Tax	0.00	0.00	0.00
10	<b>Total revenue requirement</b>	<b>424.16</b>	<b>426.10</b>	<b>432.20</b>
11	Non-tariff income	3.12	3.33	3.57
12	Revenue from existing tariff	131.00	137.56	144.29
13	Sale through Energy Exchange	14.83	18.15	22.22
14	Deviation export	3.41	3.75	4.12
15	<b>Total Income</b>	<b>152.36</b>	<b>162.79</b>	<b>174.20</b>
16	<b>Revenue gap (10-15)</b>	<b>271.80</b>	<b>263.31</b>	<b>258.01</b>

## B. Revenue Gap and Recovery

**Table 3 Revenue Gap & Recovery-FY 2017-18 -Petitioner's Submission**

SL.No.	Description of Items	Rs. (In Crores)
1	Aggregate Revenue Requirement	432.20
2	Total Income	174.35*
3	Revenue gap (1-2)	257.86
4	<b>Expected Government Grant</b>	<b>257.86</b>
5	Net Revenue Gap (3-4)	0

\*Note- The Data for Total Income isn't same as it is in previous Table. @ different values are provided by APDOP for Total Income. This kind of discrepancies should be avoided by the Petitioner in later Tariff Petitions.

The Petitioner in the Petition for FY 2017-18 of table 4.2 has shown that the revenue gap will be covered through Government Grant as shown in the Table above.

### 3.3 Tariff- Existing Vs Proposed

In its Petition, APDOP has submitted the proposed Tariff for the FY 2017-18 as same as the existing Tariff with no changes for any Category of the Consumers as detailed in Table below:

**Table 4 Proposed Tariff for FY 2017-18**

Sl no	Category of Consumers	Existing Tariff (Rs/ kWh)	Proposed Tariff (Rs/ kWh)
1	Non-Commercial (Domestic)	1 - Phase, 230 Volt	4.00
2		3 - Phase, 400 Volt	4.00
3		1 - Phase, 230 Volt KJP & BPL connections	2.65
4		3 - Phase, 11 KV	3.40
5		3 - Phase, 33 KV	3.25
6	Commercial (Non-Industrial)	1 - Phase, 230 Volt	5.00
7		3 - Phase, 400 Volt	5.00
8		3 - Phase, 11 KV	4.20
9		3 - Phase, 33 KV	4.00
10	Public Lighting & Water Supply	1 - Phase, 230 Volt	5.10
11		3 - Phase, 400 Volt	5.10
12		3 - Phase, 11 KV	4.20
13		3 - Phase, 33 KV	4.00
14	Agricultural	1 - Phase, 230 Volt	3.10
15		3 - Phase, 400 Volt	3.10
16		3 - Phase, 11 KV	2.75
17		3 - Phase, 33 KV	2.65
18	Industrial	1 - Phase, 230 Volt	4.30
19		3 - Phase, 400 Volt	4.30
20		3 - Phase, 11 KV	3.85
21		3 - Phase, 33 KV	3.50
22		3- Phase, 132 KV	3.35
23	Bulk Mixed	3 - Phase, 11 KV	3.75
24		3 - Phase, 33 KV	3.40
25		3- Phase, 132 KV	3.25
26	Temporary Consumers	6.50	6.50

### 3.4 Prayer of Petitioner

APDOP in its petition for FY 2017-18 has prayed to the Commission for:

1. To admit this Petition for approval of Retail Tariff for FY 2017-18 and determination of ARR for FY 2017-18.
2. To approve proposed retail tariff for FY 2017-18.
3. To approve proposed ARR for FY 2017-18.
4. The petitioner though has to file petition under Multi Year Tariff Format, but because of non-availability of sufficient data, the petitioner is filing for single year tariff.
5. The petitioner, being government department, is unable to function like incorporated company in the matter of profit making business plan, audits, accounts etc. Hence data/information as required by MYT regulation is not available, as a result, petition for single year i.e. for FY 2017-18 is hereby filed for necessary action of Hon'ble Commission as deemed fit.
6. To grant any other relief as the Hon'ble Commission may consider appropriate.
7. To pass any other order as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice.
8. The petitioner craves leave of the Hon'ble Commission to allow further submissions, additions and alterations to this petition as may necessary from time to time.

\*\*\*\*\*

## 4. True Up, Review & Analysis of ARR & Tariff Petition

### 4.1 Process of Review and Truing Up

- (1) The Commission shall undertake a review of the expenses and revenues approved by the Commission in the Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates/ pre-actuals of sale of electricity, income and expenditure for the relevant year and permit necessary adjustments/ changes in case such variations are for adequate and justifiable reasons. Such an exercise shall be called '**Review**'.
- (2) (i) After audited accounts of a year are made available, the Commission shall undertake similar exercise as above with reference to the final actual figures as per the audited accounts. This exercise with reference to audited accounts shall be called '**Truing Up**'.  
(ii) The Truing Up for any year will ordinarily not be considered after more than one year of 'Review'.
- (3) The revenue gap of the ensuing year shall be adjusted as a result of review and truing up exercises.
- (4) While approving such expenses/ revenues to be adjusted in the future years as arising out of the Review and / or Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues. Carrying costs shall be limited to the interest rate approved for working capital borrowings.
- (5) For any revision in approvals, the licensee would be required to satisfy the Commission that the revision is necessary due to conditions beyond its control.

Analysis of the ARR & Tariff Petition for FY 2017-18 is undertaken by the Commission after the True up for FY 2015-16 and Review for FY 2016-17 as detailed below.

#### **4.2 True-up for FY 2015-16**

While the petitioner has not specifically requested for True up of FY 2015-16, the Commission on the basis of the data available with him that was submitted as "Actuals" for FY 2015-16 by the petitioner, has undertaken True up exercise of various parameters on Suo- Moto basis considering the Multi Year Tariff Regulations- 2013 notified by APSERC on 18th October 2013 that indicates the following in regard to True up:

Quote "From the first year of the Control Period and onwards, the Petition shall comprise of: Truing Up for FY 2012-13, if any, to be carried out under APSERC (Terms and Conditions of Tariff) Regulations, 2011 and onwards in accordance with these Regulations;" Unquote

Since, APDOP is currently operating as a department within the Govt. of Arunachal Pradesh, the system of account keeping is on cash receipt and expense basis i.e. proforma accounts.

The objective of True up or Review of ARR is to reconcile the data which might reflect differently during True up / Review either due to data inaccuracies at the time of submission of the Petition or due to any reason outside the control of the Petitioner during the period under review. This analysis prepares the Commission & the Petitioner with an objective of course correction for further years.

The APDOP has not submitted the audited accounts for the FY 2015-16. Therefore, True up for FY 2015-16 cannot be done. However, APDOP has stated that though the accounts are not audited, the data furnished for the FY 2015-16 are "Actuals" and Provisional True up may be done with regard to these actual figs. So the Commission has done a Provisional True up for FY 2015-16 with reference to the actual figs submitted by APDOP and later on after getting Audited figs the Commission will

undertake the True up for FY 2015-16. The True up exercise done by the Commission for FY 2015-16 is discussed in the succeeding paragraphs.

### 4.3 Energy Sales

The actual Energy sales (346.90 MU) within the State is more than the approved Energy Sales 331.07 MU for FY 2015-16. However, since this is an Uncontrollable Factor as per Regulation 16 of APSERC, MYT Regulations- 2013, the Commission now approves energy sales for the FY 2015-16 at 346.90 MU as per the actuals furnished by APDOP as shown below in Table below:

**Table 5 Energy Sales approved by the Commission for FY 2015-16**

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1.	Energy Sales within the State	MU	331.07 (Table 5.5)	346.90 (Table 2.2)	346.90

### 4.4 Transmission & Distribution (T&D) Losses

**Table 6 T&D losses approved by the Commission for FY 2015-16**

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1.	T&D Loss	%	43 (Table 5.6)	52.82 (Table 2.4)	43

In the above Table, the actual T&D loss of 52.82% is more than the approved losses (%) by the Commission for the FY 2015-16. It is observed that the Petitioner did not take adequate steps to reduce the T&D losses by examining the health of each component of distribution system.

As a result, the Energy Requirement of APDOP went up significantly than it would had been at a lower T&D loss level. The higher T&D loss is also, a non-productive waste of Power. The lower T&D losses will save the exchequer of Govt. of Arunachal Pradesh and enable development of Energy Sector to be healthier which in turn will generate economic activities in the State of Arunachal Pradesh. Hence, the Commission now approves T&D Loss level at 43% for the FY 2015-16 as against the actual loss level as this falls under the category of controllable Factor as per Clause 16 of APSERC MYT Regulations- 2013.

#### 4.5 Total Energy Requirement

**Table 7 Total Energy Requirement approved by the Commission for FY 2015-16**

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1.	Total Energy Requirement	MU	695.22 (Table 5.8)	816.01 (Table 2.5)	750.16

The total Energy requirement accounting for T&D losses, as approved by the Commission was 695.22 MU which is quite lower than actual energy requirement as submitted by APDOP at actual sales and T&D loss level i.e 816.01 MU only due to the exorbitant T&D loss levels. More Energy requirement at the periphery of APDOP means more Power is required to be purchased and hence more Power purchase cost which eventually led to the requirement of higher subsidy to be provided by the Government as inefficiencies in the distribution system can't be recovered through Consumer Tariff and are met through Govt. subsidy only. However, the Commission approves the Total Energy Requirement at 750.16 MU as per the approved T&D loss level of 43%.

#### 4.6 Total Power Purchase

Although, this component is an Uncontrollable factor as per Regulation 16 of APSERC, MYT Regulations- 2013, the Commission doesn't approve the actual Figure of Total Power purchase at 815.69 MU as shown in Table below. This is due to the reason that despite not allowing UI as a source to purchase power, APDOP has purchased a hefty 127.29 MU from the same. This is breach of Directions of the Commission and also a wrong and unfair practice that has been followed by APDOP for a long time despite numerous directions by the Commission to not consider UI as a source of Power procurement. Hence taking strong measures this time, the Commission doesn't approve the Energy taken from UI and approves the Total Power purchase as 688.40 MU.

**Table 8 Total Quantum of Approved Power Purchase for FY 2015-16 (MU)**

Sl no	Description	unit	As per the Tariff Petition for FY 2015-16	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1	from CGS	MU	498.18	464.83	471.94	471.94
2	DHPD	MU	91.8	55	58.62	58.62
3	UI	MU	116.03	0	127.29	0
4	Free power	MU	175	175	157.84	157.84
	<b>Total</b>	<b>MU</b>	<b>881.01</b>	<b>694.83</b>	<b>815.69</b>	<b>688.40</b>

#### 4.7 Power Purchase Cost

The figures at Sl. 2 & 3 of Table 9 reflect that more Quantum of power (MU) was purchased than approved by the Commission and so was the total Power Purchase cost (Rs Crs). However, the Commission does not approve the Cost of power purchase as per the Actuals submitted by APDOP and lessen the cost of UI purchase

from Total power purchase cost of Rs 213.31 Crs as shown in table below. As against the Actuals, the Commission approves the Cost of power purchase at Rs 180.74 Crs.

**Table 9 Total Cost of Power purchase Approved for FY 2015-16**

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1.	Total Energy Requirement	MU	695.22 (Table 5.8)	816.01 (Table 2.5)	750.16
2.	Total Power Purchase	MU	694.83 (Table 5.10)	815.69 (Table 2.5)	688.40
3.	Cost of Power Purchase	Rs Crs	188.91 (Table 5.24)	213.31 (Table 2.11)	180.74

Whatever the Revenue Gap comes for FY 2015-16 after Truing Up, the cost of Rs 32.57 Crs of Energy taken from UI shall be borne by the Licensee himself and shouldn't be provided through Govt. Grant to APDOP.

#### 4.8 Fuel Cost

APDOP has DG sets of different capacities owned by himself installed at different locations with total installed capacity of about 30 MW. These DG sets are kept as standby and used as and when required. The power generated from it is not included in the power purchase cost. The Expenditure on DG sets is included in the Fuel, O&M Cost. As per Clause 16 of APSERC, MYT Regulations- 2013, Fuel Cost is a Controllable Expense.

**Table 10 Fuel Cost approved by the Commission for FY 2015-16**

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1.	Fuel cost	Rs. Crs	1.26 (Table 5.24)	4.5 (Table 2.11)	1.26

From the above table it is observed that Rs 1.26 Crs was approved by the Commission in Tariff Order for FY 2015-16 for Fuel Cost but Rs 4.5 Crs was given as actuals by APDOP. However, the Commission approves Fuel Cost at Rs 1.26 Crs against the actual Fuel Cost of Rs 4.5 Crs.

#### 4.9 Total Revenue Requirement

The Total Revenue Requirement for the FY 2015-16 submitted by APDOP in Tariff petition for FY 2015-16, approved by the Commission in its Tariff Order for FY 2015-16, actuals furnished by the APDOP and now approved by the Commission are furnished in the Table below.

From the Table it can be observed that a huge amount of Rs 949.94 Crs was filed by APDOP in its Tariff Petition of FY 2015-16 but only Rs 437.63 Crs was approved by the Commission in the Tariff Order for 2015-16. The Actual Figure as submitted by APDOP in Tariff Petition of FY 2017-18 is Rs 424.16 Crs. However, as seen from the Calculations below the Approved Total Revenue Requirement comes out to be Rs 388.35 Crs by the Commission as against the actual Figure of Rs 424.16 Crs.

**Table 11 Total Revenue Requirement (Rs Crs)- Commission's Analysis**

Sl no	Description	As per the Tariff Petition for FY 2015-16	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1	Cost of power purchase	221.4	188.91	213.31	<b>180.74</b>
2	Employee cost	201.13	201.13	183.2	183.2
3	Repair & Maintenance cost	30.8	30.8	22.1	22.1
4	Administrative cost	2	2	1.05	1.05

5	Fuel cost	5.39	1.26	4.5	<b>1.26</b>
6	Depreciation	149.71	0	0	0
7	Interest on working capital	0	10.51	0	<b>0</b>
8	Interest & Finance charges	220.12	0	0	0
9	Return on Equity	119.39	0	0	0
10	Solar compliance	0	2.1	0	<b>0</b>
11	Annual license fee	0	0.17	0	<b>0</b>
12	Investment for training & safety of personnel	0	0.75	0	<b>0</b>
<b>13</b>	<b>Total Revenue requirement</b>	<b>949.94</b>	<b>437.63</b>	<b>424.16</b>	<b>388.35</b>

#### 4.10 Revenue GAP and Average Cost of Supply

As shown in Table below, True up for the FY 2015-16 indicates that the Revenue gap has been decreased to ₹ 235.99 Crores, as against ₹ 281.01 Crores approved by the Hon'ble Commission in the Tariff Order for the FY 2015-16.

Also, the Average Cost of Supply has reduced to Rs 9.01/unit as against Rs 10.79/unit approved by the Hon'ble Commission in its Tariff Order for the FY 2015-16.

**Table 12 Revenue GAP and Average Cost of Supply- Commissions' Analysis**

Sl. No	Description	Unit	As per the Tariff Petition for FY 2015-16	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1	Revenue from energy sale within the state	Rs Crs	150.74	132.65	131	131
2	Revenue from surplus sale of power	Rs Crs	19.71	19.71	18.24	18.24

3	Non- tariff Income	Rs Crs	0.5	4.26	3.12	3.12
4	Total Income	Rs Crs	170.95	156.62	152.36	152.36
5	Total Revenue Requirement	Rs Crs	949.94	437.63	424.16	388.35
6	<b>Revenue Gap</b>	<b>Rs Crs</b>	<b>778.99</b>	<b>281.01</b>	<b>271.8</b>	<b>235.99</b>
7	Net Revenue Requirement	Rs Crs	949.44	433.37	421.04	385.23
8	Energy Sales	MU	401.47	401.47	427.59	427.59
9	<b>Average cost of supply</b>	<b>Rs/uni t</b>	<b>23.65</b>	<b>10.79</b>	<b>9.85</b>	<b>9.01</b>

No other parameter of the ARR has been noticed to have impacted the ARR for FY 2015-16 and there is no ARR gap or surplus required to be carried forward to further years. As such no impact is required to be passed on to the Consumers due to True Up by the Commission for the FY 2015-16. No amount of ARR is generated for adjustment as Regulatory Asset or surplus for FY 2015-16 or later years.

#### 4.11 Summary of True Up for FY 2015-16

Table 13 True Up of ARR for FY 2015-16

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
1.	Energy Sales within the State	MU	331.07	346.90	346.90
2.	T&D Loss	%	43	52.82	43
3.	Total Energy Requirement	MU	695.22	816.01	750.16
4.	Total Power Purchase	MU	694.83	815.69	688.40
5.	Cost of Power Purchase	Rs Crs	188.91	213.31	180.74
6.	Fuel cost	Rs. Crs	1.26	4.5	1.26

Sl. No	Description	Unit	Approved in the Tariff order for FY 2015-16	Actuals as per Petitioner's Submission	Now approved (Trued Up)
7.	Total Revenue Requirement	Rs Crs	437.63	424.16	388.35
8.	Amount Realized from Tariff	Rs. Crs	132.65	131	131
9.	Revenue Gap	Rs Crs	281.01	271.80	235.99
10.	Average Cost of Supply	(Rs/kWH)	10.80	9.85	9.01

#### 4.12 Approach for Review of ARR for FY 2016-17

While, the Petitioner has not specifically requested for the Review of FY 2016-17 also, similar to no request from the Petitioner for the True up of FY 2015- 16, the Commission on the basis of data submitted by the petitioner, has reviewed ARR for FY 2016-17 on Suo Moto, vis-a-vis determined earlier by the Commission in its ARR order dated 29 February 2016. The Review of ARR for FY 2016-17 has been carried out as per the provisions of Terms and Conditions of APSERC (Determination of Tariff and Formats for Tariff Filing) Regulations-2011, notified on 26th Dec. 2011, as indicated under Regulation 15 "Review and Truing- Up".

