



**ASSAM ELECTRICITY REGULATORY COMMISSION  
(AERC)**

**TARIFF ORDER  
March 07, 2020**

**TRUE-UP for FY 2018-19,  
APR for FY 2019-20 and  
ARR for FY 2020-21  
&  
Tariff for FY 2020-21  
FOR**

**Assam Power Generation Corporation  
Limited (APGCL)**

**Petition No. 10/2019**

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## List of Abbreviations

A&G	Administrative and General
ABITA	Assam Branch of Indian Tea Association
ADB	Asian Development Bank
AFC	Annual Fixed Charges
AGCL	Assam Gas Company Limited
APC	Auxiliary Power Consumption
AEGCL	Assam Electricity Grid Corporation Limited
APM	Administered Pricing Mechanism
AERC	Assam Electricity Regulatory Commission
APDCL	Assam Power Distribution Company Limited
APGCL	Assam Power Generation Corporation Limited
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ASEB	Assam State Electricity Board
BTPP	Bongaigaon Thermal Power Plant
BST	Bulk Supply Tariff
CAG/C&AG	Comptroller and Auditor General
CC	Combined Cycle
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
COD	Date of Commercial Operation
CPI	Consumer Price Index
CSGS	Central Sector Generating Stations
CTPS	Chandrapur Thermal Power Station
CTU	Central Transmission Utility
CWIP	Capital Work-In-Progress
DA	Dearness Allowance
EPC	Engineering Procurement and Construction
EPFI	Employees' Pension Fund Investment
FAR	Fixed Asset Register
FCC	Financial Completion Certificate
FINER	Federation of Industry & Commerce of North Eastern Region

FPA	Fuel Price Adjustment
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GAIL	Gas Authority of India Limited
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoA	Government of Assam
GSHR	Gross Station Heat Rate
GT	Gas Turbine
IIT	Indian Institute of Technology
IoWC/IWC	Interest on Working Capital
kcal	kilo calorie
KLHEP	KarbiLangpi Hydro Electric Project
kW	kilo Watt
kWh	kilo Watt Hour
LRPP	Lakwa Replacement Power Project
LTPS	Lakwa Thermal Power Station
MAT	Minimum Alternate Tax
MMBTU	Million Metric British Thermal Unit
MMSCMD	Million Metric Standard Cubic Meter per Day
MNRE	Ministry of New & Renewable Energy
MOPNG	Ministry of Petroleum and Natural Gas
MSHEP	Myntriang Small Hydro Electric Project
MW	Mega Watt
MU	Million Units
MYT	Multi Year Tariff
NAPAF	Normative Annual Plant Availability Factor
NERLDC	North Eastern Region Load Despatch Centre
NRPP	Namrup Replacement Power Project
NTPS	Namrup Thermal Power Station
O&M	Operation and Maintenance
OC	Open Cycle
OIL	M/s Oil India Limited
PAF	Plant Availability Factor

PCC	Physical Completion Certificate
PFC	Power Finance Corporation Limited
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor
PoC	Point of Connection
R&M	Repairs and Maintenance
RBI	Reserve Bank of India
RoE	Return on Equity
ROI	Rate of Interest
ROP	Revision of Pay
RLDC	Regional Load Despatch Centre
SAC	State Advisory Committee
SCM	Standard Cubic Meter
SHR	Station Heat Rate
SLDC	State Load Despatch Centre
SLM	Straight Line Method
STU	State Transmission Utility
TDS	Tax Deduction at Source
TVS	Technical Validation Session
USD	United States Dollar
WHR	Waste Heat Recovery
WPI	Wholesale Price Index

# **ASSAM ELECTRICITY REGULATORY COMMISSION**

**Guwahati**

Present

**Shri Subhash Ch. Das, Chairperson**

**Smt. B. Borthakur, Member**

Petition No. 10/2019

Assam Power Generation Corporation Limited (APGCL) - **Petitioner**

## **ORDER**

**(Passed on March 07, 2020)**

- (1) APGCL filed Petition for approval of Truing up for FY 2018-19, Annual Performance Review (APR) for FY 2019-20, revised Aggregate Revenue Requirement (ARR) for FY 2020-21 and determination of Tariff for the FY 2020-21 as per MYT Regulations, 2018 on November 30, 2019. The same was registered as Petition No. 10/2019.
- (2) The Commission observed that there were a few inconsistencies in the Petition. The Commission raised queries in order to clarify the discrepancies, inconsistencies, and data gaps. The Commission sought additional data and clarifications on the Petitions vide letter dated December 18, 2019.
- (3) The Commission held an Admissibility Hearing on December 19, 2019 and admitted the Petition (Petition No.10/2019) vide Order dated December 19, 2019 with direction to furnish the additional data and clarifications, as sought vide letter dated December 18, 2019, by January 10, 2020.

- (4) On admission of the Petition, in accordance with Section 64 of the Electricity Act 2003, the Commission directed APGCL to publish a summary of the ARR and Tariff filings in local dailies to facilitate due public participation.
- (5) Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from stakeholders to be submitted on or before January 21, 2020. The notice was published in five (5) leading newspapers and short notice was published in five (5) leading newspapers of the State, as shown in the Table below:

<b>Date</b>	<b>Name of Newspaper</b>	<b>Content Published</b>
27.12.2019	The Assam Tribune	Public Notice in English
28.12.2019	Amar Asom	Public Notice in Assamese
	Dainik Janambhumi	Public Notice in Assamese
	Dainik Jugasankha	Public Notice in English
	Purbanchal Prahari	Public Notice in English
29.12.2019	Asomiya Pratidin	Short Notice in English
	The Telegraph	Short Notice in English
	The Sentinel	Short Notice in English
	Bodosa (Bodo)	Short Notice in English
	Thekar (Karbi)	Short Notice in English

- (6) A copy of the Petition and other relevant documents were also directed to be made available to the consumers and other interested Parties at the office of the Managing Director of APGCL. A copy of the Petition was also made available on the websites of the Commission and APGCL.
- (7) In response to the Commission's letter dated December 18, 2019, APGCL submitted their replies to data gaps on January 10, 2020. After scrutinizing the first set of replies, the Commission sought more clarification on the Petition from APGCL vide letter dated February 7, 2020. The replies to the second set of queries were submitted by APGCL on February 10, 2020.
- (8) The Petitions were also discussed in the 26<sup>th</sup> meeting of the State Advisory Committee (SAC) (constituted under Section 87 of the Electricity Act, 2003) held on February 13, 2020 at Bidyut Niyamak Bhawan Six Mile, Guwahati.