In view of the above, the Commission has reviewed the variations between Approved and Estimated data for sale of electricity, income and expenditure for FY 2016-17 and permitted necessary adjustments in cases where variations seemed to be for reasonable and justifiable reasons. The Estimated values for FY 2016-17 has been submitted by the Petitioner in the Petition for FY 2017-18 as shown below in Table.

**Table 14 Review of ARR for FY 2016-17**

Sl. No	Description	Unit	Approved in the Tariff Order for FY 2016-17	Estimated value as per the Petitioner	% Change from Approved
1	Energy Sales within the State	MU	355.06 (Table 5.6)	364.25 (Table 2.5)	102.56%
2	Total number of Consumers	Nos.	228553 (Table 5.3)	241361 (Table 2.2)	105.6%
3	T&D Loss	%	40% (Table 5.6)	47.84% (Table 2.4)	119.6%
4	Total Energy Requirement	MUs	691.7 (Table 5.6)	780.96 (Table 2.5)	112.9%
5	Power Purchase cost	Rs Crs	207.65 (Table 5.8)	206.72 (Table 2.6)	99.55%
6	Total Revenue Requirement	Rs Crs	436.428 (Table 5.16)	426.1 (Table 2.11)	97.63%
7	Total Income	Rs Crs	151.91 (Table 5.16)	162.79 (Table 4.1)	107.16%

In the Review Process of ARR for FY 2016-17, some deviations have been noticed and Commission's observations have been given in the column "% change from Approved" of the above table. The other parameters as approved by the Commission are required to be maintained to achieve optimal performance by APDOP.

APDOP has to maintain a check on these deviations and put in efforts to get the auditing of the accounts urgently for proper Truing up before next Tariff Petition for ARR & Tariff determination for FY 2018-19.

\*\*\*\*\*

## 5. Analysis of ARR for FY 2017-18

### 5.1 Growth of Consumers

During FY 2017-18, APDOP has projected to serve about 2,41,361 consumers with an annual energy consumption of about 382.23 MU in its Tariff Petition for 2017-

18. The consumers are broadly classified into following five categories:

- i. Domestic
- ii. Commercial
- iii. Industrial (both HT & LT)
- iv. Public Lighting and water Supply
- v. Bulk Mixed

The category wise consumers' growth as projected by the Petitioner for FY 2017-18 are depicted in the Table below. To analyze the trajectories of Consumer base latest Figs. are compared with actual figures of FY 2015-16 and estimated Figs for FY 2016-17.

Table 15 No. of Consumers- Petitioner's Submission

Sl no	Category of consumers	2015-16 (Actual)	2016-17 (Estimated)	2017-18 (Projected)
1	Domestic	194096	203801	213992
2	Commercial	22499	23624	24806
3	Public Lighting and Water Supply	1703	1788	1877
4	Agricultural	16	30	44
5	Industrial	314	329	345
6	Bulk Mixed	153	161	169
7	Temporary	116	122	128
	<b>Total</b>	<b>218897</b>	<b>229855</b>	<b>241361</b>

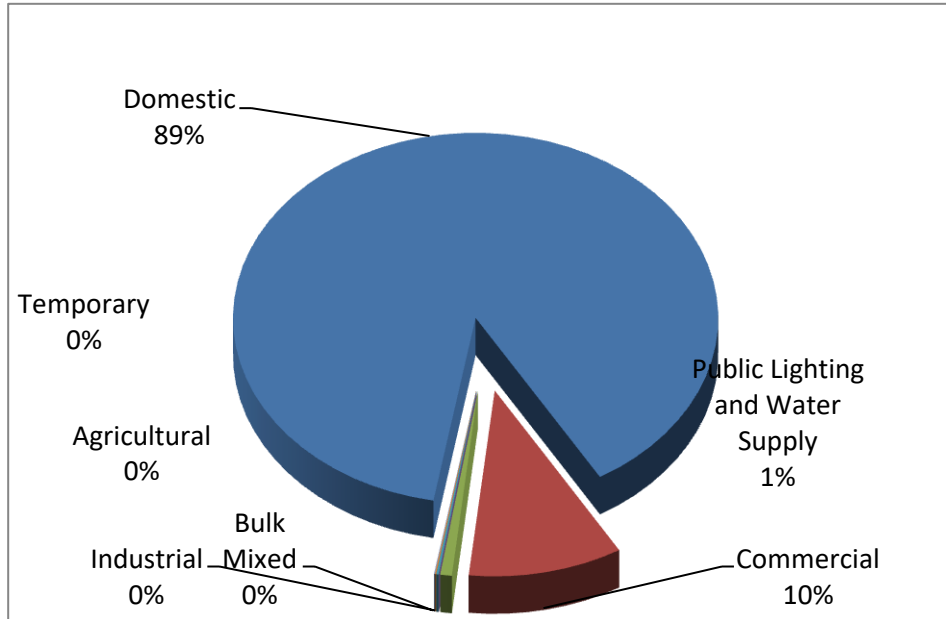


Figure 1 No. of Consumers for FY 2017-18- Petitioner's Submission

## 5.2 Category- wise Energy Sales

APDOP has provided actual sales for FY 2015-16, estimated for tFY 2016- 17 and projected energy sales to various category of consumers for FY 2017-18 as shown below in Table:

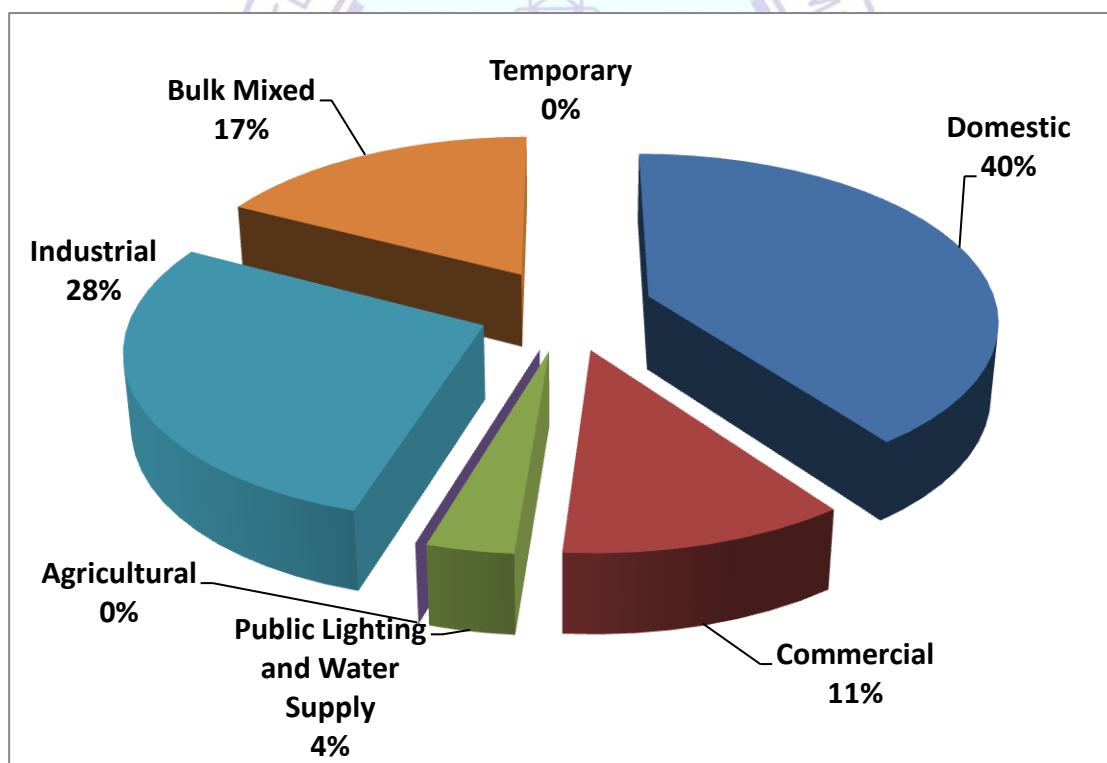
Table 16 Energy sales- Petitioner's Submission

S.L No	Category of Consumers	Previous Year 2015-16 (Actual)		Current Year 2016-17 (Estimated)		Ensuing Year 2017-18 (Projected)	
		No of Consumers	Energy Sale (MU)	No of Consumers	Energy Sale (MU)	No of Consumers	Energy Sale (MU)
1	Non Commercial Consumers (Domestic)						
LT							
a)	1-Phase, 230 Volt	137716	97.86	144602	102.75	151832	107.89
b)	3-Phase, 400	2258	17.26	2371	18.12	2490	19.03

S.L No	Category of Consumers	Previous Year 2015-16 (Actual)		Current Year 2016-17 (Estimated)		Ensuing Year 2017-18 (Projected)	
		No of Consumers	Energy Sale (MU)	No of Consumers	Energy Sale (MU)	No of Consumers	Energy Sale (MU)
	Volt						
HT							
c)	3-Phase, 11KV	34	1.67	36	1.75	38	1.84
d)	3-Phase, 33KV						
e)	KJP & BPL Connection	54088	21.80	56792	22.89	59632	24.03
<b>2 Commercial Consumers (Non-Industrial)</b>							
LT							
a)	1-Phase, 230	20889	19.60	21933	20.58	23030	21.61
b)	3-Phase, 400	1500	14.91	1575	15.66	1654	16.44
HT							
c)	3-Phase,	95	4.18	100	4.39	105	4.61
d)	3-Phase,	15	0.31	16	0.32	17	0.34
<b>3 Public Lighting and Water Supply Consumers</b>							
LT							
a)	1-Phase, 230	1506	4.95	1581	5.20	1660	5.46
b)	3-Phase, 400	170	2.34	179	2.46	188	2.58
HT							
c)	3-Phase,	23	4.39	24	4.61	25	4.84
d)	3-Phase,	4	0.21	4	0.22	4	0.23
<b>4 Agricultural Consumers</b>							
LT							
a)	1-Phase, 230	2	0.01	4	0.01	6	0.01
b)	3-Phase, 400	14	0.01	26	0.01	38	0.01
<b>5 Industrial Consumers</b>							
LT							
a)	1-Phase, 230	82	0.49	86	0.52	90	0.55
b)	3-Phase, 400	187	2.85	196	2.99	206	3.14
HT							
c)	3-Phase,	24	1.48	25	1.56	26	1.64
d)	3-Phase,	18	16.74	19	17.58	20	18.46
e)	3-Phase, 132	3	75.46	3	79.24	3	83.20

S.L No	Category of Consumers	Previous Year 2015-16 (Actual)		Current Year 2016-17 (Estimated)		Ensuing Year 2017-18 (Projected)	
		No of Consumers	Energy Sale (MU)	No of Consumers	Energy Sale (MU)	No of Consumers	Energy Sale (MU)
6	Bulk Mixed Consumers						
	3-Phase, 11KV	135	18.22	142	19.14	149	20.10
	3-Phase, 33KV	17	5.36	18	5.63	19	5.91
	3-Phase, 132 KV	1	36.56	1	38.39	1	40.31
7	Temporary Consumer						
	LT/HT	116	0.22	122	0.23	128	0
	<b>Grand Total</b>	<b>218897</b>	<b>346.90</b>	<b>229855</b>	<b>364.25</b>	<b>241361</b>	<b>382.23</b>

Figure 2 Energy Sales (%) for FY 2017-18- Petitioner's Projection



### Commission's Analysis

Reasonable projection of category-wise energy sales is very essential for

determining the energy required to be purchased to meet the demand and likely revenue by sale of electricity. In table below Energy Sales figs are compiled by the Commission for some last years.

**Table 17 Energy Sales (MU)- Commission's Analysis**

SI No	Category of consumers	2014-15 (Actual)	2015-16 (Actual)	2016-17 (Estimated)	2017-18 (Projected)
1	Domestic	134.3	138.59	145.51	152.79
2	Commercial	33.63	39	40.96	43
3	Public Lighting Water Supply	11.18	11.89	12.49	13.11
4	Agricultural	0	0.02	0.02	0.02
5	Industrial	67.93	97.03	101.89	106.99
6	Bulk Mixed	63.63	60.14	63.16	66.32
7	Temporary	0.11	0.02	0.23	0
	<b>Total</b>	<b>310.78</b>	<b>346.69</b>	<b>364.26</b>	<b>382.23</b>

Sales forecast using CAGR technique is a tried and tested method and is used extensively across the other Indian states and also formally accepted by the Regulators. In Table below CAGR is calculated using Actual values of FY 2014-15 and FY 2015-16 as submitted by the Petitioner.

**Table 18 CAGR & Approved Energy Sales (MU)**

SI No	Category of Consumers	2014-15 (Actual)	2015-16 (Actual)	CAGR for YoY from 2014-15 to 2015-16 (in%)	(Approved for FY 2016-17)	Approved for FY 2017-18 (As per CAGR)
<b>1</b>	<b>Domestic</b>					
a	LT	112.87	115.12	0.02	124.43	126.91
b	HT	0.8	1.67	1.09	0.88	1.84

Sl No	Category of Consumers	2014-15 (Actual)	2015-16 (Actual)	CAGR for YoY from 2014-15 to 2015-16 (in%)	(Approved for FY 2016-17)	Approved for FY 2017-18 (As per CAGR)
c	KJP & BPL	20.63	21.8	0.06	22.74	24.03
<b>2</b>	<b>Commercial</b>					
a	LT	30.78	34.51	0.12	33.94	38.05
b	HT	2.85	4.49	0.58	3.15	4.96
<b>3</b>	<b>Public Lighting and Water Supply</b>					
a	LT	7.02	7.29	0.04	7.74	8.04
b	HT	4.16	4.6	0.11	4.58	5.06
<b>4</b>	<b>Agricultural</b>					
a	LT	0	0.02	0.00	0	0.00
b	HT	0	0	0.00	0	0.00
<b>5</b>	<b>Industrial</b>					
a	LT	56.6	3.35	-0.94	62.4	3.69
b	3-Phase, 11KV	2.01	1.48	-0.26	2.22	1.63
c	3-Phase, 33KV	9.32	16.74	0.80	10.28	18.46
<b>d</b>	<b>3-Phase, 132KV</b>	<b>1</b>	<b>75.46</b>	<b>0.75</b>	<b>0</b>	<b>79.00</b>
<b>6</b>	<b>Bulk Mixed</b>					
a	3-Phase, 11KV	59.97	18.22	-0.70	66.12	20.09
b	3-Phase, 33KV	2.74	5.36	0.96	3.02	5.91
c	3-Phase, 132KV	0.92	36.56	38.74	1.01	40.14
<b>7</b>	<b>Temporary</b>					
a	LT/HT	0.11	0.22	1.00	0.13	0.26

Sl No	Category of Consumers	2014-15 (Actual)	2015-16 (Actual)	CAGR for YoY from 2014-15 to 2015-16 (in%)	(Approved for FY 2016-17)	Approved for FY 2017-18 (As per CAGR)
	<b>Total</b>	<b>311.78</b>	<b>346.89</b>		<b>342.64</b>	<b>378.08</b>

### HT Industrial (132 KV) Consumers

For HT Industrial Consumers (132 KV) a huge variation is observed in Energy Sales year on year as shown in the Table below. The Commission directs APDOP to verify the same and provide the results to Commission for cross verification.

**Table 19 Energy Sales (MU) for 132 KV Industrial Consumer**

2014-15 (Actual)	2015- 16 (Actual)	2016-17 (Approved)	2016-17 (Estimated)	2017-18 (Projected)
0	75.46	0	79.24	83.2

Finally, the Commission approves energy sales at 378.08 MU for FY 2017-18, as against 382.23 MU projected by APDOP as shown in Table below:

**Table 20 Category wise Energy Sales Approved for FY 2017-18 (MU)**

Sl. No	Category of consumers	Projected	Approved for FY 2017-18
1	Domestic	152.79	152.78
2	Commercial	43	43.02
3	Public Lighting and Water Supply	13.11	13.1

4	Agricultural	0.02	0
5	Industrial	106.99	102.79
6	Bulk Mixed	66.32	66.13
7	Temporary	0	0.26
	<b>Total</b>	<b>382.23</b>	<b>378.08</b>

### 5.3 Losses: T&D and AT&C

The distribution losses for FY 2017-18 as projected by the Petitioner are shown below in Table below along with the Figs of last years to have a comparison between them.