- (9) The Commission received suggestion/objections from three (3) stakeholders on the Petition filed by APGCL. The stakeholders were notified about the place, date and time of Hearing, to enable them to take part in the Hearing. A notice was also published in Newspapers inviting participation from the general public as well as the Respondents. The Hearing was held at Bidyut Niyamak Bhawan Six Mile, Guwahati on February 19, 2020 as scheduled. All stakeholders/respondents who participated in the Hearing were given the opportunity to express their views on the Petition. The details are discussed in the Chapters attached with this Order.
- (10) The Commission, now in exercise of its powers and functions vested under Sections, 61, 62, 86 and 181 of the Electricity Act, 2003 and all other powers enabling it in this behalf and taking into consideration the submissions made by the Petitioner, objections and suggestions received from stakeholders and all other relevant materials on record, has approved the Truing-up for FY 2018-19, APR for FY 2019-20, revised ARR for FY 2020-21, and determination of Tariff for FY 2020-21, as detailed in the Chapters attached with this Order.
- (11) The Commission directs APGCL to publish a Public Notice intimating the revised Generation Tariff before the implementation of this Order, in English and Vernacular newspapers and on the website of APGCL
- (12) The approved Generation Tariff shall be effective from April 1, 2020 and shall continue until replaced by any subsequent Order of the Commission.
- (13) Accordingly, the Petition 10 of 2019 stands disposed of

**Sd/-**

**(B. Borthakur)**

**Member, AERC**

**Sd/-**

**(S. C. Das)**

**Chairperson, AERC**

# 1 INTRODUCTION

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## 1.1 Constitution of the Commission

1.1.1 The Assam Electricity Regulatory Commission (hereinafter referred to as the AERC or the Commission) was established under the Electricity Regulatory Commissions Act, 1998 (14 of 1998) on February 28, 2001. The first proviso of Section 82(1) of the Electricity Act, 2003 (hereinafter referred as the Act or the EA, 2003) has ensured continuity of the Commission under the Electricity Act, 2003.

1.1.2 The Commission is mandated to exercise its powers and functions vested under Sections 61, 62, 86 and 181 of the Electricity Act, 2003 and all the other powers enabling in it in this behalf, to determine the ARR and Tariff of APGCL.

## 1.2 Tariff related Functions of the Commission

1.2.1 Under Section 86 of the Act, the Commission has the following tariff related functions:

- a) To determine the tariff for electricity, wholesale, bulk or retail, as the case may be;
- b) To regulate power purchase and procurement process of the distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
- c) To promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.

1.2.2 Under Section 61 of the Act in the determination of tariffs, the Commission is to be guided by the following:

- a) The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
- b) The electricity generation, transmission, distribution and supply are conducted on commercial principles;
- c) Factors that would encourage efficiency, economical use of the resources, good performance, optimum investments, and other matters which the State



Commission considers appropriate for the purpose of this Act;

- d) The interests of the consumers are safeguarded and at the same time, the consumers pay for the use of electricity in a reasonable manner based on the cost of supply;
- e) The tariff progressively reflects the cost of supply of electricity at an adequate and improving level of efficiency and also gradually reduces cross subsidies;
- f) The National Electricity Plan formulated by the Central Government including the National Electricity Policy and Tariff Policy.

### **1.3 Background**

- 1.3.1 APGCL is the successor corporate entity of erstwhile ASEB formed pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003 (Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of personnel of the Board to successor entities.
- 1.3.2 APGCL owns and operates the generating stations previously owned by Assam State Electricity Board (ASEB). APGCL started functioning as a separate entity from December 10, 2004.

### **1.4 Multi Year Tariff Regulations, 2015**

- 1.4.1 The Commission, in exercise of the powers conferred under Section 61 read with Section 181(2) (zd) of the Act, notified the Assam Electricity Regulatory Commission (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2015 (hereinafter referred as "MYT Regulations, 2015") on June 2, 2015. These Regulations are applicable for determination of Tariff for Generation, Transmission, SLDC, Wheeling and Retail Supply for the Control Period of three financial years from April 1, 2016 onwards up to March 31, 2019. These Regulations are applicable to all existing and future Generating Companies, Transmission Licensees and Distribution Licensees within the State of Assam.
- 1.4.2 APGCL filed the MYT Petition for approval of revised ARR and Tariff for FY 2018-19 as per MYT Regulations, 2015. The Commission issued the Order on the said MYT

Petition on March 19, 2018 and approved the Generation Tariff for FY 2018-19.

1.4.3 Further, the Commission notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2015, First Amendment, 2017 on November 8, 2017. In the said Regulations, certain provisions regarding the scope of Annual Performance Review, rate of interest for consumer security deposit, etc., were amended.

1.4.4 Regulation 10 of the MYT Regulations, 2015, as amended in November 2017, specifies that the Commission shall undertake the APR and True-up for the respective years of the Control Period from FY 2016-17 to FY 2018-19, as reproduced below:

*“10.3 The scope of the annual review and True up shall be a comparison of the actual performance of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee with the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges and shall comprise the following:*

- a) True Up: a comparison of the audited performance of the applicant for the previous financial year with the approved forecast for the financial year and truing up of expenses and revenue in line with Regulation 11 including pass through of impact of uncontrollable items;*
- b) Annual Review: a comparison of the revised performance targets of the applicant for the current financial year with the approved forecast in the Tariff order corresponding to the Control period for the current financial year subject to prudence check including adjusting trajectories of uncontrollable and controllable items”.*

## **1.5 Multi Year Tariff Regulations, 2018**

1.5.1 The Commission, in exercise of the powers conferred under Section 61 read with Section 181(2) (zd) of the Act, notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2018 (herein after referred as “MYT Regulations, 2018”) on July 17, 2018. These Regulations are applicable for determination of Tariff for Generation, Transmission, SLDC, Wheeling and Retail Supply for the Control Period of three financial years from April 1, 2019 onwards up to March 31, 2022. These Regulations are applicable to all existing and future

Generating Companies, Transmission Licensees and Distribution Licensees within the State of Assam.

1.5.2 Regulation 4.2 of the MYT Regulations, 2018, specifies the MYT framework for the Control Period from FY 2019-20 to FY 2021-22, as reproduced below:

*“4.2 The Multi-Year Tariff framework shall be based on the following elements, for calculation of Aggregate Revenue Requirement and expected revenue from tariff and charges for Generating Companies, Transmission Licensee, SLDC, Distribution Wheeling Business and Retail Supply Business:*

...

*(vi) Annual Performance review vis-à-vis the approved forecast and categorization of variation in performance as those caused by factors beyond the control of the applicant (uncontrollable items) shall be undertaken by the Commission;*

*(vii) True up of the past years based on audited annual accounts of the licensees and the Generation companies.*

*(viii) The mechanism for pass-through of approved gains or losses on account of uncontrollable items as specified by the Commission in these Regulations;*

*(ix) The mechanism for sharing of approved gains or losses arising out of controllable items as specified by the Commission in these Regulations;*

*(x) Tariff determination for Generating Companies, SLDC, Transmission Licensee and Distribution Wheeling Business and Retail Supply Business, for each financial year within the Control period based on the approved forecast. The tariff shall be reviewed at the time of the true-up and annual performance review.*

*(xi) There will be no true-up of the controllable items except on account of Force Majeure events or on account of variations attributable to uncontrollable items. The variations in the controllable items, as defined in regulation 10, over and above the norms specified will be governed by incentive and penalty framework specified in these regulations.*

*(xii) The tariff determined by the Commission and the directions given in the MYT*

*order shall be the quid pro quo and mutually inclusive. The tariff determined shall, within the time period specified in the order, be subject to the compliance of the directions by the generating company and the licensees to the satisfaction of the Commission. Non-compliance of directions given in the tariff order may also lead to invocation of the provisions of section 142 of the Act.*

*(xiii) The tariff determined by the Commission shall continue to operate till it is modified or revised by the Commission.”*

## **1.6 Procedural History**

- 1.6.1 As per Regulation 18 of the MYT Regulations, 2018, APGCL is required to file an application for true-up for previous year, i.e., FY 2018-19, APR of current year, i.e., FY 2019-20 and revised ARR and Tariff for ensuing year i.e. FY 2020-21, by 30<sup>th</sup> November of each year of the Control Period. APGCL filed its Petition for approval of Truing-up for FY 2018-19, APR for FY 2019-20 and revised ARR and Tariff for FY 2020-21 on November 30, 2019. The same was registered as Petition No. 10/2019.
- 1.6.2 The Commission observed that there were a few inconsistencies in the Petition. The Commission raised queries in order to clarify the discrepancies, inconsistencies, and data gaps. The Commission sought additional data and clarifications on the Petitions vide letter dated December 18, 2019.
- 1.6.3 The Commission held an Admissibility Hearing on December 19, 2019 and admitted the Petition (Petition No.10/2019) vide Order dated December 19, 2019 with direction to furnish the additional data and clarifications, as sought vide letter dated December 18, 2019, by January 10, 2020.
- 1.6.4 On admission of the Petition (Petition No.10/2019), in accordance with Section 64 of the Electricity Act 2003, the Commission directed APGCL to publish a summary of the ARR and Tariff filings in local dailies to facilitate due public participation.
- 1.6.5 Further, APGCL was directed to publish advertisement in few other newspapers stating that the copy of the Petition is made available on their website. A copy of the Petition and other relevant documents were also directed to be made available to the consumers and other interested Parties at the office of the Managing Director of APGCL. A copy of the Petition was also made available on the websites of the Commission and APGCL.

1.6.6 Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from stakeholders to be submitted on or before January 21, 2020. The notice was published in five (5) leading newspapers on 27.12.2019 and 28.12.2019 and short notice was published in five (5) leading newspapers of the State on 29.12.2019, as shown in the Table below:

<b>Date</b>	<b>Name of Newspaper</b>	<b>Content Published</b>
27.12.2019	The Assam Tribune	Public Notice in English
28.12.2019	Amar Asom	Public Notice in Assamese
	Dainik Janambhumi	Public Notice in Assamese
	Dainik Jugasankha	Public Notice in English
	Purbanchal Prahari	Public Notice in English
29.12.2019	Asomiya Pratidin	Short Notice in English
	The Telegraph	Short Notice in English
	The Sentinel	Short Notice in English
	Bodosa (Bodo)	Short Notice in English
	Thekar (Karbi)	Short Notice in English

1.6.7 In response to the Commission's letter dated December 18, 2019, APGCL submitted their replies to data gaps on January 10, 2020. After scrutinizing the replies to first set of queries, the Commission sought more clarification on the Petition from APGCL vide letter dated February 7, 2020. The replies to the second set of queries were submitted by APGCL on February 10, 2020.

1.6.8 The Commission received suggestion/objections from three (3) stakeholders on the Petitions filed by APGCL. APGCL was asked to submit its responses to the submissions of the stakeholders. The stakeholders were notified about the place, date and time of Hearing, to enable them to take part in the Hearing. A notice was also published in Newspapers inviting participation from the general public as well as the Respondents. The Hearing was held at Bidyut Niyamak Bhawan Six Mile, Guwahati on February 19, 2020 as scheduled. All stakeholders/respondents who participated in the Hearing were given the opportunity to express their views on the Petition.

1.6.9 All the written representations submitted to the Commission and oral submissions made before the Commission in the Hearing and the responses of APGCL have been carefully considered while issuing this Tariff Order. The major issues raised by different consumers and consumer groups along with the response of APGCL and views of the Commission are elaborated in **Chapter 3** of this Order.

## **1.7 State Advisory Committee Meeting**

- 1.7.1 A meeting of the SAC was convened on February 13, 2020 and members were briefed on the Tariff Petition of APGCL. The Minutes of the SAC meeting are appended to this order as **Annexure 1**.