**Table 21 Distribution and AT&C losses for FY 2017-18: Petitioner's Projections**

S.L No.	Particulars	Calculation	Unit	FY 2015-16 (Actual)	FY 2016-17 (Estimated)	FY 2017-18 (Projected)
1	Generation (own as well as any other connected generation net after deducting auxiliary consumption) within area of supply of DISCOM.	A	MU	58.94	64.77	71.18
2	Input energy (metered Import) received at interface points of DISCOM network.	B	MU	757.07	729.77	709.77
3	Input energy (metered Export) by the DISCOM at interface point of DISCOM network.	C	MU	80.70	96.20	114.92
4	Total energy available for sale within the licensed area to the consumers of the DISCOM	D=A+B-C	MU	735.31	698.34	666.03
5	Energy billed to metered consumers within the licensed area of the DISCOM	E	MU	346.90	364.25	382.23

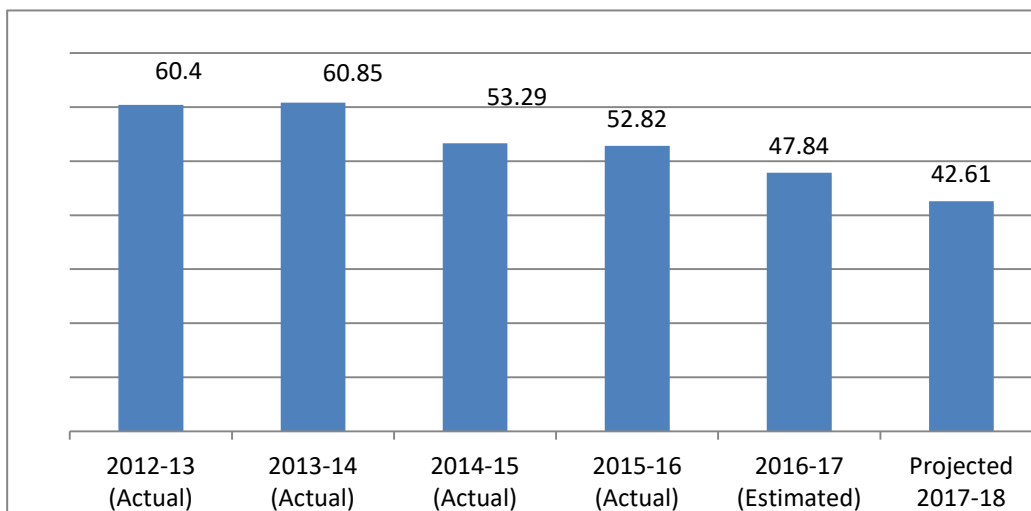
APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

6	Energy billed to unmetered consumers within the licensed area of the DISCOM	F	MU			
7	Total energy billed	G=E+F	MU	346.90	364.25	382.23
8	Amount billed to consumer within the licensed area of DISCOM	H	Rs. Crore	131.01	137.56	144.44
9	Amount realized by the DISCOM out of the amount Billed at H	I	Rs. Crore	117.35	125.50	132.50
10	Collection efficiency (%) (= Revenue realized/ Amount billed)	$J=(I/H) \times 100$	%	89.57	91.23	91.73
11	Energy realized by the DISCOM	K=JXG	MU	310.73	332.32	350.64
12	Distribution Loss (%)	$L=\{(D-G)/D\} \times 100$	%	52.82	47.84	42.61
13	AT & C Loss (%)	$M=\{(D-K)/D\} \times 100$	%	57.74	52.41	47.35

**Commissions' Analysis**

The T&D losses were approved at 53% for FY 2013-14 as per Tariff Order dated 30.05.2013. Also, the Commission in its Tariff order for FY 2013-14 has approved T&D losses for FY 2014-15 & FY 2015-16 at 50% and 47% respectively. For FY 2016-17 the Commission approved T&D losses at 44%.

The Commission has compiled the T&D loss levels for some last years as shown in Figure below:



**Figure 3 T&D loss level for last years (%)**

The Commission had advised APDOP in regard to T&D losses as a directive under para 6.2.5 of the Tariff Order for FY 2013-14

*Quote "APDOP should prepare a 'Road Map' on priority for reduction of AT&C losses indicating the measures proposed to be implemented to achieve the reduction for next three years including the cost involvement and the sources identified for funding." Unquote.*

APDOP neither provided any information to the Commission for reduction of its AT&C losses nor followed the Commission's Direction to segregate the AT&C and T&D losses. They should analyse the reasons for high distribution losses for each segment of its network and should take effective measures to reduce the losses by proper accounting of energy sales, conducting voltage-wise energy audit, by providing meters on all feeders etc. APDOP needs to take immediate action to arrest pilferage of energy, replacement of defective meters/ stopped meters, electro-mechanical meters with automatic meters. In addition to above, automatic meters should also be provided to all un-metered connections at the earliest in a time bound manner.

As per Regulation 71 (a) of APSERC (Terms and Conditions for Determination of Tariff and Formats for Tariff Filing) Regulations -2011,

It shall be obligatory on the licensee whose AT&C losses during the previous year are in excess of 30 percent, to project reduction of such losses by a minimum of 3 percent during the year for which a Tariff Application is made.

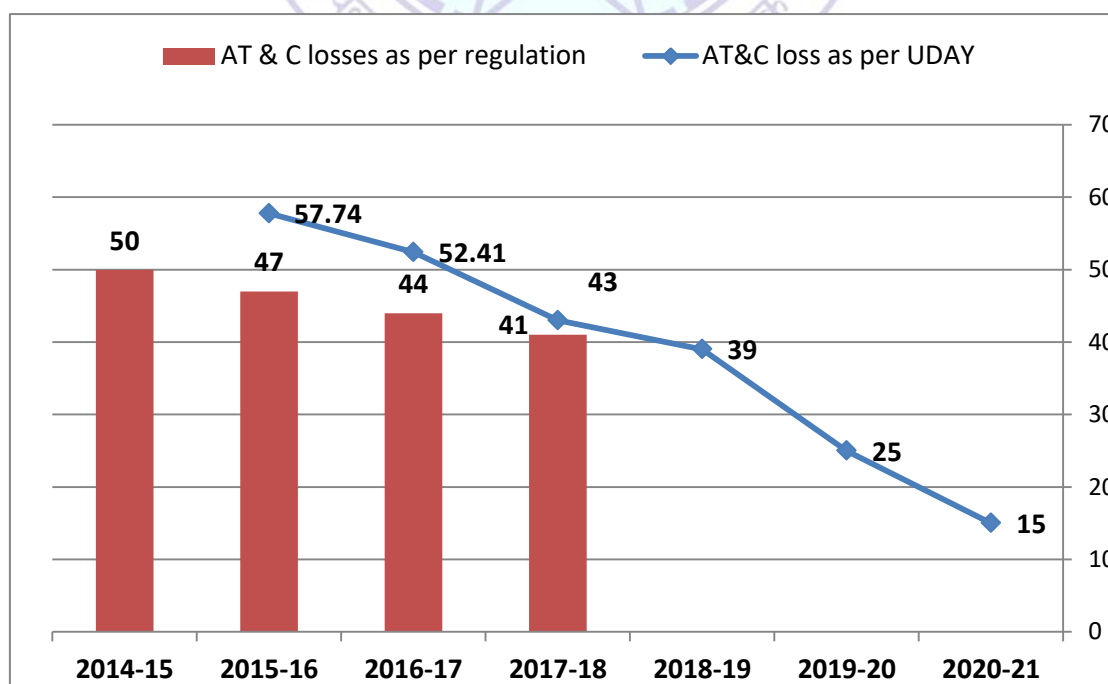
Also as per the Bipartite MoU UDAY, which was signed by Govt of Arunachal Pradesh with Gol on 29-03-2017, it is agreed upon that Govt of Arunachal Pradesh will endeavour to reduce its AT&C losses from 57.74% in FY 2015-16 to 15% by FY 2020-21 as per the following trajectory shown in Table below:

**Table 22 AT&C loss level as per UDAY**

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
AT&C loss level (%)	57.74	52.41	43	39	25	15

In Figure below, AT&C loss levels are captured as per APSERC Tariff Regulations, 2011 and as per the UDAY MoU.

**Figure 4 AT&C loss Projection (%)**



Therefore, in accordance with the provisions of APSERC Tariff Regulations, 2011, **the Commission approves the AT&C losses at 41 % for FY 2017-18.**

The energy requirement of APDOP to meet the demand would be the sum of energy sales to consumers within the State considering the AT&C Losses, as worked out in Table below:

**Table 23 Energy Requirement approved by the Commission for FY 2017-18**

Sl. No	Energy Requirements	Formulae/Unit	Approved for FY 2017-18
1	Energy required for sale inside the state	MU	378.08
2	AT&C losses approved	%	41.00
3	AT&C losses approved	SI 4- SI 1 (MU)	262.73
4	Energy Requirements with AT&C losses	SI 1/(1-SI 2) (MU)	640.81

#### 5.4 Sources of Power procurement for FY 2017-18

##### A. Own Generation

APDOP owns some DG Sets with total installed capacity of about 19.5 MW and projected a generation of about 0.25 MU/year for FY 2017-18.

**The Commission approves generation from DG Sets at 0.25 MU (Net) for the FY 2017-18 as projected by the Petitioner.**

##### B. Power from APDHPD

APDHPD owns 116 mini hydroelectric power stations, with a total installed capacity of 68.51 MW and projected a generation of 59.41 MU for the FY 2017-18 from these Mini HEPs. While, APDOP has projected a generation of 70.93 MU for the FY 2017-18 from Mini HEPs owned by APDHPD.

**So, the Commission approves Energy available from APDHPD at 59.41 MU (Net) for the FY 2017-18 against the projected value of 70.93 MU by APDOP.**

##### C. Power from CGS

The balance energy requirement of APDOP is mainly met from allocation of power from Central Generating Stations of NEEPCO, NHPC, NTPC and other sources such as OTPC Pallatna and Open Power Market, as detailed in Table below:

**Table 24 Central Sector Allocation - Petitioner's Submission**

Sl No	Station	Capacity (MW)	Firm allocation to AP		Actual Energy Utilised (MU)
			(In %)	(In MW)	
<b>1 NHPC</b>					
a	LOKTOK	105	4.94	5.19	25.65
<b>2 NEEPCO</b>					
a	RHEP	405	6.462	26.17	85.44
b	Free Power		12	48.60	157.84
c	KOPILI-I	200	5.191	10.38	34.97
d	KOPILI-II	25	5.992	1.50	5.65
E	Khandong	50	4.194	2.10	7.16
F	AGBPP	291	5.694	16.57	98.60
G	AGTPP	84	6.132	5.15	38.14
h	AGTPP-II	46	8.875	4.08	15.66
I	DOYANG	75	6.852	5.14	10.60
<b>3 NTPC</b>					
A	FARAKKA	1600	0.19	3.04	20.27
B	KAHALGAON	840	0.19	1.60	11.44
C	TALCHAR	1000	0.14	1.40	14.54
<b>4 OTPC</b>					
A	PALLATNA	363.3	3.03	11.01	103.82
	<b>Total</b>			<b>141.92</b>	<b>629.78</b>

### Commission's Analysis

It is found that the data of Share allocation of every Generating Station as mentioned in Table above by the Petitioner is Obsolete and not in place now. After going through the data from NERPC- Weighted average Share Allocation for NER as on 31.07.2016, the Commission observed a wide variation in the Firm Allocation of

Power (MW) and Scheduled Energy to be drawl (MU) from various Power Stations. The revised firm allocation of Power from different CGS is shown below in Table along with the values of Scheduled Energy drawl- projected and Approved (taken from Table 26).

**Table 25 Firm Allocation of power from CGS- Commission's Analysis**

SI No	Station	Capacity (MW)	Firm allocation to AP		Scheduled Energy (Projected)	Scheduled Energy (Approved)
			(In %)	(In)		
1	LOKTAK	105	4.76	5.00	25.65	35.311
2	RHEP (inc Free power)	405	18.27	73.99	192.81	229.787
3	KOPILI-I	200	5	10.00	34.97	50.36
4	KOPILI-II	25	5.8	1.45	5.64	6.035
5	Khandong	50	4	2.00	7.16	7.914
6	AGBPP	291	5.5	16.01	98.6	84.46
7	AGTPP	130	6.52	8.48	53.8	59.05
8	DOYANG	75	6.67	5.00	10.6	16.927
9	FARAKKA	1600	0.2	3.20	20.27	20.27
10	KAHALGAON	840	0.2	1.68	11.44	11.44
11	TALCHAR	1000	0.2	2.00	14.54	14.54
12	PALATNA	726	3.03	22.00	103.82	123.35
13	Bg TPP	250	4.94	12.35	-	92.12
	<b>Total</b>			<b>163.15</b>	<b>629.78</b>	<b>751.56</b>

It is a matter of absolute negligence by APDOP that they have Projected total Scheduled energy to be drawl less than what actually is there. Non- accountability of about 122 MU is just a matter of concern for APDOP. This poor projection of Total power purchase from CGS by APDOP based on this obsolete data increases the Total projected power purchase cost which directly impacts the Average Revenue

Requirement of APDOP for FY 2017-18 and will eventually put more financial burden on the ex-chequer of Govt of Arunachal Pradesh.

The Commission wants to know about the source of data of APDOP along with the methodology adopted by APDOP for Purchase of Power as of date.

For further clarification of APDOP about the amount of Scheduled Energy drawl (MU) to the state of Arunachal Pradesh by every Station, data from NERPC- Regional Energy Accounting head is compiled month wise for FY 2016-17 for every Station and depicted below in Table below:

**Table 26 Approved values of Scheduled Energy to be Drawl (MU)**

Sl. No	Stations	Apr -16	May -16	Jun-16	Jul -16	Aug -16	Sep -16	Oct -16	Nov -16	Dec -16	Jan -17	Feb-17	Mar-17	Total
1	loktok	1.24	3.48	3.58	3.74	3.55	3.62	3.64	3.59	3.53	2.81	0.97	1.55	35.31
2	RHEP	21.8	20.45	28.62	49.08	22.74	28.33	22.61	9.72	7.3	5.72	4.77	8.65	229.79
3	kopili-I	0	2.5	7.05	6.98	7.14	7.05	4.89	3.35	4.81	2.87	1.59	2.13	50.36
4	kopili-II	0.51	0.97	0.76	0.7	0.90	0.59	0.596	0.28	0.03	0.03	0.11	0.38	6.03
5	Khando ng	0.35	0.875	1.24	1.3	0.91	0.74	0.467	0.83	0.41	0.40	0.21	0.17	7.91
6	AGBPP													84.46
7	AGTPP													59.05
8	Doyang	0.132	0.227	1.84	3.32	3.52	3.552	1.705	1.08	0.556	0.403	0.318	0.274	16.93
9	Farakka													20.27
10	Kahalga on													11.44
11	Talchar													14.54
12	ONGC pallatna													123.35
13	Bg TPP													92.12

Sl. No	Stations	Apr -16	May -16	Jun-16	Jul -16	Aug -16	Sep -16	Oct -16	Nov -16	Dec -16	Jan -17	Feb-17	Mar-17	Total
<b>Total</b>														<b>751.56</b>

Therefore the Commission approves the **Total amount of Energy available from CGS as 751.56 MU** including free power of 157.84 MU for the FY 2017-18 against the projected value of 629.78 MU by APDOP.

The Table below captures all the Sources of Power Procurement available with APDOP to purchase Energy to meet the needs of consumers for FY 2017-18 as per the Petitioner and as approved by the Commission. We can clearly see a huge difference of about 110 MU between the two figures which was totally neglected by APDOP.

**Table 27 Energy available for purchase (MU)**

sl no	Sources of Power Procurement	Energy Available (MU) Projected	Energy Available (MU) Approved
1	DHPD	70.93	59.41
2	CGS	471.94	593.72
3	Free Power from RHEP	157.84	157.84
4	From DG Set	0.25	0.25
	<b>Total Energy Available</b>	<b>700.96</b>	<b>811.22</b>

## 5.5 Energy Requirement and Availability

Based on the projections to meet the needs of various categories of Customers, sale of surplus power and adjustment of other Import and export, the Petitioner has projected the energy requirement of 780.96 MU as depicted below in Table below:

**Table 28 Energy Requirement for FY 2017-18- Petitioner's Submission (in MU)**

S.L No.	Item	Previous Year 2015-16 (Actual)	Current Year 2016-17	Ensuing Year 2017-18 (Projected)
<b>A</b>	<b>ENERGY REQUIREMENT</b>			
1	Energy sales within the State	346.90	364.25	382.23
2	Sales outside State (Bilateral+ others)	80.70	96.20	114.92
3	TOTAL SALES	427.59	460.45	497.15
4	Distribution Losses			
I)	MU	388.42	334.09	283.80
II)	%	52.82	47.84	42.61
5	Total energy requirement (3+4)	816.01	794.55	780.96
<b>B</b>	<b>ENERGY AVAILABILITY</b>			
1	Power Purchase from			
	a) DHPD	58.62	64.48	70.93
	b) Central Stations	471.94	471.94	471.94
	c) Deviation Import(UI)	127.29	100.00	80.00
2	Net Power Purchase (a+b+c)	657.86	636.42	622.87
3	Free Power from RHEP, NEEPCO	157.84	157.84	157.84
4	From DG Set	0.32	0.29	0.25
<b>5</b>	<b>Total energy availability</b>	<b>816.01</b>	<b>794.55</b>	<b>780.96</b>

### Commission's Analysis

The Commission has considered the approved Energy Available for the FY 2017-18 as depicted in Table 27 above to arrive at the Total Energy Requirement for the energy balance as shown in Table below:

In the Table below Transmission losses in PGCIL network has been derived from NERLDC transmission losses for FY 2016-17 taking an average of 2.7% in the NER during the period from 04-04-2016 to 12-03-2017 as taken from NERPC.