## 2 Summary of APGCL's Petition

### 2.1 Background

2.1.1 APGCL submitted the Petition on November 30, 2019 seeking approval for Truing up for FY 2018-19, APR for FY 2019-20 and revised ARR and determination of Tariff for FY 2020-21 (Petition No.10/2019).The Generation Tariff is to be recovered from the Assam Power Distribution Company Limited (APDCL), who is the sole buyer of power from APGCL.

2.1.2 Along with the existing Stations of NTPS, LTPS and KLHEP, APGCL has also submitted the True-up for LRPP for FY 2018-19.

### 2.2 True-up for FY 2018-19

2.2.1 APGCL submitted the True-up for FY 2018-19 based on the audited accounts. The summary of ARR and Revenue Gap/ (Surplus) claimed by APGCL for FY 2018-19 is shown in the following Table:

**Table 1: True-up ARR for FY 2018-19 as submitted by APGCL (Rs. Crore)**

Sl. No	Particulars	NTPS	LTPS	KLHEP	LRPP	Total APGCL
I	<b>Power Generation</b>					
1	Gross Generation (MU)	314.37	472.09	369.288	429.98	1585.73
2	Net Generation (MU)	293.17	423.49	367.44	417.03	1501.13
3	Auxiliary Consumption (%)	6.75	10.30	0.50	3.01	5.34
II	<b>Fixed Charges</b>					
4	Operation & Maintenance Expenditure	40.32	29.78	24.76	18.63	113.49
5	Employee Expenses	31.87	18.83	15.12	14.63	80.46
6	R&M Expenses	4.84	5.93	5.57	3.57	19.92
7	A&G Expenses	3.61	5.01	4.07	0.43	13.12
8	Interest & Finance Charges	0.10	0.25	22.92	3.15	26.42
9	Interest on working Capital	5.79	6.10	2.69	3.94	18.52
10	Depreciation	1.50	11.25	21.14	2.27	36.16
11	Return on Equity	8.53	22.18	10.64	2.16	43.51
12	Less: Other Income	17.83	24.00	13.65	0.00	55.48
13	Total Fixed Charges	38.41	56.77	68.49	30.16	182.63
III	<b>Fuel Cost</b>	95.19	116.16	0.00	79.77	291.12

Sl. No	Particulars	NTPS	LTPS	KLHEP	LRPP	Total APGCL
IV	Other expenses					
14	Income taxes	1.66	2.28	1.30	1.30	6.54
15	Prior period items	0.00	0.00	0.00	0.00	0.00
16	Impact of ROP	9.19	8.75	4.51	0.00	22.45
17	Special R&M	0.00	0.00	0.00	0.00	0.00
IV	Total Other expenses	10.85	11.03	5.81	1.30	28.99
V	Total Revenue Requirement	144.45	172.77	74.30	111.22	502.73
V	Incentive for generation for FY 2018-19	0.00	0.63	1.04	0.00	1.68
VI	Add: Incentive for secondary Energy Generation	0.00	0.00	0.00	0.00	0.00
VI	Total Cost	144.45	173.40	75.35	111.22	504.41
VII	Revenue from Sale of Power	130.15	178.86	101.94	101.75	512.69
VIII	Revenue Gap (+) / Surplus (-)	14.30	(5.46)	(26.59)	9.47	(8.28)

2.2.2 APGCL has claimed revenue surplus of Rs 8.28 Crore along with holding cost of Rs. 1.01 Crore (Total Surplus of Rs 9.29 Crore) for FY 2018-19 in the true-up.

### 2.3 Annual Performance Review for FY 2019-20

2.3.1 APGCL has claimed the ARR after APR for FY 2019-20 based on its estimations, as detailed in the table below:

**Table 2: ARR after APR for FY 2019-20 as submitted by APGCL (in Rs Crore)**

Sl. No.	Particulars	NTPS	LTPS	KLHEP	LRPP	Total APGCL
I	Power Generation					
1	Gross Generation (MU)	221.24	396.89	346.46	520.82	1482.42
2	Net Generation (MU)	207.92	362.92	344.73	504.45	1420.03
3	Auxiliary Consumption (%)	6.02	8.56	0.5	3.14	4.40
II	Fixed Charges					
4	Operation & Maintenance Expenditure	40.12	41.74	30.95	22.62	135.44
5	Employee Expenses	36.70	30.11	22.93	13.88	103.62
6	R&M Expenses	1.94	8.00	4.21	8.05	22.20
7	A&G Expenses	1.47	3.63	3.81	0.69	9.62
8	Interest & Finance Charges	0.22	0.00	21.25	3.23	24.69
9	Interest on working Capital	4.66	7.07	2.86	4.65	19.24
10	Depreciation	1.56	11.55	21.35	2.31	36.77
11	Return on Equity	8.53	22.18	10.96	2.34	43.99



Sl. No.	Particulars	NTPS	LTPS	KLHEP	LRPP	Total APGCL
12	Less: Other Income	7.13	9.22	5.75	0.00	22.09
13	Total Fixed Charges	47.95	73.32	81.62	35.15	238.03
III	Fuel Cost	72.66	139.15	0.00	107.62	319.43
IV	Other expenses					
14	Special R&M	-	-	-	-	-
15	Capacity Building	0.10	0.10	0.10	-	0.30
V	Total Other expenses	0.10	0.10	0.10	0.00	0.30
VI	Total Revenue Requirement	120.71	212.57	81.72	142.77	557.77
VII	Total Cost	120.71	212.57	81.72	142.77	557.77
VIII	Revenue from Sale of Power	83.62	184.34	83.65	137.21	488.82
IX	Revenue Gap (+) / Surplus (-)	37.08	28.24	-1.93	5.56	68.95

## 2.4 Revised ARR for FY 2020-21 for NTPS, LTPS, KLHEP and LRPP

2.4.1 APGCL has projected the revised ARR for FY 2020-21 for NTPS, LTPS, KLHEP and LRPP as detailed in the Table below:

**Table 3: Revised ARR for FY2020-21 for NTPS, LTPS, KLHEP and LRPP as projected by APGCL (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
Gross Generation (MU)	173.73	425.74	385.00	519.40
Net Generation (MU)	165.9	402.3	383.10	501.20
Auxiliary Consumption (%)	4.50	5.50	0.50	3.50
<b><u>Fixed Charges</u></b>				
O&M Expenses	20.34	40.32	30.59	21.30
Interest & Finance Charges	0.60	0.45	20.65	3.10
Interest on working Capital	2.63	6.76	3.15	4.35
Depreciation	1.83	12.12	22.94	2.31
ROE	8.53	22.18	11.27	2.37
Less: Other Income	7.13	9.22	5.75	0.00
Total Fixed Charges	26.79	72.61	82.86	33.43
Other Expenses				
Special R&M	0.00	13.00	15.10	0.00
Capacity Building	0.15	0.15	0.15	0.00
Total Other Expenses	0.15	13.15	15.25	0.00
<b>Fixed charges including other expenses</b>	<b>26.94</b>	<b>85.76</b>	<b>98.11</b>	<b>33.43</b>
<b>Fuel Cost</b>	<b>44.52</b>	<b>122.09</b>	<b>-</b>	<b>100.07</b>
<b>Total Revenue Requirement</b>	<b>71.46</b>	<b>207.85</b>	<b>98.11</b>	<b>133.50</b>

Particulars	NTPS	LTPS	KLHEP	LRPP
Fixed charges including other charges (Rs/Kwh)	1.62	2.13	2.56	0.67
Energy Charges (Rs/Kwh)	2.68	3.03	0.00	2.00
Proposed Tariff (Rs/Kwh)	4.31	5.17	2.56	2.66

**Table 4: Tariff of NTPS, LTPS, KLHEP and LRPP for FY 2020-21 as proposed by APGCL**

Particulars	NTPS	LTPS	KLHEP	LRPP
Annual Fixed Charges (Rs. Crore)	26.94	85.76	98.11	33.43
Monthly Fixed Charges (Rs. Crore)	2.25	7.15		2.79
Total Capacity Charges (Rs Crore)			49.05	
Energy Charge Rate (Rs. /kWh)	2.68	3.03	1.28	2.00

### 3 Summary of Stakeholders Comments, Response of APGCL and Commission's View

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3.1.1 The Commission received objections/ suggestions from the following three (3) stakeholders on the Petitions filed by APGCL.

Sl. No.	Name of Respondent
1	Assam Branch of India Tea Association (ABITA)
2.	Consumer Advocacy Cell (CAC)
3	Federation of Industries and Commerce of North Eastern Region (FINER)

3.1.2 A Consumer Advocacy Cell was constituted by the Commission vide Notification No. AERC./668/2018/188 dated 13.08.2019 primarily to represent the interest of the consumers from domestic segment, educational institutions, small commercial units and small scale industries and any other consumers who does not have an organized forum to represent their case before the Commission The Cell was an outcome of a resolution taken during the 25th Meeting of the State Advisory Committee (SAC) held on 26.07.2019. The Cell consists of members from the State Advisory Committee and others having expertise and experience in the electricity sector. The Notification regarding formation of CAC is available in the website of the Commission.

3.1.3 APGCL submitted its responses to the objections/ suggestions received from the above objectors.

3.1.4 The Commission considered the objections /suggestions received and notified the respondents to take part in the Hearing process by presenting their views in person before the Commission, if they so desired.

3.1.5 The Commission held Public Hearing at its New Office Building (Bidyut Niyamak Bhawan) on February 19, 2020.

3.1.6 The respondents attended the Hearing and submitted their views/ suggestions. All the written representations submitted to the Commission and the oral submission made before the Commission in the Hearing and the responses of APGCL have been carefully considered while issuing this Tariff Order.

3.1.7 The objections/ suggestions made by the objectors and responses of the petitioner

are briefly dealt with in this Chapter. The major issues raised by the objectors are discussed below along with the response of the Petitioner (APGCL) and views of the Commission.

3.1.8 The figures quoted in the submissions by the respondents/Petitioner are as mentioned by them in their submissions. While all the objections /suggestions have been given due consideration by the Commission, only major responses/ objections received on the Petitions and also those raised during the course of Hearing have been grouped and addressed issue wise, in order to avoid repetition.

### **Issue 1: Performance of NTPS, LTPS & LRPP**

#### **Stakeholders Comments**

CAC submitted that the units of NTPS have already completed their life span. Therefore, NRPP project was taken up in two phases to replace the old machines in March 2009 with scheduled date of completion fixed as March 2012. However, even after a time lag of 11 years, the NRPP Phase I could not be completed.

CAC submitted that in FY 2018-19, against a commitment of 539.42 MU, NTPS could supply only 314.47 MU. In FY 2019-20, generation projected is even lower. CAC submitted that APGCL should clarify on status of implementation of NRPP stating when the said project would be made functional.

CAC further submitted that for LTPS, APGCL failed to meet the target because of gas supply issues coupled with forced shutdown of one of its unit. CAC submitted that APGCL should adopt diagnostic management strategies to avoid forced shut down of its turbines. Instead, planned shutdown can be carried out after a proper analysis of the data acquired through diagnostic maintenance schedule.

Regarding LRPP, CAC observed that APGCL failed to sustain the normative availability of the plant in FY 2018-19.

#### **Response of APGCL**

APGCL submitted that the physical status of activities completed till date along with the list of activities to be undertaken prior to commissioning of NRPP have been submitted to the Commission and the respondent. APGCL further submitted that NRPP is expected to be commissioned by the end of March 2020.

APGCL submitted that LTPS is running optimally as per the Original Equipment Manufacturer (OEM's) SOP. Further, APGCL constantly monitors the plant operations in line with the operating manuals of the units. It was informed that, to minimize such shut down periods of the unit, the OEM has suggested overhauling of the gas compressor as they are very old and in use since 1994. APGCL also submitted that it has already started the overhauling process and the overhauling works for Unit 8 is currently underway. It was further informed that no extra payment has been made to M/s Wartsila under terms of service after commissioning of the units.

### **Commission's views**

The performance of APGCL and analysis of the Commission are discussed in the subsequent chapters.

## **Issue 2: Plant Availability Factor (PAF) & Plant Load Factor (PLF)**

### **Stakeholders Comments**

ABITA & FINER submitted that APGCL has achieved PAF less than the normative PAF for its generating stations NTPS and LRPP for FY 2018-19. ABITA requested the Commission to allow recovery of fixed charges pro-rata to actual PAF achieved by each generating station and permit variations in PAF due to uncontrollable factors only after detailed prudence check.