**Table 29 Energy Balance for FY 2017-18- Commission's Approval**

Sl. No	Energy Requirements	Formulae	Ensuing Year 2017-18 (Projected)	Year 17-18 Commission's Analysis with Energy Available	Year 17-18 Commission's Analysis with Merit order Energy Purchase
<b>A. Energy Requirement</b>					
1	Energy sale inside the state, MU		382.23	378.08	378.08
2	AT&C losses by AP DOP/ Commission	%	42.61	41.00	41.00
5	Energy Requirements within the state . MU	Sl 1/(1-Sl 2)	666.02	640.81	640.81
4	AT&C losses, MU	Sl 3- Sl 2	283.79	262.73	262.73
5	Sales outside State (Energy Exchange) MU		114.92	59.96	59.96
6	Total Energy Sales, MU		780.94	700.77	700.77
<b>B. Energy Availability</b>					
7	Purchase DHPD, MU		70.93	59.41	59.41
8	Purchase from CGS units excluding free Power from RHEP, MU	<b>Ref Table 25 &amp; 28</b>	471.94	593.73	501.32
9	Free Power from RHEP, NEEPCO MU		157.84	157.84	157.84
10	Renewable Power Purchase (Solar) MU	Ref Table 40	0	0	0
11	UI (Dediation Import) MU		80	0	0
12	DG units MU		0.25	0.25	0.25

13	<b>Total Available Energy (Excluding Standby DG) MU</b>		<b>780.71</b>	<b>810.98</b>	<b>718.57</b>
14	Transmission losses in PGCIL network within the state	%	2.7	2.7	2.7
15	Transmission losses in PGCIL network within the state MU		19.16	20.29	17.80
16	Net CGS Power available including free power of NEEPCO		690.62	731.28	641.36
21	Total Energy Available MU	Sl 16 +Sl 7	761.55	790.69	700.77
22	Energy Surplus (+) / Gap (-) Availability vs Requirement	Sl. 21 - Sl 6	-19.40	89.91	0.00

The energy balance approved above in Table above provides a **surplus energy of 89.91 MU** for the FY 2017-18.

## 5.6 Power Purchase Cost

Table 30 Power purchase Cost for FY 2017-18- Petitioner's Projection

Sl No	Station	Actual Energy Utilised (MU)	Power Purchase Cost (Rs Crs)	PGCIL, NERLDC & Other Charges (Rs Crs)	Total Power Purchase Cost (Rs Crs)	Unit Cost (Rs./ KWH)
<b>1 NHPC</b>						
a	LOKTOK	25.65	8.93	1.13	10.07	3.93
<b>2 NEEPCO</b>						
a	RHEP	85.44	23.56	3.78	27.34	3.2
b	Free Power	157.84	0.00	5.92	5.92	0.44
c	KOPILI-I	34.97	3.30	1.55	4.85	1.39
d	KOPILI-II	5.65	1.88	0.25	2.13	3.76
E	Khandong	7.16	1.38	0.32	1.70	2.37
F	AGBPP	98.60	32.35	4.36	36.72	3.72
G	AGTPP	38.14	11.52	1.69	13.21	3.46

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

h	AGTPP-II	15.66	4.95	0.69	5.64	3.6
I	DOYANG	10.60	4.97	0.47	5.44	5.13
3 NTPC						
A	FARAKKA	20.27	6.01	0.90	6.90	3.4
B	KAHALGAON	11.44	5.01	0.51	5.52	4.83
C	TALCHAR	14.54	4.93	0.64	5.58	3.83
4 OTPC						
A	PALLATNA	103.82	29.66	4.59	34.26	3.3
	Deviation Import	80	26.94	5.63	20.48	2.56
	APDHPD	70.93	14.42		17.45	2.46
	<b>Total</b>	<b>780.71</b>			<b>203.19</b>	<b>2.60</b>

### Commission's Analysis

The power drawn from APDHPD has shown to be purchased @Rs. 2.46/Unit by the petitioner which is revised by the Commission as Rs 2.69/unit amounting to a total of Rs. 17.45 Crores. APDOP has taken energy rates for FY 2017-18 same as the actual energy rates (Rs/unit) for FY 2015-16 as shown in Table above. But some change in price in power purchase might be there due to change in Business Environment. Also the amount of Energy drawl (MU) for FY 2017-18 is also kept same as the actual Figs of FY 2015-16 without undergoing any Data Revision for FY 2017-18. So the Commission directs APDOP to furnish their Energy purchase Bills before Commission for verifying the Total power purchase Cost. For the time being, the Commission has taken the Power purchase cost for each plant same as provided by APDOP for FY 2017-18.

**Merit Order Dispatch (MOD)**

MOD is a way of ranking available sources of energy for procurement of power, based on ascending order of their price i.e the cheapest power should be procured first followed by less cheaper. Approved Quantum of Energy available (MU) is shown in Column D of Table below. Out of this total Energy available the Commission directs APDOP to purchase power as per MOD principle.

The Commission has calculated the Total Energy to be purchased in Column E of the Table below using MOD principle where the Cheapest power is procured 1st followed by less cheaper upto the point of fulfilment of Demand. When the Total demand is met, the remaining power is surrendered so as to incur a minimum Power purchase cost. As depicted in Table below power from 5 power stations have been surrendered using MOD principle after reaching to the total requirement of 436.09 MU from CGS.

Also the Commission hasn't allowed any procurement of Power from UI (deviation Import) as UI isn't a source of Power procurement, rather it is a mechanism for maintaining the Grid frequency and for settlement against any deviation of the Grid frequency. The Commission also directs APDOP to not include UI in power purchase sources in Tariff petitions in later year.

**Table 31 Power Purchase cost- Commission's Approval**

Sl.No	Source	Per unit Cost (Rs./Kwh)	Petitioners' Projection	Commission's Approved			
				Energy purchase (MU)	Total Cost (Rs Crs)	Energy Available (MU)	Energy Available (MU) as per Merit Order dispatch
		A	B	C=A*B		D	F=A*E
1	Loktok	3.48	25.65	8.93	35.31	0	0.00
2	RHEP	2.76	85.44	23.56	71.95	71.95	19.84

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

3	Kopili-I	0.94	34.97	3.30	50.36	50.36	4.75
4	Kopili-II	3.33	5.65	1.88	6.04	6.04	2.01
5	Khandong	1.93	7.16	1.38	7.91	7.91	1.52
6	AGBPP	3.28	98.6	32.35	84.46	70.27	23.06
7	AGTPP	3.02	38.14	11.52	59.05	59.05	18.25
	AGTPP-II	3.16	15.66	4.95			
8	Doyang	4.69	10.6	4.97	16.93	0	0.00
9	Farakka	2.96	20.27	6.01	20.27	20.27	6.01
10	Kahalgaon	4.38	11.44	5.01	11.44	0	0.00
11	Talchar	3.39	14.54	4.93	14.54	0	0.00
12	ONGC pallatna	2.86	103.82	29.66	123.35	123.35	35.24
13	Bg TPP	3.28	0	0.00	92.12	92.12	30.22
14	<b>Total Power from CGS</b>		<b>471.94</b>		<b>593.73</b>	<b>501.32</b>	
14	UI/Trading (Deviation Import)	2.12	80	16.96			0
15	Free Power from RHEP	0.00	157.84	0.00	157.84	157.84	0.00
16	Transmission (PGCIL), NERLDC & other charges			33.5			39.75
17	Power purchase from DHPD	@ Rs.2.46/unit considered by APDOP, @ Rs. 2.69/unit considered by the Commission	70.93	17.45	59.41	59.41	15.98
18	Power Purchase through	0.00				0.00	0.00

	RPO (Solar)						
	<b>Total</b>		<b>780.71</b>	<b>203.19</b>	<b>810.98</b>	<b>718.57</b>	<b>196.63</b>

The above amount of **Rs 196.63 Crs towards purchase of 718.57 MU during FY 2017-18 is approved by the Commission** against Rs 203.19 Crs as projected by the Petitioner.

The Commission is in the opinion that APDOP should avoid purchasing of costly surplus power to sale outside state at an average rate. Hence, the Commission has only allowed for contingency buffer of 59.96 MU (based on below NERPC data) for supply of power outside the State in case of any unforeseeable difficulty. In addition, the commission has reduced the UI/Deviation import to zero, the Commission do not consider it a source of Power Procurement.

Sl.No	Particulars	FY 15-16	FY 16-17
1	Quantum of Energy Sold (MU) through Energy Exchange	59.96	58.66

(Source: NERPC)

## 5.7 ARR for FY 2017-18- Petitioner's Submission

APDOP in its petition for FY 2017-18 has projected a total revenue requirement of Rs. 432.2 Crores for 2017-18 as mentioned hereunder in Table below.

**Table 32 ARR, Income & Revenue Gap- Petitioner's Projection**

Sl. No.	Particulars	Projected (Rs Crs)
1	Cost of power Purchase	203.19
2	Fuel cost	4.87
3	Employee cost	197.15
4	R &M expenses	25.5

5	Administration and general expenses	1.15
6	Depreciation	0
7	Interest on Working Capital	0
8	Interest charges	0
9	Return on NFA /Equity	0
10	Provision for Bad Debit	0
11	Renewable energy(solar) purchase obligation	0
12	Annual license fee for 2017-18	0
13	Safety Harness & Skilling/Training	0
<b>14</b>	<b>Total Revenue requirement</b>	<b>431.86</b>
15	Less: non-tariff income	3.57
16	Net revenue requirement	428.29
17	Revenue from existing tariff	144.29
18	sale through Energy exchange	22.22
19	Deviation export	4.12
21	Total Annual Income	174.20
<b>22</b>	<b>Revenue Gap</b>	<b>257.66</b>
23	Regulatory asset	0
24	Energy Sales (MU)	497.15
<b>25</b>	<b>Average Cost of Supply (Rs/ kWh)</b>	<b>8.61</b>

The expenses projected by APDOP and the Commission's analysis are discussed hereunder.

## 5.8 Fuel Cost

APDOP has claimed Rs. 4.87 crores towards Fuel Cost for an estimated 0.25 MU generation during the FY 2017-18 by the DG sets.

### Commission's Analysis

The Commission approves fuel cost at Rs. 0.875 crores only for FY 2017-18 for a projected generation of 0.25 MU @ Rs. 35 per unit against Rs. 194.80 per unit for 0.25 MU as projected by APDOP which is not only exorbitant but unbelievable.

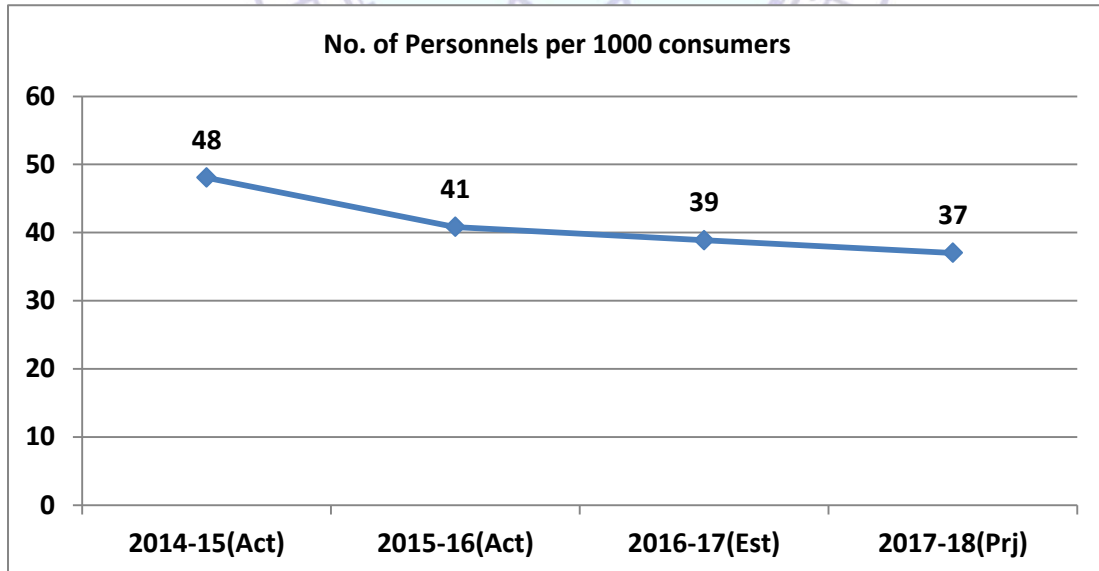
## 5.9 Employee Cost

The Petitioner has submitted Employees' Costs towards Salaries and Allowances, as shown in the following table.

**Table 33 Employees Cost - Petitioner's Projection (Rs Crs)**

Sl No	Particulars	Previous Year 2015-16 (Actual)	Current Year 2016-17 (Estimated)	Ensuing Year 2017-18 (Projected)
1	Salaries & allowances of Employees	183.2	190.59	197.5

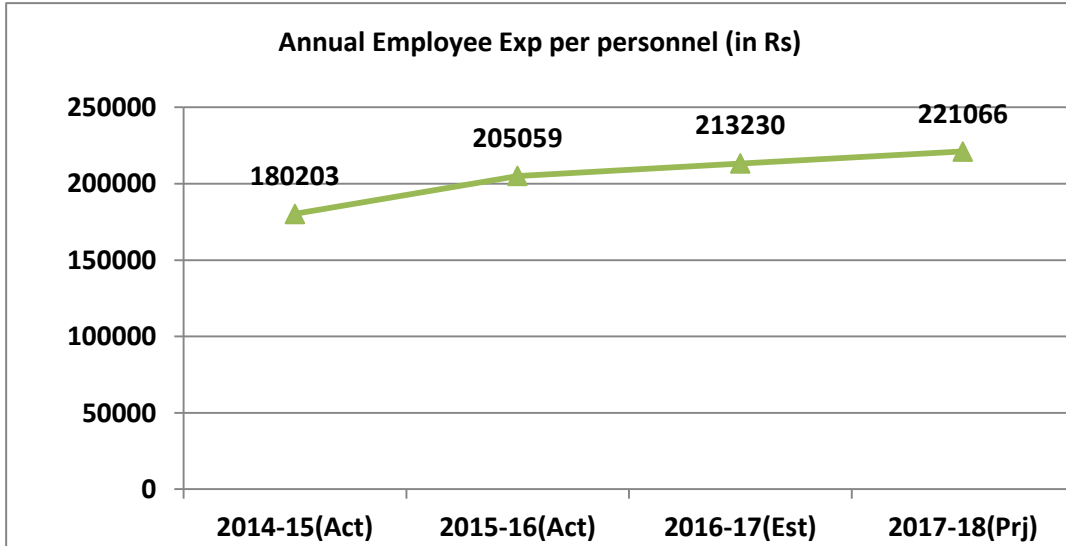
### Commission's Analysis



The employee's productivity parameters over some last few years are shown below:

It observed that No. of Personnel's per 1000 consumers is showing a downward trend from FY 2014-15 to FY 2017-18.

**Figure 5 Annual Employee Expenses per personnel**



It is observed that Annual Employee expenses per personnel (in Rs) is showing an upward trend as shown in Fig 5 above.

So it can be concluded that Rs. **197.50 Crs. towards projection of Employees' expenses** for FY 2017-18 is reasonable and approved by the Commission.

## 5.10 Repair & Maintenance Expenses

**Table 34 Repair Maintenance Cost- Petitioner's Submission (Rs Crs)**

Sl. no	Particulars	Previous Year 2015-16 (Actual)	Current Year 2016-17 (Estimated)	Ensuing Year 2017-18 (Projected)
1	Maintenance of Assets	22.1	23.1	25.5

### Commission's Analysis

The Commission finds **Rs. 25.5 crores towards R&M expenses** for the FY 2017-18 as reasonable and approves the same.

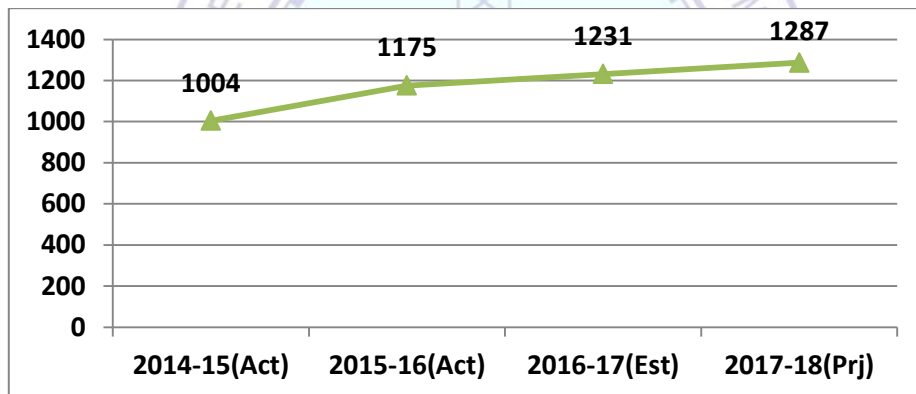
### 5.11 Administrative & General (A&G) Expenses

Table 35 A&G expenses - Petitioner's Submission (Rs Crs)

Sl. no	Particulars	Previous Year 2015-16 (Actual)	Current Year 2016-17 (Estimated)	Ensuing Year 2017-18 (Projected)
1	A&G Expenses	1.05	1.1	1.15

### Commission's Analysis

Figure 6 A&G Expenses per Employee (Rs)



It is observed from the Fig above that A&G expenses (Rs) per employee is also showing an upward trend from some last years.

An amount of **Rs. 1.15 Crores projected by APDOP towards Administrative & General Expenses** for FY 2017-18 is found reasonable and accordingly approved by the Commission.