ABITA & FINER further submitted that APGCL has achieved lower PLF than approved PLF for NTPS, KLHEP and LRPP in FY 2018-19 and requested the Commission to allow incentive in accordance with provisions in the Regulations.

### **Response of APGCL**

APGCL submitted that NTPS lost the opportunity to generate 67.78 MU of electricity due to Grid unavailability and Grid disturbance. It has claimed additional availability as the shutdown, or the interruption of the grid is a Force Majeure event / circumstance.

APGCL also submitted the list of Breakdowns of the transmission lines and generation loss on account of the same to the Commission vide its reply in response to Data gaps on the Petitions dated 10.01.2020.

## **Commission's View**

The performance of APGCL and analysis of the Commission are discussed in the subsequent chapters of this Order.

### **Issue 3: Gross Station Heat Rate (GSHR)**

#### **Stakeholders Comments**

ABITA requested the Commission not to pass on the performance inefficiencies of APGCL to the end consumers. APGCL has submitted reasons such lower gas supply, evacuation constraints and aged unit/ auxiliaries led to higher than normative SHR. ABITA requested the Commission to consider the SHR as per approved norms for FY 2018-19 or actual, whichever is lower.

FINER submitted that APGCL in its petition is seeking significantly higher heat rate, for NTPS and LRPP, than the normative heat rate prescribed by the Commission. Arrangement of fuel is responsibility of APGCL and thus, it cannot claim relaxation in normative SHR on account of lower gas supply.

CAC submitted that gross station heat indicates fuel efficiency of the plant. The actual GSHR of the thermal stations as submitted by APGCL needs to be reviewed in the context of the auxiliary consumption, PAF and generation achieved by the respective station so as to ascertain the overall thermal efficiency of the stations and determine the trajectory of optimum efficiency.

#### **Response of APGCL**

APGCL submitted that it had claimed the actual SHR achieved by the plants factoring in the lower gas supply, evacuation constraints, and operational implications of running the older units which resulted in higher SHR for NTPS.

APGCL submitted that it has managed to achieve lower than normative SHR for LTPS and LRPP for FY 2018-19 and requested the Commission to duly consider the SHR claimed on actual basis giving due consideration to the operating conditions of APGCL.

APGCL submitted that the Company has provided the detailed calculations in excel files for the SHR of NTPS, LTPS and LRPP to the Commission as part of the main Petition.

## **Commission's Views**

The Commission has determined Gross Station Heat Rate for NTPS and LTPS based on the study undertaken by IIT Guwahati in year 2014. Accordingly, the Commission has specified the norms for Gross Station Heat Rate in MYT Regulations, 2015 as well as in MYT Regulations, 2018.

In the present Order, the Commission approved GSHR as per norms specified in the MYT Regulations. The details are given in the relevant Chapters of this Order.

## **Issue 4: Auxiliary Energy Consumption (AEC)**

### **Stakeholders Comments**

ABITA & FINER submitted that while the actual AEC of KLHEP and LRPP are as per norms or better, the AEC of NTPS and LTPS are very high in FY 2018-19. AEC is a controllable parameter and therefore, ABITA requested the Commission to allow AEC as per the norms specified in the Tariff Regulations, 2015. Otherwise, unjustified increase in AEC would burden the consumers with higher tariff.

FINER submitted that even in previous years, FY 2016-17 and 2017-18, APGCL was unable to meet the auxiliary consumption targets set by the Commission. APGCL has always cited lack of supply/ non-availability of gas as a reason for its inefficiencies. However, APGCL is yet to show any concrete steps taken by it to solve this problem.

### **Response of APGCL**

APGCL submitted that auxiliary consumption of NTPS is higher than the approved auxiliary consumption in FY 2018-19 due to part loading of units resulting from low/ non-availability of gas which is beyond the control of APGCL.

In addition to this, Unit 5 of NTPS cannot be operated at its full load capacity even when sufficient gas is available to run the unit, as it is facing high exhaust temperature problem (Oil & Air seals). This problem has not been solved due to lack of spare parts. In view of the upcoming NRPP, spares for the unit have not been procured.

APGCL submitted that the auxiliary consumption of LTPS is higher than the approved values due to low gas pressure in supply of gas and due to part loading of units. Further, the lower gas supply restricts simultaneous operations of all 3 GTs most of the time. As the WHRU is designed to run with 3 HRSGs, non-availability of one HRSG increases the

percentage of APC as gross power generation reduces. However, same number of auxiliaries has to be run to operate the WHRU.

### **Commission's View**

For the purpose of truing up for FY 2018-19, auxiliary consumption has been approved as per norms specified in the MYT Regulations, 2015. The sharing of efficiency gains/losses has been done in accordance with the Regulations. As per MYT Regulations, 1/3<sup>rd</sup> of efficiency gains or losses are only passed on to the consumer and the balance is retained/absorbed by Generating Company and Licensees. The details are available in the relevant Chapters of this Order.

### **Issue 5: Return on equity**

#### **Stakeholders Comments**

ABITA submitted that APGCL has claimed Rs. 6.02 Crore towards additional capitalization and Rs. 1.19 Crore towards Foreign Exchange Rate Variation (FERV) loss for the LRPP project. APGCL has submitted that the expenditure undertaken post COD of LRPP is within the original scope of work and these were either works deferred for execution or undischarged liabilities recognized to be payable at a future date.

ABITA requested the Commission to consider the equity base and return on equity for FY 2019-20 and FY 2020-21 in accordance with Tariff Regulations, 2018.

#### **Response of APGCL**

APGCL submitted that it has computed the Return on Equity considering the approved equity for APGCL by the Commission as well as additional capitalization of Equity base in KLHEP and LRPP in FY2019-20 and FY2020-21.

For KLHEP, APGCL had incurred Rs. 4.07 Crore in FY 2019-20 from its own source to fund for Refurbishment of 2 Nos. of Penstock Protection Butterfly valves supplied by BHEL at 2x50 MW KLHEP which had become mandatory due to safety issue.