### 5.12 Operations & Maintenance (O&M) Expenses

The total approved O&M expenses worked out above are summarized as here under:

**Table 36 O&M cost (Rs Crs)**

<b>Sl .no</b>	<b>Particulars</b>	<b>Approved for FY 2017-18</b>
1	Employee Cost	197.5
2	Repairs & Maintenance expenses	25.5
3	Administrative & General ( A&G) Expenses	1.15
	<b>Total</b>	<b>224.15</b>

### 5.13 Depreciation

The Commission observed that DOP didn't claim any depreciation in their petition though same is a part of ARR & tariff structure as per APSERC regulation. The reasons behind the above non-inclusion as cited by the DOP are managing the affairs of the department on Govt. AP fund/ grant only without borrowing from any source and acquisition of new assets out of such grant. This concept does not seem to be matching with the depreciation principle. The Commission feels that the depreciation should be a part of ARR and tariff design. The sale of power is a commercial activity hence pricing should also be on commercial basis which is the basic spirit of tariff policy endorsed by CERC. Otherwise, this will lead to the creation of huge gap between annual income and annual revenue requirement which ultimately have to be subsidised by Govt of Arunachal Pradesh. However, the Commission approves DOP's claim against depreciation as nil for the said year but directs DOP to include in future petition.

### 5.14 Interest on loans & Finance Charges

The Commission does not agree to DOP's assertion in this regard as "APDOP being a Government Department is not allowed to take loan; hence interest on loan does not arise. Therefore, expenses on interest on loan may be considered as Nil and APDOP shall not claim any for purpose of ARR".

The Commission observes that in case DOP has to undertake any augmentation/project work & no grant or fund is received from the State

Government; fund has to be arranged by the Department by resorting to borrowing from banks/financial institutions for which interest had to be paid. Hence, Commission does not agree and the said component should also be part of ARR and Tariff structure. It is also to note that there is need to form DISCOMs by DOP in future.

However, the Commission approves DOP's claim against interest on loan as nil for the said year but directs DOP to include in future petition.

### **5.15 Interest on Working Capital**

Commission observed that DOP didn't claim any interest on working capital in their petition though same is a part of ARR & tariff structure as per APSERC regulation. Commission feels that the concept of notional interest can be thought of by the DOP. The underlying logic is that if no grant or fund is received from the State Government, fund has to be arranged by the Department by resorting to borrowing from banks/financial institutions for which interest had to be paid. Payment of interest would have been then met out of income by way of tariff by the DOP. Moreover, as per principle of costing, it admits inclusion of notional interest to bring the pricing at realistic level. This would also obviate the logic of replacing assets only with government money.

However, the Commission approves DOP's claim against interest on working capital as nil for the said year but directs DOP to include in future petition.

### **5.16 Return on equity**

Commission does not agree to DOP's assertion in this regard "APDOP being a Government Department, all funding comes from Government as grant. Hence,

there is no loan as well as equity, as a result return on equity may also be considered as Nil”.

As per APSERC Regulation, ROE shall be built up in ARR and Tariff structure. The sale of power is a commercial activity hence pricing should also be on commercial basis which is the basic spirit of tariff policy endorsed by CERC. Same is being claimed by all DISCOMs and Govt. Power Departments. Commission hereby directs DOP to claim ROE as per provisions of the Regulation in future petitions.

However, the Commission approves DOP’s claim against Return on Equity (ROE) as nil for the said year but directs DOP to include in future petition.

### **5.17 Provision for Bad and Doubtful Debts**

APDOP has not made any provision for Bad and Doubtful Debts for the FY 2017-18 which is accepted by the Commission.

### **5.18 Renewable Power Purchase Obligations**

APDHPD has number of hydro stations with a rating of < 25 MW that come under Renewable Energy Compliance. APDOP is drawing 100% power generated by these small/mini/micro hydro stations which is enough to meet the Renewable Energy Compliance for non-Solar RPOs as per the Regulations for Renewable Power Purchase Obligations and its Compliance Regulation 2012, dated 11th April 2012, defined for FY 2012-13 onwards.

APDOP has however not been able to fulfil the Renewable Power purchase Compliance for Solar power.

### **Commission’s Analysis**

So, in view of the above Non- Compliance of Solar RPO by APDOP, the Commission suo- moto allows in ARR, a provision of Rs. 2.76 Crores for purchase of Solar RECs at

the Floor price for Solar RPO Compliance for FY 2017-18. More details about RPO is given in Chapter 6.

### 5.19 Annual License Fee for Deemed Distribution Licensee

As per the provisions of the APSERC Fee Regulations, 2011, and amended thereafter, Annual License Fee is to be paid by every licensee including the Deemed Licensee. APDOP though a deemed distribution licensee has not paid the same for FY 2012-13, 2013-14, 2014-15, 2015-16, 2016-17 and is due for 2017-18 as well. The annual license fee for a distribution licensee including a deemed licensee as per above mentioned Regulations is 0.067 paise per unit of energy handled/ to be handled in a particular year (including T&D losses). The amount of Annual License Fee accumulated on APDOP's end from 2012-13 onwards and required to be paid to APSERC is shown in Table below:

**Table 37 Total Annual license fee since 2012-13**

Particulars	2012-13 (Act)	2013-14 (Act)	2014-15 (Act)	2015-16 (Act)	2016-17 (Est)
Energy Handled(MU)	645.55	630.61	725.78	816.02	794.55
License Fee Rate (Paise)	0.067	0.067	0.067	0.067	0.067
<b>Total Fee (in Rs Cr)</b>	<b>0.04</b>	<b>0.04</b>	<b>0.05</b>	<b>0.05</b>	<b>0.05</b>

As per APSERC (Fees) Regulation, amended in 2017, the annual license fee for a distribution licensee including a deemed licensee is Rs 5 lakhs/ year.

Therefore, The Commission approves suo- moto, a provision of **Rs. 0.05 Crores in the ARR for annual license fee for FY 2017-18.**

### 5.20 Non-Tariff Income

APDOP has estimated Rs. 3.55 crores towards Non-Tariff Income for the FY 2017-18 which the Commission considers reasonable and approves it.

### **5.21 Investment for Training & Safety of Personnels of APDOP**

The Commission also lays stress on improving the Skills and multiskilling of its manpower as well as on safety harness for the manpower of APDOP. Therefore, the Commission makes a provision of **Rs 0.75 Crores** in the ARR with a directive to utilize the amount effectively for Training & Safety of Personnel's.

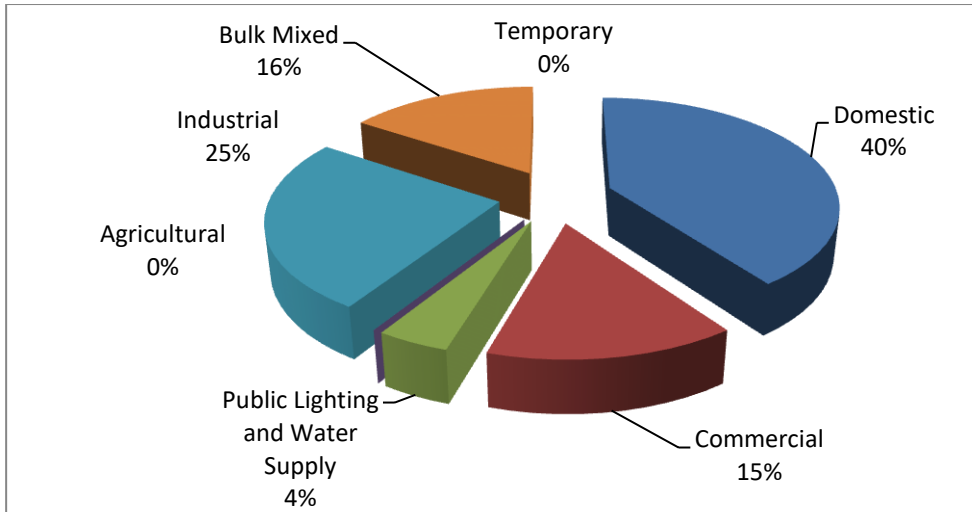
### **5.22 Estimated Revenue at Proposed tariff for consumers**

APDOP has projected revenue from sale of energy with existing tariff at 144.29 Crores for sale of 382.23 MU within the State with an average purchase rate of 3.51/kWH and ₹ 26.34 Crores from sale of energy outside the State for sale of 114.92 MU with an average rate of ₹ 2.4/kWH. The Commission observes that APDOP purchase a costly power at an average rate Rs. 3.51/kWH and sells the same outside the state at a lower price of Rs. 2.4/kWH.

The Commission has worked on projected revenue from sale of power within the state at proposed tariff which is coming out to be Rs. 142.88 crores and a contingency power sale outside state as 59.96 MU.

Category wise revenue projected by APDOP for FY 2017-18 is provided in Fig below.

#### **Figure 7 Revenue from projected Tariff - Petitioner's Submission (%)**



It is observed that the revenue from domestic category contributes about 40% followed by HT Industrial (25%). Hence, impact of change in tariff on the revenue is mostly dependent on these categories. The revenue approved at the projected Tariff is detailed in Table below.

**Table 38 Revenue from projected Tariff- commission's Approval**

Category of consumers	Sales Approved (MU)	Average Rate (Rs/kwhr)	Revenue Approved (Rs Crs)
Domestic	152.78	3.78	57.74
Commercial	43.02	4.90	21.06
Public Lighting and Water Supply	13.1	4.72	6.18
Agricultural	0	0.00	0
Industrial	102.79	3.42	35.14
Bulk Mixed	66.13	3.42	22.59
Temporary	0.26	6.54	0.17
<b>Total</b>	<b>378.08</b>	<b>3.77</b>	<b>142.88</b>

APDOP has not provided the details of category wise / slab wise connected load / contracted demand for different categories of consumers. APDOP is hereby directed to furnish the category wise / slab wise connected load / contracted demand of consumers of all the categories along with the next Tariff petition.

The Commission approves the revenue from the projected tariff at ₹ **142.88 Crores on sale inside state of 378.08 MU** and Rs. 14.83 Crores on sale outside state.

### 5.23 ARR for FY 2017-18 – Commission’s Approval

**Table 39 ARR for FY 2017-18 Commission's Approval**

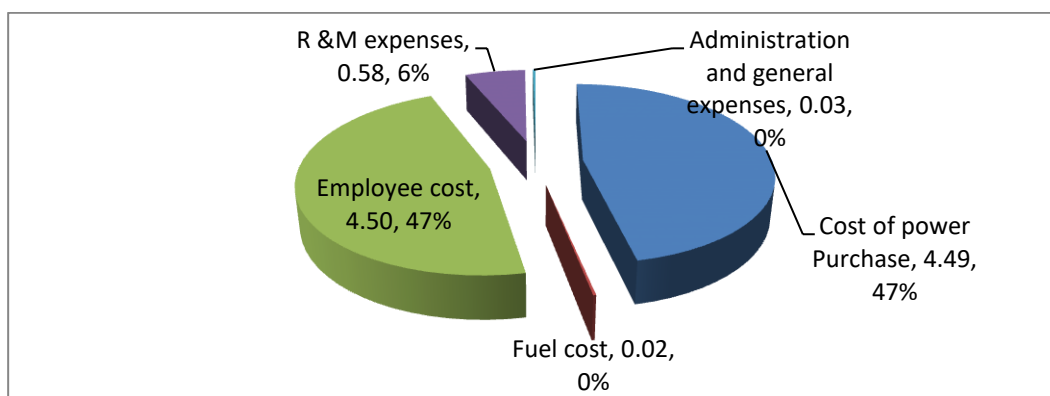
Sl. no.	Particulars	Projected (Rs Crs)	Approved by Commission
1	Cost of power Purchase	203.19	196.63
2	Fuel cost	4.87	0.875
3	Employee cost	197.15	197.15
4	R &M expenses	25.5	25.5
5	Administration and general expenses	1.15	1.15
6	Depreciation	0	0
7	Interest on Working Capital	0	0
8	Interest charges (including interest on working capital)	0	0
9	Return on NFA /Equity	0	0
10	Provision for Bad Debit	0	0
11	Renewable energy(solar) purchase obligation	0	2.76
12	Annual license fee for 2017-18	0	0.05
13	Safety Harness & Skilling/Training	0	0.75
14	Total Revenue requirement	431.86	423.50
15	Less: non-tariff income	3.57	3.57
16	Net revenue requirement	428.29	421.30
17	Revenue from existing tariff	144.29	142.88
18	Revenue from Energy Exchange	22.22	14.83
19	Revenue from Deviation Export	0.00	0.00
20	Total Annual Income	166.51	157.71
21	Total Gap	261.78	263.59
22	Regulatory asset	0	0
23	Energy Sales (MU)	497.15	438.04

24	Average Cost of Supply (Rs/ kWh)	8.61	9.62
----	----------------------------------	------	------

The Revenue gap of ₹ 263.59 Crores has been arrived at on the basis of the projected data for the FY 2017-18. The Revenue Gap is about 62.57 % of the net ARR. The average cost of supply per unit for the FY 2017-18 is Rs. 9.62 & average revenue realised from tariff is ₹ 3.6. **The average revenue gap (Rs/unit) is 6.02.**

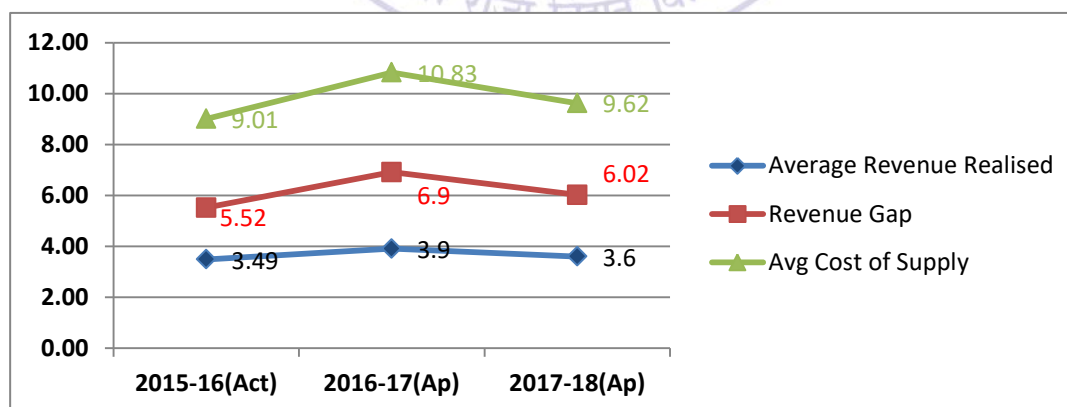
The figure below shows the bifurcation of Average cost of supply of APDOP.

**Figure 8 Bifurcation of Average cost of Supply in Total expenses of APDOP (Rs in crs.)**



The chart below provides the trend for Average Cost of supply, Average revenue & Revenue Gap over the past few years.

**Figure 9 Trend for Average Cost of supply, Average revenue & Gap (Rs/unit)**



It is observed that average cost of supply has increased from ₹ 9.01 per unit in FY 2015-16 to ₹ 9.62 in FY 2017-18. The average revenue realized has also increased from ₹ 3.49 per unit in FY 2015-16 to ₹ 3.6 in FY 2017-18 which shows increase in

revenue realization and is considered a good sign for APDOP. However the increase in average revenue gap from ₹ 5.52 per unit in FY 2015-16 to ₹ 6.02 in FY 2017-18 is not a good sign for the Financial health of APDOP and also calls for improvement in the working of distribution Licensee.

The Commission is of the view that the APDOP shall make efforts to bridge the revenue gap by improving its operational efficiency by utilizing its huge manpower as Employee Cost comprises of around 47% of total cost of Supply.

The Commission also observes that a sizeable quantum of power is purchased by the APDOP for meeting the energy demand of the State. APDOP needs to make efforts to manage Power procurement from different sources of generation, so as to incur a minimum cost of power purchase is around 47% of total Cost of supply is by Cost of power purchase.

Also APDOP shall strive for reduction of AT&C losses which, in turn, would reduce the revenue gap.

#### **5.24 Recovery of Revenue Gap for the FY 2017-18**

As seen from para above, there is a huge revenue gap of ₹ 263.59 Crores during the FY 2017-18 which is 62.57 % of the net ARR.

The Petitioner hasn't proposed an increase in tariff for any Category of the Consumers to meet this revenue Gap . Tariff is a sensitive subject having substantial impact on social, economic and financial well-being of the public at large as well as the viability and growth of power sector. Recovery of entire Gap through tariff hike is not practicable as this would make power unaffordable to the general consumers.

APDOP being a Government Department funded by budgetary support from State Government, proposes to absorb this unrecovered Revenue Gap.

## 5.25 Regulatory Assets

### Commissions View

As per the National Tariff Policy, 2016, the losses incurred in the previous years that are of the nature of deferred expenditure, and can be recovered from consumers in future, shall be allowed as Regulatory Asset by the Regulatory Commission.

APDOP has filed tariff petition for the fifth time after APSERC came into existence, and the gap projected by the petitioner cannot be recovered in the next two to three years through retail tariff from the consumers. Even if Regulatory Asset is created, it cannot be liquidated in the next three or four years. Therefore, the Commission does not consider any need of Regulatory Assets for the remaining unadjusted Revenue gap. APDOP shall improve its performance by reducing AT&C losses and exercising controls over the O&M Expenditure to make improvement in the revenue gap. As such, all efforts shall be made by APDOP to ensure the gradual reduction in net gap between the ARR and revenue and the budgetary support from the State Govt.

**Thus, the Commission does not approve any Regulatory Asset to get reflected in the ARR for FY 2017-18.**

\*\*\*\*\*

---

## 6. Renewable Power Purchase Obligation

As per the APSERC (Renewable Power Purchase Obligation and Its Compliance, 2nd Amendment) Regulations, 2016, the applicable RPO levels for the FY 2017-18 are 9.50% for Non-Solar and 4.75% for Solar power on Ministry of Power vide order no. 23/3/2016-R&R dated 22<sup>nd</sup> July 2016 as shown below in Table 40.