For LRPP, APGCL had incurred Rs. 8.95 Crore in FY2019-20 of which the equity portion has been considered on the normative allowed debt-equity ratio of 70:30 after reduction of the grant portion as per order of the Commission.



## **Commission's View**

The details regarding computation of RoE has been discussed in subsequent chapters of this Order.

The additional capitalization for Generating Stations has been allowed by the Commission based on the Capital Investment Plan approved for the Control period, subject to prudence check. Regarding the capitalization of LRPP, the Commission in its Order for approval of Capital Cost has approved the total Project cost for LRPP. The capital cost as on Commercial Date of Operation and cost to be incurred after COD and before cut-off date was approved in that Order. The Commission in the present Order has approved the additional capitalization for LRPP after taking into account the approved Project Cost. The detailed analysis and rulings of the Commission is discussed in subsequent Chapters of this Petition.

## **Issue 6: Capacity Building**

### **Stakeholders Comments**

FINER submitted that the Commission vide Directive 5 granted Rs 1 Crore towards capacity building of APGCL's employees. The Commission also directed APGCL to submit detailed expenditure incurred due to capacity building and submit the same at the time of true-up. However, APGCL has not submitted any such detail in its petition.

### **Response of APGCL**

APGCL submitted that the details of capacity building programs undertaken by APGCL shall be duly submitted during the True Up of FY 19-20 and FY 20-21.

### **Commission's View**

The issue regarding capacity building is discussed in the review meetings held from time to time. The Commission will allow expenses towards Capacity Building at time of trueing up for FY 2019-20, subject to prudence check.

## **Issue 7: O& M Expenses**

### **Stakeholders Comments**

FINER submitted that APGCL has sought combined O&M expenses of Rs 113.49 Cr, excluding special R&M and impact of Revision of Pay for FY 2018-19. O&M expenses

have to be segregated within different stations. AEGCL has also not mentioned that O&M expenses will be recovered as per the actual PAF, which is lower than the approved PAF. Thus, as the PAF for NTPS and LRPP has been lower than the normative parameter set by the Commission, full O&M cannot be allowed to APGCL.

Further, FINER submitted that APGCL has only claimed impact of pay revision from NTPS, LTPS and KHLEP without any claim being made with respect to LRPP. Thus, it is requested to ensure that pay revision impact attributable to LRPP' employees, deployed in construction activities, is capitalized and not recovered through other operating plants.

FINER also submitted that APGCL has claimed Rs 124.14 Cr towards O&M expenses for FY 2019-20 against the approved Rs105.93 Cr. The same has been done upon consideration of projected effective capacity specially that of NTPS. FINER submitted that as per the APR petition the expected COD for GY unit of NRPP is 01.01.2020 while that of the whole plant is 01.03.2020. FINER requested that increase in O&M expenses be allowed only once the project is actually commissioned as there may be further delay.

CAC submitted that it should be ensured whether O&M expenses claimed is on actual basis or on normative for FY 2018-19.

### **Response of APGCL**

APGCL submitted that O&M expenses for FY 2018-19 has been submitted separately for the power stations in relevant formats submitted to the Commission. Since the performance parameters are impacted by non-controllable factors, APGCL requested the Commission to duly consider the O&M expenses claimed on actual basis.

Regarding Impact of Pay Revision, APGCL submitted that the Commission via its Order dated 1st March 2019 has provisionally approved impact of Revision of Pay for FY 2018-19 at Rs. 22.37 Crore for NTPS, LTPS and KLHEP. The actual impact of ROP incurred by APGCL in FY2018-19 was Rs. 22.45 Crore for the three plants.

APGCL submitted that it has projected the O&M expenses for FY 2019-20 & 2020-21 based on the current conditions prevailing regarding the commissioning of the NRPP.

APGCL submitted that it had claimed the actual O&M cost factoring in the operational implications of running the units with actual operating heat rates, actual cost of manpower, actual maintenance activities and actual general & administrative expenses incurred.

## **Commission's views**

The Commission noted that APGCL has allocated the employees of LTPS to LRPP. However, for the purpose of truing up, Revision of Pay amount has been shown combined for LTPS and LRPP and shown against LTPS. The details regarding computation of O&M is discussed in the relevant Chapters of this Order.

## **Issue 8: Depreciation**

### **Stakeholders Comments**

ABITA submitted that APGCL has proposed depreciation of Rs. 36.17 Cr. as against the approved depreciation of Rs. 38.35 Cr for FY 2018-19. ABITA requested the Commission to compute the depreciation based on actual capitalization for FY 2018-19 in line with the provisions of the Tariff Regulations, 2015. ABITA observed that for LRPP, weighted average rate of depreciation is wrongly computed 9.56%. The weighted average rate of depreciation for the asset class other civil works (3.34%) and Plant & Machinery-Gas (5.28%) cannot be 9 %.

### **Response of APGCL**

APGCL made the following submissions:

**For LRPP:** In FY2018-19, the total depreciation for LRPP was Rs. 11.83 Crore LRPP was commissioned on April 26, 2018 and hence the asset was used and depreciated for 340 days in the year. However, the average GFA was Rs. 129.01 Crore for LRPP in FY2018-19 as the opening GFA was taken at Nil.

Thus, the average depreciation rate for FY 2018-19 is 9.17%. APGCL submitted that in FY2019-20 and FY2020-21, the average depreciation rate has been projected at 4.60% and 4.52% respectively.

**For NTPS, LTPS and KLHEP:** APGCL submitted that it has provided detailed calculation for depreciation considering the actual capitalization in FY2018-19 to the Commission in the excel files attached with the petition.

APGCL pointed out that ABITA has taken different value of opening GFA of LTPS than submitted by APGCL. Also, while it has considered the capitalization figures submitted by APGCL for LTPS, KLHEP and LRPP, it has taken a different value of capitalization for

NTPS. APGCL submitted that it has provided the annual audited accounts for FY2018-19 along with CAG comments on Accounts for FY2018-19 to the Commission.

### **Commission's views**

Discussions on computation of depreciation are available in the subsequent chapters.