**Table 40** Calculation of RPO compliance for FY 2017-18

Particulars	Units consumed excluding hydro but inc T&D losses (MUs)	Solar RPO (%)	RPO (MUs)	Price of RPO (₹/unit)	Amount (Rs Crs)
Solar	365.06	4.75%	17.34	1	1.73
Non- Solar	718.57	9.50%	68.26	Fulfilled through SHP purchase	

As intimated by the APDOP vide their letter no. CE(P)/WEZ/SLDC/Tariff/Part-I/2013-14/148 dated 02/3/2013, they will either procure the quantity of solar power on account of FY 2012-13 in FY 2013-14 or will purchase equivalent solar REC. However, the compliance of the same has not been submitted to the Commission as yet in spite of reminders from the Commission. The APDOP is also required to Comply with the Solar RPO for the FY 2013-14, 2014-15, 2015-16 & 2016-17.

APDOP has not projected any power purchase as per solar RPO regulation, 2016. This is a non-compliance to the APSERC regulation & to the guide line from Govt of India (MoP). DOP can further refer the below table wherein power purchase obligation against solar RPO (including T&D losses) worked out around 17.34 MU and the corresponding power purchase cost comes around 6.08 Cr purchased through other source at an average price of Rs. 3.51/unit against the power purchase through RPO (Solar) cost comes around 1.73 Cr. This is a loss (approx. 4.53 Cr) to the Licensee in case it does not oblige solar RPO.

Further, APDOP is requested to review and confirm for compliance to solar RPO. The APDOP is directed to submit the report of status on compliance of the Renewable Power Purchase Obligation of Solar Power for the FY 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17 and the road map for compliance during 2017-18 to the Commission immediately in view of the revised RPO trajectory issued by the Commission in compliance with the new Tariff Policy- 2016 of the Govt. of India as shown below in Table 41.

**Table 41** Minimum Quantum of Purchase (%) from Renewable Sources

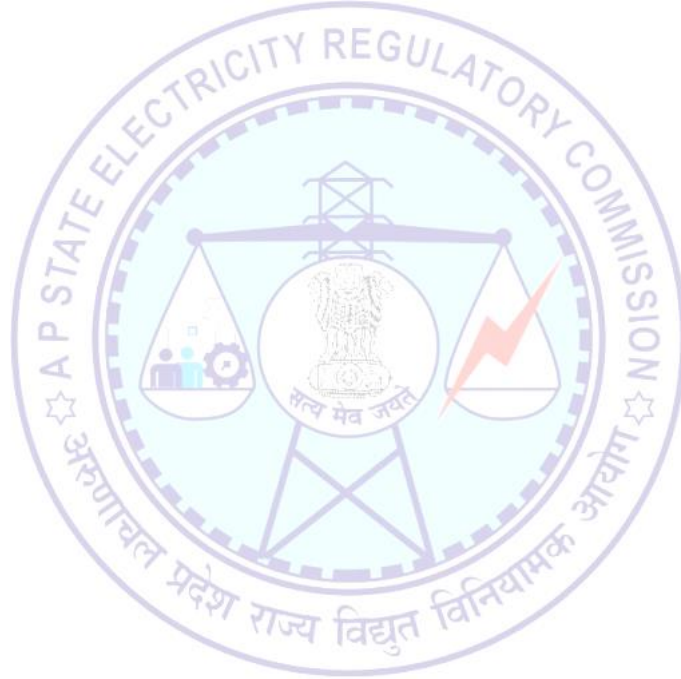
Year	Total (%)	Non-Solar (%)	Solar (%)
2016-17	11.50	8.75	2.75
2017-18	14.25	9.5	4.75

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

2018-19	17.00	10.25	6.75
---------	-------	-------	------

The APDOP shall make necessary provisions in its budget for the FY 2017-18 for compliance of the Solar RPO and pursue the same with the Govt. at appropriate level.

\*\*\*\*\*



## 7. Directives

---

Commission observes from the Petition filed by APDOP for FY 2017-18, that there are some important issues, which need immediate attention of APDOP to improve its efficiency in power delivery and reduction of costs. The Commission had also issued similar directives in its tariff order for FY 2014-15, 2015-16 & 2016-17. The Commission is deeply concerned that the APDOP is not taking any initiative for complying with these directives. The APDOP has not even submitted the action plan even once during the last three years. It is in this context, that the Commission considered it necessary that the APDOP set up a Regulatory Compliance Cell manned by a team who is sensitive to understanding the Electricity Act and Electricity Regulations. Such a Regulatory Compliance cell will co-ordinate and pursue with all concerned to comply with the directives issued by the Commission from time to time particularly in its tariff orders. After all the directives issued by the Commission are in the interest of the APDOP. APDOP shall take prompt action on the following directives and submit implementation report and the progress achieved by it in implementing the directives to the Commission from time to time.

DHPD is hereby again directed to furnish up to date compliance of all directives issued till date along with latest observations made at Chapter-2 above.

In addition, the Commission also added the following additional directives to the APDOP for further compliance.

### 7.1 Step towards digitization

APDOP should adopt web based system for online payment of electricity bills, which is a welcome step towards digitization. APDOP is also advised to introduce e-payment mode through various Apps, SMS phone alerts on billing and payment of

electricity bills etc which would definitely benefit the department and the consumers and would save human efforts and resources.

## **7.2 Prepaid metering**

The APDOP is directed to spearhead the installation of prepaid metering in the State especially for consumers whose billing recovery is poor. Prepaid metering will ensure better revenue collection.

## **7.3 Maintenance of accounts and records and conducting audit:**

The Commission does not agree to DOP's assertion at Petition Submission Point No. 5, "...being government department, is unable to function like incorporated company in the matter of profit making business plan, audits, accounts etc. Hence, data/information as required by MYT regulation is not available, as a result, petition for single year i.e. for FY 2017-18 is hereby filed for necessary action of Hon'ble Commission as deemed fit."

Commission preserves a different view about maintenance of accounts and records and conducting audit thereof. Any fund whether public or private irrespective of the source should be utilized by maintaining proper accounts and records more so in respect of public money. It is also a fact that utilization of fund by every government office/department is subject to audit and scrutiny by the office of the Accountant General. APDoP is no exception. Some sort of books and records etc. have to be maintained by APDoP though may not be purely on commercial principle. It is therefore suggested that appropriate books and records of receipts and utilization of public fund along with record of fixed assets have to be maintained by APDoP for submission to the Commission at the earliest. If necessary outsourcing of the services of private accounting firm may also be obtained for one time in case of non-availability of competent personnel with the department.

#### **7.4 Interest on Working Capital:**

Commission observed that DOP didn't claim any interest on working capital in their petition though same is a part of ARR & tariff structure as per APSERC regulation. Commission feels that the concept of notional interest can be thought of by the DOP. The underlying logic is that if no grant or fund is received from the State Government, fund has to be arranged by the Department by resorting to borrowing from banks/financial institutions for which interest had to be paid. Payment of interest would have been then met out of income by way of tariff by the DOP. Moreover, as per principle of costing, it admits inclusion of notional interest to bring the pricing at realistic level. This would also obviate the logic of replacing assets only with government money.

However, the Commission approves DOP's claim against interest on working capital as nil for the said year but directs DOP to include in future petition.

#### **7.5 Interest on Loan:**

The Commission does not agree to DOP's assertion in this regard as "...APDoP being a Government Department is not allowed to take loan; hence interest on loan does not arise. Therefore, expenses on interest on loan may be considered as Nil and APDoP shall not claim any for purpose of ARR".

The Commission observes that in case APDOP has to undertake any augmentation/project work & no grant or fund is received from the State Government; fund has to be arranged by the Department by resorting to borrowing from banks/financial institutions for which interest had to be paid. Hence, Commission does not agree and the said component should also be part of ARR and Tariff structure. It is also to note that there is need to form Discoms by DOP in future.

However, the Commission approves DOP's claim against interest on loan as nil for the said year but directs DOP to include in future petition.

## **7.6 Return on Equity (ROE):**

Commission does not agree to DOP's assertion in this regard "... APDoP being a Government Department, all funding comes from Government as grant. Hence, there is no loan as well as equity, as a result return on equity may also be considered as Nil".

As per APSERC Regulation, ROE shall be built up in ARR and Tariff structure. The sale of power is a commercial activity hence pricing should also be on commercial basis which is the basic spirit of tariff policy endorsed by CERC. Same is being claimed by all Discoms and Govt. Power Departments. Commission hereby directs DOP to claim ROE as per provisions of the Regulation in future petitions.

However, the Commission approves DOP's claim against Return on Equity (ROE) as nil for the said year but directs DOP to include in future petition.

## **7.7 PoC loss and other charges**

APDoP is directed to provide PoC losses as well as other charges like PoC charges (PGCIL charges), NERLDC charges and Reactive charges etc. along with Petition. Refer the Annexure-II & III.

## **7.8 Energy Audit for Energy Accounting**

The Commission observes a huge loss of Energy what APDoP purchases which is theoretically not justifiable at all. So, it is an ardent need for APDoP to conduct a full fledged energy auditing of the complete distribution network. If necessary outsourcing of Energy accounting may be carried out for one-time basis by Accredited Energy Auditing Agency.

## 7.9 Discrepancy in Energy drawal & Projected Data

The Commission observed that APDOP for 2016-17 has projected an annual requirement of 471 MU however the actual drawal has been found out to be 593.72 MU (Source: NERPC). The difference between the two figures is not justifiable hence APDOP is suggested to apply the latest available data for an accurate load forecasting and future projection. APDOP may use better statistical tool for proper load forecasting.

## 7.10 T&D Losses & Conducting Energy Audit

APDOP should conduct energy audit immediately and assess losses accurately in the distribution system. For carrying out energy audit, meters are required to be provided for all the feeders at 220 KV, 132 KV, 33KV & 11 kV levels and also at all the distribution transformers on LT side. Energy audit shall help to identify high loss areas so as to take remedial measures. The APDOP is also directed to compile the following information as on 31-03-2017 and submit to the Commission by 30-10-2017.

Sl No	Category of Feeder	No's of Feeder metered	No's of Feeder unmetered
1	220 kV		
2	132 kV		
3	33 kV		
4	11 kV		
5	Distribution Transformers		

## 7.11 Sale of Power outside the State

The Commission is in the opinion that APDOP should avoid purchase of surplus power to sale outside the state at an average rate. This attracts loss to APDOP hence the Commission does not encourage such sale of power outside the state and directs APDOP not to involve in such a loss proposition.

For any such future transaction if required, then APDOP has to furnish necessity of such transaction along with relevant details.

However the Commission approves the sale of Power outside the state for 2017-18 only.

### 7.12 Introduction of Slab based tariff:

The APDOP did not conduct the techno-commercial study for assessing the feasibility of introducing Unit Consumed Slab Based Tariff w.e.f FY 2014-15 as directed by the Commission in its tariff order 2013-14 as it did not make any proposal to this effect in their Tariff Petition for the FY 2014-15, 2015-16,2016-17 & 2017-18. During the last SAC Meeting held on 18-3-2015, it was decided that w.e.f 2016-17 slab based tariff shall be introduced and the APDOP shall propose the same in its tariff petition of 2016-17 which the APDOP has not done. However, the APDOP is again directed to conduct this exercise at the earliest and appraise the Commission for introducing it w.e.f. FY 2018-19. Any difficulty felt by the APDOP in introducing this min introducing this may be shared by the APDOP with the Commission.

This will have an added advantage to encourage the habit of energy conservation amongst the consumers.

In this regard, APDOP is directed to incorporate slab based Tariff and minimum charges in their next petition. Accordingly, APDOP has to analyse and define judiciously the tariff slabs and minimum charges for various consumer categories and invariably submit the details along with the next Tariff Petition FY 18-19. APDOP may consider the below table as reference.

Consumer Category	Existing Rate(Rs/kWh)	Consumption/Month	Proposed Tariff(Rs/kWh)	Minimum Charges(Rs/kW/month)
<b>Non Commercial Consumers ( Domestic LT &amp; HT)</b>				
1- Phase,230 V	4	0-50 Units		
		51-100 Units		
		101-200 Units		
		201-400 Units		
		401 Units & Above		
3-Phase,400V	4	0-100 Units		
		101-200 Units		
		201-300 Units		
		301-500 Units		

		500 Units & Above		
KJP & BPL Connection	2.65	0-50 Units		
		51-100 Units		
		101-200 Units		
		201 Units & above		
3-Phase,11kV	3.4			
3-Phase,33kV	3.25			
<b>Public Lighting &amp; Water Supply Consumers(LT &amp; HT)</b>				
1-Phase,230 Volt	5.10	0-50 Units		
		51-100 Units		
		101-200 Units		
		201-400 Units		
		401 Units & Above		
3-Phase,400 Volt	5.10	0-100 Units		
		101-200 Units		
		201-300 Units		
		301-500 Units		
		500 Units & Above		
3-Phase,11kV	4.20			
3-Phase,33kV	4.00			
<b>Agricultural Consumers(HT &amp; LT)</b>				
1-Phase,230 Volt	3.1	0-50 Units		
		51-100 Units		
		101-200 Units		
		201-400 Units		
		401 Units & Above		
3-Phase,400 Volt	3.1	0-100 Units		
		101-200 Units		
		201-300 Units		
		301-500 Units		
		500 Units & Above		
3-Phase,11kV	2.75			

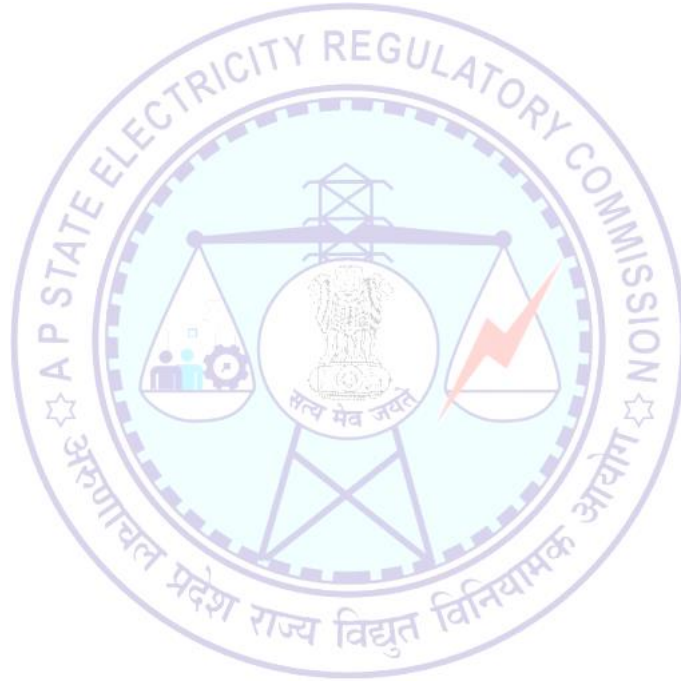
3-Phase,33kV	2.65			
<b>Industrial Consumers(HT &amp; LT)</b>				
1-Phase,230 Volt	4.3	0-50 Units		
		51-100 Units		
		101-200 Units		
		201-400 Units		
		401 Units & Above		
3-Phase,400 Volt	4.3	0-100 Units		
		101-200 Units		
		201-300 Units		
		301-500 Units		
		500 Units & Above		
3-Phase,11kV	3.85			
3-Phase,33kV	3.5			
3-Phase,132kV	3.35			
<b>Bulk Mixed Consumers</b>				
3-phase,11kV	3.75			
3-Phase,33kV	3.4			
3-Phase,132kV	3.25			
<b>Temporary Consumer(LT &amp; HT)</b>				
<b>Temporary Consumer(LT &amp; HT)</b>	6.35			

### **7.13 Updation of cost data accounts**

Cost Data Book shall be Updated by the APDOP in the context of Arunachal Pradesh, and is subject to ratification by the Commission.

### **7.14 Determination of Connected Load of Consumers**

APDOP shall determine connected Load (for Domestic) as per Annexure 11.8 of APSERC, Electricity Supply code,2013 and furnish the data in future petitions.



## 8. Tariff Philosophy and Design

### 8.1 Tariff Principles

8.1.1 The Commission in determining the ARR of APDOP for the year 2017-18 and the retail tariff has been guided by the provisions of the Electricity Act, 2003, the National Tariff Policy, 2016, Regulations on Terms and Conditions of Tariff issued by the Central Electricity Regulatory Commission (CERC) and Regulations on Terms and Conditions for determination of Tariff notified by the APSERC. Section 61 of the Act lays down the broad principles, which shall guide determination of retail tariff. As per these principles the tariff should progressively reflect the cost of supply and also reduce cross subsidies within the period to be specified by the Commission. The Act also lays special emphasis on safeguarding consumer interests and also requires that the cost should be recovered in a reasonable manner. The Act mandates that tariff determination should be guided by the factors, which encourage competition, efficiency, economical use of resources, good performance and optimum investment.

NTP notified by GoI provides comprehensive guidelines for determination of tariff and also working out of the revenue requirement of power utilities. The Commission has endeavoured to follow these guidelines as far as possible.

8.1.2 The Electricity Act, 2003 requires consideration of MYT principles and Tariff Policy mandates that the MYT framework be adopted for determination of tariff from 1st April 2006. Though APSERC's Multi Year Tariff Regulations, 2013 has been made effective w.e.f 23rd October'2013, APDOP has filed the petition in accordance to Tariff Regulations, 2011 citing the reason of lack of requisite and reliable data required for MYT Regime. The present MIS and regulatory

reporting system of the APDOP is not adequate for any such exercise at this stage. There has been no initiative taken up to assess voltage wise losses in the absence of metering of feeders, distribution transformers and consumers. Technical and commercial losses are yet to be segregated at quantified voltage wise. Moreover, APDOP has to start preparing/ compiling its Annual Accounts, profit- loss accounts, balance sheet at the level of the Head of the Deptt. in the manner directed by the Commission in its directives in Chapter-9. Under these conditions it would not be practicable to implement the MYT framework this year. In view of the above and considering the plea of APDOP, the Commission has granted exemption for this year for filing the petition for FY 2017-18 in accordance to the Tariff Regulations of 2011 but strictly directs APDOP to file the Tariff Petition from next year in accordance with the MYT, Regulations.

8.1.3 The Tariff Policy mandates that Tariff should be within plus/ minus 20% of the average cost of supply by 2010-11 and requires Commissions to lay down a road map for reduction of cross subsidy. But it is not possible for the Commission to lay down the road map for reduction of cross subsidy, mainly because of lack of data regarding cost of supply at various voltage levels. APDOP has not furnished the voltage-wise network cost. The Commission has gone on the basis of average cost of supply in the absence of relevant data for working out consumer category wise cost of supply.

## **8.2 Tariff categories**

### **1. Domestic**

- a) Kutir Jyoti
- b) Domestic LT
- c) Domestic HT

### **2. Commercial**

- a) Commercial LT

b) Commercial HT

**3. Public Lighting & Water Works**

a) Public Lighting & Water works LT

b) Public Lighting & Water Works HT

**4. Agriculture**

a) Agricultural LT

b) Agricultural HT

**5. Industrial**

a) Industrial LT

b) Industrial HT

**6. Mixed Bulk Consumers HT**

**7. Temporary Consumers LT**

**8.3 Approved Tariff by the Commission for FY 2017-18**

Tariff proposed by the APDOP and approved by the Commission is shown in Table below:

The Tariff schedule indicating category wise Tariff, miscellaneous charges and general terms and conditions of supply as approved by the Commission are attached in Schedule I, II and III.

**Table 42 Approved Tariff Structure by the Commission for FY 2017-18**

Sl no	Category of Consumers	Existing Tariff 2016-17 (Rs/KWh)	Proposed Tariff 2017-18 (Rs/unit)	Approved Tariff 2017-18 (Rs/unit)
1	Domestic	1 - Phase, 230 Volt	4.00	4.00
2		3 - Phase, 400 Volt	4.00	4.00
3		1 - Phase, 230 Volt KJP & BPL connections	2.65	2.65
4		3 - Phase, 11 KV	3.40	3.40
5		3 - Phase, 33 KV	3.25	3.25
6	Commercial	1 - Phase, 230 Volt	5.00	5.00
7		3 - Phase, 400 Volt	5.00	5.00
8		3 - Phase, 11 KV	4.20	4.20
9		3 - Phase, 33 KV	4.00	4.00
10	Public Lighting & Water Supply	1 - Phase, 230 Volt	5.10	5.10
11		3 - Phase, 400 Volt	5.10	5.10
12		3 - Phase, 11 KV	4.20	4.20
13		3 - Phase, 33 KV	4.00	4.00
14	Agricultural	1 - Phase, 230 Volt	3.10	3.10
15		3 - Phase, 400 Volt	3.10	3.10
16		3 - Phase, 11 KV	2.75	2.75
17		3 - Phase, 33	2.65	2.65

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

		KV			
18	Industrial	1 - Phase, 230 Volt	4.30	4.30	4.30
19		3 - Phase, 400 Volt	4.30	4.30	4.30
20		3 - Phase, 11 KV	3.85	3.85	3.85
21		3 - Phase, 33 KV	3.50	3.50	3.50
22		3- Phase, 132 KV	3.35	3.35	3.35
23	Bulk Mixed	3 - Phase, 11 KV	3.75	3.75	3.75
24		3 - Phase, 33 KV	3.40	3.40	3.40
25		3- Phase, 132 KV	3.25	3.25	3.25
26	Temporary	1 - Phase, 230 Volt	6.50	6.50	6.50
27		3 - Phase, 400 Volt	6.50	6.50	6.50

This order shall come into force with effect from 01-04-2017 and shall remain effective till 31<sup>st</sup> march 2018. The order shall be given wide publicity by the petitioner for information to the general public within seven days of the issue of the order positively.

**Date: 26<sup>th</sup> September 2017**

**Place: Itanagar**

**(R.P. Singh)**

**Chairman**

## **Schedule-I**

### **Category-1 Non- Commercial Consumers (Domestic)**

**Definition:** The consumers under this category are defined as consumers using the electrical energy for domestic and nonprofit purpose such as lights, fans, heating devices, Televisions, VCR/VCP, Radio, Refrigerator, Air - conditioners, lift motors and all others appliances only for bonafide residential & non-residential but non-commercial use. This will also cover consumption of energy supplied for Government owned Residential and Non-Residential buildings Educational and Research Institutions. Charitable Institutions, Government owned Hospitals and Dispensaries, farm houses, Religious premises like Churches, Temples, Mosques, community halls and any other Institutions, Religious printing press (not engaged in commercial activity or private again, excluding those which are specially covered under other categories of this Tariff) or classifications as may be amended by the Commission from time to time.

### **Category -2 Commercial Consumers (Non Industrial)**

**Definition:** The consumers under this category are defined as non -industrial commercial consumers such as installations of commercial places, Government undertaking, public sector undertaking, Commercial houses, markets, and optical houses. Restaurant, Bars, tailoring shops, Refreshment and tea stalls, show-cases of advertisement, Hoarding theatres, cinemas, Hotels, Lodging and Boarding, Private nursing Homes and Hospitals, religious Hospitals, private run schools and Hostels and Boarding facilities and other educational institute demanding fees, photographic studios, Battery charging units, repair workshops and Newspapers press (newspaper printing press only) Petrol Pumps, etc or classifications as may be amended by the Commission from time to time.

### **Category - 3 Public Lighting And Water Supply Consumers**

**Definition:** This category of the consumers shall be applicable to public Street lighting Systems in Municipality Towns, sub-Towns / Villages, etc. including Signal system, Ropeways on Roads and park lighting in areas of Municipality Town. Sub - town / villages. Pumps & equipment for public water supply systems and Treatment plants and associated applications shall also be covered in this category or classifications as may be amended by the Commission from time to time.

### **Category - 4 Agricultural Consumers**

**Definition:** The consumers in agricultural fields /firms for the purpose of (a) Pumps field lighting & other applications for farmers in their irrigation and cultivation & not connected to any attached commercial or industrial installations in the agricultural field of farm or classifications as may be amended by the Commission from time to time.

### **Category - 5 Industrial Consumers**

**Definition:** The Industrial consumers shall cover all Government registered Industrial power consumers which are not covered by category No.2 (supply for Commercial Purposes), such as steel fabrication, motor body builders, power handloom industry, poultry farming, pisciculture, prawn culture, floriculture in green house, mushroom production, cold storage unit of pisciculture, agriculture, horticulture and any other type of industry where raw material is covered into finished products with the help of electrical motive power, color photo labs. Government owned printing press and other printing press (Primarily engaged in printing for commercial gain), and government owned, public sector industries, etc. or classifications as may be amended by the Commission from time to time.

**Note:** All Non-Industrial & Commercial consumers within the same complex under a single service connections shall also be treated as industrial consumers if the total distribution is integrated in the industrial complex and load on non-industrial side is below 10% of the total sanctioned load.

### **Category - 6 Bulk Mixed Consumers**

**Definition:** The Bulk mixed consumers are those consumers drawing bulk powers at HT voltage having a mixed load of all categories of consumers such as a village, a town, a city, a colony, or a State or Region etc. drawing power at one metering point. It will also include a University Campus, All India radio complex College complex. Defense Installations, Railway complex, Government Complexes, etc. who arranges their own distribution of power with approval of competent authority. This will not include Industrial complex which may consist mixed load category 1, 2, 3 & 5 or classifications as may be amended by the Commission from time to time.

### **Category - 7 Temporary Consumers**

**Definition:** A Temporary consumers are those who would consume electricity for a limited period of time, which could be determined at its initial application itself such as:

- a) For marriage, Puja, religious / public function / gathering, festivals and ceremonies which are of temporary nature up to a period not exceeding 90 days in case of metered supply.

**Supply systems:**

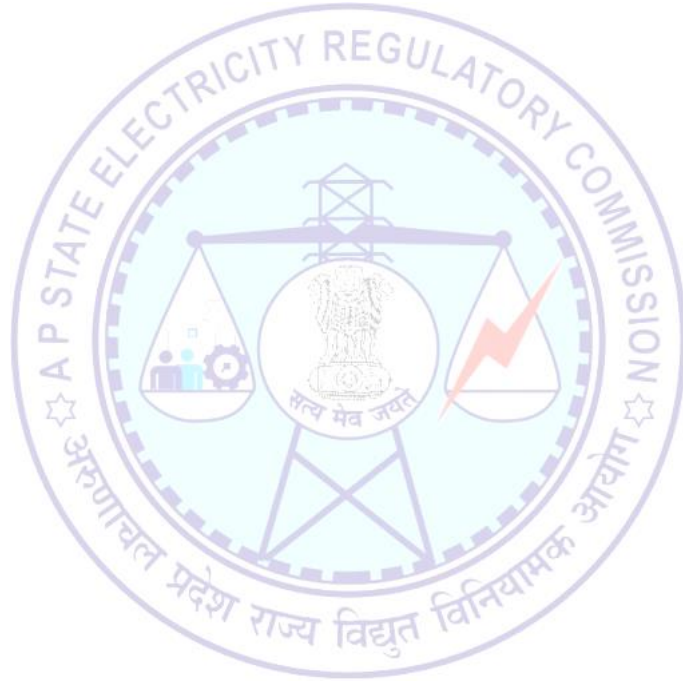
- a) Single phase, 50Hz, 230 Volts.
- b) Three Phases, 50 Hz, 400 Volts.

**Note:** Temporary connection shall be given at HT supply only on specific agreements of supply.

**Notes:**

- a) Temporary services connection shall require prior approval from the next higher load sanctioning authority.
- b) The energy cost as per tariff above along with connection and disconnection charge will be realized in advance from the applicant before making the supply available to him.

c) Applicant at his own expenses shall arrange the complete wiring for which temporary supply of power is required. It will also be the responsibility of the applicant to ensure that the wiring conforms to the technical & safety requirement as specified by authorities.



## Schedule- II – Miscellaneous Charges

1. **Meter Rent:** The Energy meter and its allied instruments required for registering energy consumed as deemed to be under the ownership of the supplier, shall attract following monthly rental charges against regular maintenance, repair and labour cost of its replacement.

- I. **Prepaid Consumers:** - As an incentive monthly rent for energy meter for prepaid consumer shall be NIL.
- II. **Post-paid Consumers :-** For post-paid consumers monthly rent for energy meter if provided by APDOP shall be as per following table. In case the energy meter is purchased and installed at the cost of consumers then there shall be no meter rent.

Sl.	Voltage Level	Energy Meter Specification	Rent. Rs/ Month
1.	Meter Rent		
A	LT Metering- AC		
	i.	Single Phase 220V	16.00
	ii.	Three Phase 400 V between phases ( without CT)	26.00
	iii.	Three Phase 400 V between phases ( with CT)	68.00
B	HT Metering- AC Complete Energy meter with CT/PT & other monitoring and indication requirement for AC Three phase HT supply		
	i.	11 KV system	670.00
	ii.	33 KV system	3350.00
	iii.	132 KV system	13401.00
C	Shifting Charges for Meters		
	i.	if resulted from reconstruction / modification of building and on the request of the consumer	Per shifting Rs. 168.00
	ii.	If, the shifting is in the interest of the department.	Free of cost

2.	Replacement of the energy meter and its associated fittings and equipment shall be as per provisions of A.P. Electricity Supply Code-	
	i.	The supplier shall replace the meters & the allied fitting & the equipment free of cost in case of scheduled replacement under normal wear & tear of ageing or technology change.
	ii.	The Consumer shall bear all the necessary cost in case of temporary shifting of the meters & its associated fittings and the equipment.

	iii.	The Consumers shall have to bear the cost if replacement due to negligence of the consumer or losses attributable to the negligence of the consumer.	
3.		Charges for testing of Meters at the request of consumers	For each time
	i.	For AC Single Phase LT Energy Meter	134.00
	ii.	For energy meter without CT for AC three phase LT Supply	202.00
	iii.	For energy meter with CT for AC three phase LT supply	336.00
	iv.	For energy meter AC three phase HT supply	670.00

#### 4. Testing of Consumer's Installation:

##### Testing & Inspection charges of consumer's installation: -

Should any consumer require the services of the supplier for testing, Inspection & certification of the supplier's electrical installation on technical grounds, following charges shall be paid in advance along with the application.

Sl.	Testing at Consumer Installation	Charges per Installation in Rs.
i.	1 phase service Wiring installations	202.00
ii.	3 phase service Wiring installations	320.00
iii.	HT Line installation of 11 KV system	670.00
iv.	HT Line installation of 33 KV & above system	1336.00

#### 5. Disconnection and reconnection:

Charges towards each disconnection and reconnection as the case may be whether for punitive measures or on the request of the consumer, shall be as follows :

Sl.	Category of Work	Charges per Consumer (Rs)
i.	All categories of connections	134.00
ii.	Disconnection only	134.00

**6. Charges for new service connection or Replacement of connection wire**, cut out, fuse etc. or any other works / jobs etc. shall be guided as per the provisions of the A.P. Electricity Supply Code-2013.

Service	Fee (Rs)
Special meter reading on Consumer's Request	50
Calibration of Check meter upon request	100

**7. Re-rating of Installation & revised load sanction:**

Fees for rerating of the consumer's installation at the request of the consumer & for revised load sanction-

- I. Rs. 134/- per case for LT supply voltage systems.
- II. Rs. 670/- per case for HT supply voltage systems.

**8. Security amount for providing Electric Plant & Meter to the premises of Consumers : (interest bearing/ refundable)**

All consumers except under special provisions made under Govt. policy, such as under KJP or BPL household electrification, interest bearing meter security shall have to be paid against the energy meter provided. The interest rate shall be as defined in Para 4.119 of the Arunachal Pradesh Electricity Supply Code-2013.

Sl.	Meter Specification	Security Amount (Rs)
i.	For AC single phase LT supply of connected load	1336.00
ii.	For AC three phase LT supply of connected (without CT) load	2681.00
iii.	For AC three phase LT supply CT operated	4691.00
iv.	For AC three phase HT supply, CT & PT operated	33448.00

**Note:** In case of deposit works/ or of a new connection where this amount is incorporated into an estimate, then no separate security amount on account of the above is required to be deposited by the consumer.

**8.1. Security Deposit: (interest bearing refundable / adjustable)**

To safe guard the Licensee against default of non-payment of bills against energy consumed, interest bearing security deposit shall be deposited by the consumer in advance before the service is provided in accordance to the provisions of A.P. Electricity Supply Code-2013 (KJP & BPL household connection shall not pay Security deposit as per present policy of the Govt.) The interest rate shall be as defined in Para 4.119 of the Arunachal Pradesh Electricity Supply Code-2013. A sample calculation showing Security Deposit payable per KW of connected load for new connections is given below :-

**RATES OF SECURITY DEPOSIT (As per A.P. Electricity Supply Code-2013)**

Formula for calculating security Deposit for new connection = Load x Load Factor of the category in which consumer falls as per Electricity supply code x (Billing cycle + 30 days) x 24 hours x Current Tariff)

Sl.No.	Category of Consumers	As per A.P. Electricity Supply Code, 2013 (Per KW)
1.	Domestic Category:	
	LT 230 Volts	Rs. 1728.00
	LT 440 Volts	Rs. 1728.00
	HT 11 KV	Rs. 1469.00
	HT 33 KV	Rs. 1404.00
	KJP	Nil as per Govt. Policy
2.	Commercial Category	
	LT 230 Volts	Rs. 3600.00
	LT 440 Volts	Rs. 3600.00
	HT 11 KV	Rs. 3024.00
	HT 33 KV	Rs. 2880.00
3.	Public Lighting:	

	LT 230 Volts	Rs 2938.00
	LT 440 Volts	Rs. 2938.00
	11 KV	Rs .2419.00
	33 KV	Rs. 2304.00
4.	Agricultural Consumers:	
	LT 230 Volts	Rs 1473.00
	LT 440 Volts	Rs. 1473.00
	11 KV HT	Rs. 1307.00
	33 KV HT	Rs. 1259.00
5.	Industrial Consumers:	
	LT 230 Volts	Rs. 3024.00 3096
	LT 440 Volts	Rs. 3024.00
	HT 11 KV - Single shift	Rs. 2700.00 2772
	HT 11 KV - Double shift	Rs. 4050.00 4158
	HT 11 KV - Continuous	Rs. 5400.00
6.	Industrial Consumers: 33 KV	
	HT 33KV - Single shift	Rs. 2448.00
	HT 33KV - Double shift	Rs. 3672.00
	HT 33KV - Continuous	Rs. 4896.00
7.	Industrial Consumers: 132 KV & Above	
	Single shift	Rs. 2340.00
	Double shift	Rs. 3510.00
	Continuous	Rs. 4680.00
8.	Bulk Mixed Consumers:	
	HT 11 KV (LF-50%)	RS. 2700.00
	HT 33 KV (LF-50%)	Rs. 2448.00
	EHT 132 KV & above (LF-50%)	Rs. 2340.00
9.	Public Water Supply	
	LT (220 V & 400 V )	Rs. 2424.00
	HT 11 KV	Rs. 1996.00
	HT 33 KV	Rs. 1901.00

## 8.2. Charges for Testing of Transformer Oil:

The departmental charge for testing oil of private owned transformers for each sample of oil shall be charged Rs. 134.00 per sample test.

**Schedule - III General Conditions Of Supply**  
**(as per Annexure 11.20 of APERC, Arunachal Pradesh Electricity Supply**  
**Code, 2013 Regulations)**

- 1. Payment:** The bill shall be paid in full inclusive of all arrears if the consumer within the last day for payment indicated on the body of the bill. However the consumer making payment in full within due date indicated on the body of the bill will be entitled to avail rebate.
- 2. Application for Connection:** The Consumer shall apply for service connection as per the provisions of A.P. Electricity Supply Code-2013.
- 3. Surcharge/Penalty for late payment of bill:** If payments is not received within last date for payment, the bill will be treated as invalid and the amount outstanding will be carried over to the next month's bill as arrear. Simple interest @2% will be charged as penalty on outstanding amount each 30 days successive period or part thereof until the amount is paid in full.
- 4. Sanctioning Authority:** Service connection shall be given only after load sanction by the competent authority as per delegation of power accorded as under.

**Categories of consumers**

- |   |                 |
|---|-----------------|
| a. AE (E) up to 5 KW of connected load-         | 1,2,3,4,5 & 7   |
| b. EE up to 50 KW of connected load-            | 1,2,3,4,5 & 7   |
| c. SE up to 500 KW of connected load-           | 1,2,3,4,5,6 & 7 |
| d. CE Full power of connected load above 500KW- | 1,2,3,4,5,6 & 7 |

Security deposit and cost of service connection shall have to be deposited in advance on receipt of technically sanctioned estimate.

**5. Rebate:**

**For Post-Paid Consumers:** Rebate of 3.0% on the bill amount shall be available to the billed amount on current bills if the dues are cleared within due dates. The electricity bill shall show the amounts to be paid within due date (after 3% discount) and payable after due date.

**For Pre-Paid Consumers:** Rebate of 5% on re-charge amount shall be made available for pre-paid consumers.

**6.Single Point Delivery:** The above tariff is based on the supply being given through a single point of delivery and metering at one voltage. Supply at other points at other voltage shall be separately metered and billed for and shall be considered as separate connection.

**7.Mixed Load:** Mixed domestic and commercial establishment shall be treated as commercial establishments if the load on commercial side is more than 10% of the total connected load.

**8.Metering Point:** The metering point shall be the point of delivery of energy at the declared nominal voltage.

**9.Billing Cycle:** Normally the billing cycle shall on monthly basis.

**10.Minimum charge:** A consumer shall not have to pay the minimum charge and have been abolished.

**11.Ownership meter:** The energy meter and its allied instrument used for registration of energy data only shall deem to be the property of the supplier and the consumer shall have no right over it for ownership after the commencement of supply.

All consumers getting their supply at HT but metered on LT side of the transformer shall be charged an additional 3% over the metered consumption.

**12. Maintenance & Replacement of Energy meter:** It shall be governed by the provisions of A.P. Electricity Supply Code-2013.

**13.Default:** A Consumer shall be automatically called a defaulter if he fails to clear all the outstanding & current bills accumulated for a period of 2 months. On being a defaulter, the consumer shall be liable for disconnection after adjustment of security deposit against the energy bill account

After adjustment of security deposit, if the consumer desires for reconnection the consumer shall have to clear all outstanding dues and pay fresh security deposit.

**14.Watch and Ward of Meters:** The consumers shall be responsible for the safe custody of meter(s), MCBs/CB etc. if the same are installed within the consumer's premises. The consumer shall promptly notify the licensee about any fault, accident or problem noticed with the meter.

**15.Billing :** All the bills raised within billing cycle of April month shall have the stepped-up tariff irrespective of whether a portion of the billing cycle falls within the previous month of March or not.

**16.Existing connections / agreements in force:** All such connections the before the commencement of this tariff structure shall deem to be effected under this tariff schedule & related terms and conditions shall have precedence over the existing agreements.

\*\*\*\*\*

## 9. ANNEXURES

### Annexure I. PoC and other charges

Sl. No.	Name of DIC	PoC Charges	Reliability Support Charges	HVDC Charges	Total PoC charges	NERLD C Fees & charges	Reactive Charges	Total Charges
	Arunachal Pradesh							
1	March'17	1.86	0.42	0.14	2.43	3.34	0.23	
2	Feb'17	1.86	0.42	0.14	2.43			
3	Jan'17	1.86	0.42	0.14	2.43			
4	Dec'16	2.40	0.41	0.11	2.92			
5	Nov'16	2.40	0.41	0.11	2.92			
6	Oct'16	2.40	0.41	0.11	2.92			
7	Sept'16	3.98	0.42	0.12	4.52			
8	Aug'16	3.98	0.42	0.12	4.52			
9	July'16	3.98	0.42	0.12	4.52			
10	June'16	1.69	0.38	0.12	2.19			
11	May'16	1.69	0.38	0.12	2.19			
12	April'16	1.68	0.38	0.12	2.19			
	Total				36.18	3.34	0.23	39.75

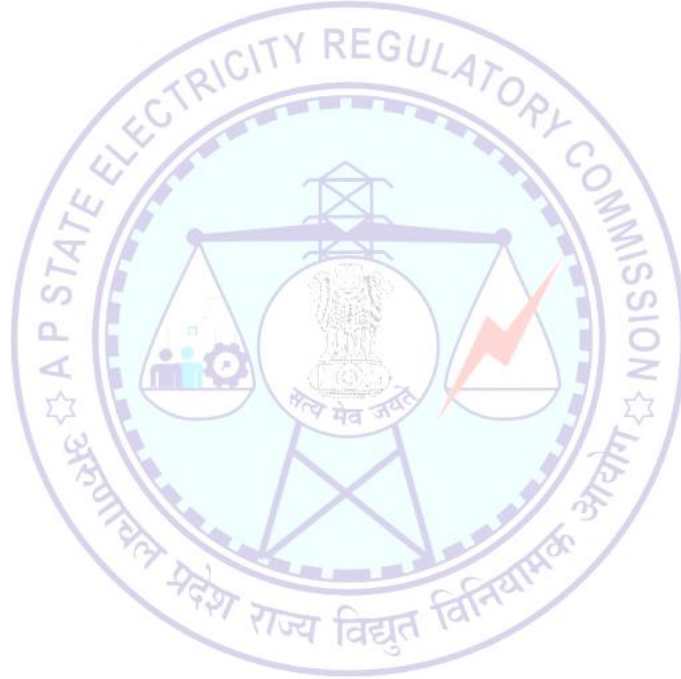
**Annexure II. Network/Transmission loss for NER**

TO DATE	APPLICABLE PoC LOSS %								
	I	II	III	IV	V	VI	VII	VIII	IX
10 April 2016	2.5	2.25	2	1.75	1.5	1.25	1	0.75	0.5
17 April 2016	2	1.75	1.5	1.25	1	0.75	0.5	0.25	0
24 April 2016	2.15	1.9	1.65	1.4	1.15	0.9	0.65	0.4	0.15
01 May 2016	2.45	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45
08 May 2016	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2
15 May 2016	2	1.75	1.5	1.25	1	0.75	0.5	0.25	0
22 May 2016	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3	0.05
29 May 2016	2.15	1.9	1.65	1.4	1.15	0.9	0.65	0.4	0.15
05 June 2016	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2
12 June 2016	2	1.75	1.5	1.25	1	0.75	0.5	0.25	0
19 June 2016	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2
26 June 2016	2.5	2.25	2	1.75	1.5	1.25	1	0.75	0.5
03 July 2016	2.55	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55
10 July 2016	2.55	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55
17 July 2016	2.45	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45
24 July 2016	2.55	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55
31 July 2016	2.55	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55
07 August 2016	2.65	2.4	2.15	1.9	1.65	1.4	1.15	0.9	0.65
14 August 2016	2.65	2.4	2.15	1.9	1.65	1.4	1.15	0.9	0.65
21 August 2016	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3
28 August 2016	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3
04 September 2016	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3
11 September 2016	2.15	1.9	1.65	1.4	1.15	0.9	0.65	0.4	0.15
18 September 2016	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6	0.35
25 September 2016	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6	0.35
02 October 2016	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3
09 October 2016	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2
16 October 2016	2.1	1.85	1.6	1.35	1.1	0.85	0.6	0.35	0.1
23 October 2016	2.4	2.15	1.9	1.65	1.4	1.15	0.9	0.65	0.4
30 October 2016	2.6	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6
06 November 2016	2.25	2	1.75	1.5	1.25	1	0.75	0.5	0.25
13 November 2016	2.25	2	1.75	1.5	1.25	1	0.75	0.5	0.25
20 November 2016	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6	0.35
27 November 2016	2.4	2.15	1.9	1.65	1.4	1.15	0.9	0.65	0.4
04 December 2016	2.4	2.15	1.9	1.65	1.4	1.15	0.9	0.65	0.4
11 December 2016	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6	0.35
18 December 2016	2.25	2	1.75	1.5	1.25	1	0.75	0.5	0.25
25 December 2016	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2
01 January 2017	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2
08 January 2017	2.25	2	1.75	1.5	1.25	1	0.75	0.5	0.25
15 January 2017	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3	0.05
22 January 2017	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45	0.2

APSERC order on ARR & Tariff Petition of APDOP for FY 2017-18

29 January 2017	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55	0.3
05 February 2017	2.45	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45
12 February 2017	2.55	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55
19 February 2017	2.57	2.32	2.07	1.82	1.57	1.32	1.07	0.82	0.57
26 February 2017	2.45	2.2	1.95	1.7	1.45	1.2	0.95	0.7	0.45
05 March 2017	2.5	2.25	2	1.75	1.5	1.25	1	0.75	0.5
12 March 2017	2.6	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6
19 March 2017	2.55	2.3	2.05	1.8	1.55	1.3	1.05	0.8	0.55
26 March 2017	2.9	2.65	2.4	2.15	1.9	1.65	1.4	1.15	0.9
02 April 2017	2.6	2.35	2.1	1.85	1.6	1.35	1.1	0.85	0.6

Average Transmission loss for NER = 2.7% (Source: NERLDC)



**Annexure III. Public Notice**

Page 1 of 3

**GOVERNMENT OF ARUNACHAL PRADESH  
DEPARTMENT OF POWER**

No: CEP/WEZ/COM-10/TARIFF/2016-17/5510

Dated. 7-3-17  
Itanagar The

**PUBLIC NOTICE**

1. The Department of Power Government of Arunachal Pradesh, the deemed Distribution Licensee for sale of power with in the State of Arunachal Pradesh, under the provisions of Electricity Act 2003, has filed a petition for approval of Annual Revenue Requirement (ARR) and determination of retail supply Tariff for the FY 2017-18 before the Hon'ble State Electricity Regulatory Commission, Arunachal Pradesh under the Section 61, 62 and 64 of the Electricity Act 2003. The Summary of the ARR filed before the Commission for FY 2017-18 is as follows:

**Annual Revenue Requirement for the FY 2017-18**

Sl. Nos	Particulars	Proposed by the Deptt. of Power (Rs. in crore)
1	Cost of Power Purchase	206.72
2	Fuel Cost	4.68
3	Employee costs	190.50
4	O&M expenses	23.10
5	Adm. & Gen. Expenses	1.10
6	Depreciation	0.00
7	Interest charges	0.00
8	Return on equity	0.00
9	Income Tax	0.00
10	<b>Total revenue requirement</b>	<b>426.10</b>
11	Non tariff income	3.33
12	Revenue from existing tariff	137.56
13	Sale through Energy Exchange	18.15
14	Deviation export	3.75
15	<b>Total Income</b>	<b>162.79</b>
16	<b>Revenue gap (10-15)</b>	<b>263.31</b>

**Revenue Gap for FY 2017-18 and its Recovery**

Sl. No.	Particulars	Rs. In Crore
1	Aggregate Revenue Requirement	432.20
2	Total Income	174.35
3	Revenue gap (1-2)	257.86
4	Expected Government Grant	257.86
5	Net Revenue Gap (3-4)	0


2. The filing of the petition has been taken on record by the Hon'ble Commission for the Financial Year 2017-18.

3. The existing Tariffs and Proposed Tariffs pursuant to Annual Revenue Requirement sought through the petition is indicated in the schedule below :

Sl. No.	Category	Existing Tariff (Rs / Kwh)	Tariff Proposed by Deptt. Of Power for 2017-18 (Rs / Kwh)
<b>1</b>	<b>Non Commercial Consumers (Domestic)</b>		
	<b>LT</b>		
a)	AC 50Hz,1-Phase, 230 Volt nominal Voltage	4.00	4.00
b)	AC 50Hz,3-Phase, 400 Volt nominal Voltage	4.00	4.00
	<b>HT</b>		
c)	AC 50Hz,3-Phase, 11KV nominal Voltage	3.40	3.40
d)	AC 50Hz,3-Phase, 33KV nominal Voltage	3.25	3.25
	<b>KJP &amp; BPL connection</b>		
e)	AC 50Hz,1-Phase, 230 Volt KJP & BPL connection	2.65	2.65
<b>2</b>	<b>Commercial Consumers (Non-Industrial)</b>		
	<b>LT</b>		
a)	AC 50Hz,1-Phase, 230 Volt nominal Voltage	5.00	5.00
b)	AC 50Hz,3-Phase, 400 Volt nominal Voltage	5.00	5.00
	<b>HT</b>		
c)	AC 50Hz,3-Phase, 11KV nominal Voltage	4.20	4.20
d)	AC 50Hz,3-Phase, 33KV nominal Voltage	4.00	4.00
<b>3</b>	<b>Public Lighting and Water Supply Consumers</b>		
	<b>LT</b>		
a)	AC 50Hz,1-Phase, 230 Volt nominal Voltage	5.10	5.10
b)	AC 50Hz,3-Phase, 400 Volt nominal Voltage	5.10	5.10
	<b>HT</b>		
c)	AC 50Hz,3-Phase, 11KV nominal Voltage	4.20	4.20
d)	AC 50Hz,3-Phase, 33KV nominal Voltage	4.00	4.00
<b>4</b>	<b>Agriculture Consumers</b>		
	<b>LT</b>		
a)	AC 50Hz,1-Phase, 230 Volt nominal Voltage	3.10	3.10
b)	AC 50Hz,3-Phase, 400 Volt nominal Voltage	3.10	3.10
	<b>HT</b>		
c)	AC 50Hz,3-Phase, 11KV nominal Voltage	2.75	2.75
d)	AC 50Hz,3-Phase, 33KV nominal Voltage	2.65	2.65
<b>5.</b>	<b>Industrial Consumers</b>		
	<b>LT</b>		
a)	AC 50Hz,1-Phase, 230 Volt nominal Voltage	4.30	4.30
b)	AC 50Hz,3-Phase, 400 Volt nominal Voltage	4.30	4.30
	<b>HT</b>		
c)	AC 50Hz,3-Phase, 11KV nominal Voltage	3.85	3.85

Sl. No.	Category	Existing Tariff (Rs / Kwh)	Tariff Proposed by Deptt. Of Power for 2017-18 (Rs / Kwh)
d)	AC 50Hz,3-Phase, 33KV nominal Voltage	3.50	3.50
e)	AC 50Hz,3-Phase, 132 KV nominal Voltage and above	3.35	3.35
<b>6</b>	<b>Bulk Mixed Consumers</b>		
a)	AC 50Hz,3-Phase, 11KV nominal Voltage	3.75	3.75
b)	AC 50Hz,3-Phase, 33KV nominal Voltage	3.40	3.40
c)	AC 50Hz,3-Phase, 132 KV nominal Voltage and above	3.25	3.25
<b>7</b>	<b>Temporary Consumers</b>		
a)	Metered Supply Rs./KWH	6.50	6.50

5. The Department of Power has proposed no any modifications/alteration in existing tariff.
6. The copy of the petition referred at Para 1 above can be obtained from the office of the Chief Engineer (Power), Western Electrical Zone, Department of Power, Vidyut Bhawan, Zero Point Tinali, Itanagar- 791111, Arunachal Pradesh by the interested persons and consumers and consumers' Associations on any working day at a rate of Rs. 250/- per set. The petition is also made available in the website of the Department of Power, Arunachal Pradesh viz. [www.arunachalpower.org.in](http://www.arunachalpower.org.in) and can be downloaded.
7. Objections / suggestions, if any on the ARR filings and tariff proposals submitted by the Department of Power, Government of Arunachal Pradesh, may be filed with the Secretary, Arunachal Pradesh State Electricity Regulatory Commission, A.P. Electrical Circle – I Office Complex, A-Sector, Opposite Industrial Area, Naharlagun – 791110 in person or through registered post or through e-mail at [apserc\\_75@yahoo.com](mailto:apserc_75@yahoo.com) so as to reach the Secretary, APSERC on or before 15<sup>th</sup> March'2017 and simultaneously endorsing a copy to the Chief Engineer (Power), Western Electrical Zone, Department of Power, Itanagar, Arunachal Pradesh.
8. The Objection / suggestions as above should carry full name and postal address including contact mobile / telephone nos. 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.
9. The Arunachal Pradesh State Electricity Regulatory Commission (APSERC), after perusing the written objection received in response to this notice may invite such objectors as it may consider appropriate for a hearing on the specified dates which will be notified by the Commission in due course through a Public Notice.

  
 Chief Engineer (Power)  
 Western Electrical Zone  
 Department of Power  
 Vidyut Bhawan, Itanagar-791111