## **Issue 9: Aggregate Revenue Requirement (ARR)**

### **Stakeholders Comments**

ABITA proposed the various components of Annual Fixed Charges and Energy Charges for FY 2019-20 and FY 2020-21 in accordance with the AERC Tariff Regulations, 2018 and requested the Commission to accept its revised calculations of ARR. ABITA in its rejoinder submission to the reply of APGCL submitted that, even with the estimated numbers as submitted by APGCL, there is a difference in the fuel costs computed and the fuel costs claimed by APGCL.

### **Response of APGCL**

APGCL submitted that the tables of estimated ARR of ABITA for NTPS, LTPS, KLHEP and LRPP are erroneous. Further, APGCL submitted that ABITA has not considered any Special R&M costs estimated by APGCL for FY 2020-21.

### **Commission's views**

The details of calculation of ARR are discussed in the relevant Chapters.

## **Issue 10: Procurement of Gas**

### **Stakeholders Comments**

FINER submitted that the Commission in its Order dated 01.03.2019 directed APGCL to continue pursuing its gas suppliers to obtain contracted quantum of gas on a regular basis. The Commission also directed APGCL to expedite its agreement with AGCL and amendments to its agreement with M/s OIL India Ltd. However, APGCL is still continuing with the old agreement signed with OIL. APGCL has also not committed to any date by which the amendment will be executed. Further, APGCL has extended LTPS's agreement with AGCL till 31.08.2019 however, it is essential that agreement be updated to include revised MGQ formulae considering the long pending issue of low gas supply.

CAC submitted that the issue of low gas supply needs to be resolved through proper coordination between producer, transporter and users. Accordingly, a mechanism needs to be evolved in this regard.

### **Response of APGCL**

APGCL submitted that a High-level meeting was held with GAIL & ONGC on 22nd July, 2019 under the guidance of the Principal Secretary, Power, Government of Assam on the matter of inadequate gas supply and actionable steps were formulated on augmentation of supply and utilization. ONGC and GAIL both have agreed to maintain the gas supply at constant rate if APGCL guarantees its offtake. The details of MoM have been submitted to the Commission as part of the APGCL's reply to the TVS Queries.

APGCL informed that for NTPS, the agreement for Sale and Purchase of Natural Gas between OIL India Limited and Assam Power Generation Corporation Limited for supply of 0.66 MMSCMD gas to Namrup Thermal Power Station was signed on 28-11-2007 for a period of 10(Ten) years and the said agreement expired on 27th November 2017. By the provision of the Article No. 2.0 of the original Agreement the same is renewed for another 5 years with validity up to 27-11-2022.

For LTPS, M/S AGCL has forwarded the draft GTA for a period up to 2023. The comments have already been incorporated in the draft GTA and formalities to execute the GTA will be completed very shortly.

### **Commission's views**

The issue of gas supply is a matter of concern as low availability and gas having inadequate pressure affects generation of NTPS and LTPS. APGCL should continuously pursue the matter with gas supplier/transporter to ensure guaranteed supply of gas. Directions have been issued to APGCL again in this regard in this Order.

## **Issue 11: Report of Statutory Auditor**

### **Stakeholders Comments**

FINER submitted a number of observations have been made by the statutory auditors and CAG and requested the Commission to consider these during true-up and tariff determination.

FINER submitted that the Statutory Auditor's Report observed that as per Agreement dated 22.03.2003, executed between AGCL and erstwhile ASEB, the latter was required to pay transportation cost of 80% of the monthly committed consumption on the basis of daily booked quantity i.e. 0.80 MMSCMD with OIL. However, as per the Agreement, dated 28.01.2007, executed between APGCL and OIL the DCQ and MCQ were only 0.66MMSCMD and 0.528 MMSCMD, respectively. Thus, on account of difference between DCQ and MCQ of both the agreements APGCL has to unnecessarily pay MDC to AGCL which could have been avoided. FINER requested the Commission to intervene and sort out the instant issue at the earliest.

FINER also submitted that as per CAG Report penal amount of INR 9.92 Crore has been paid to the State Government for default in repayment of loan and interest. It is prayed that the same should be excluded while truing-up.

### **Response of APGCL**

APGCL submitted that it has considered the observations of the Statutory Auditors while submitting their petitions.

APGCL submitted that M/s OIL India Ltd had entered an agreement with APGCL for 0.66 MMSCMD of gas on 28-07-2007. The allotted quantity of gas against the Namrup Thermal Power Station was 0.8 MMSCMD vide their letter no D.O: L-15011/4/92 GP Dated August 3, 1992. APGCL wrote time to time, to MoPNG and M/s OIL India LTD for entered an agreement for rest of the required quantity allotted for APGCL. In this regard M/s OIL India Ltd expressed their inability to commit gas not only to APGCL but to any NE consumers.

APGCL further submitted that the Agreement executed between AGCL and erstwhile ASEB on 22.03.2003, for 15 years. As per the agreement with M/s AGCL (Transporter) for NTPS, the contract quantity is 0.8 MMSCMD gas. Refer to the agreement article no 5.04, APGCL shall not pay any transportation charge for the gas drawn by APGCL between 80% to 100% of the booked quantum i.e beyond 0.64 MMSCMD of gas, APGCL need not to pay any transportation charge which is almost equal to agreed quantity of M/s OIL. Necessary corrective measures will be taken in the next Agreement.

APGCL informed that no Penal interest has been claimed in True up for FY 2018-19.

### **Commission's views**

The Commission has considered the report of the Auditors.

## **Issue 12: Completion of Projects on time.**

### **Stakeholders Comments**

FINER submitted that the Commission directed APGCL to complete both units of NRPP as per the revised schedule. APGCL was also directed to expedite the completion of other ongoing projects. In light of shortfalls in energy supply and additional cost in power purchase being incurred by APDCL, compliance with this directive becomes very important. FINER submitted that despite clear direction, COD for open cycle mode of NRPP has been rescheduled to 01.01.2020 while for combined cycle mode it is 01.03.2020. Therefore, FINER requested the Commission to direct APGCL to submit detailed timeline for each project, its various stages and the reasons for delay.

CAC submitted that any delay in execution of a project would spell a negative effect on interest on term loan. Therefore, APGCL should give firm commitment on execution of its incomplete projects. CAC requested the Commission to fix accountability in this respect.

### **Response of APGCL**

APGCL submitted that the detailed timeline for each project has been duly submitted to the Commission during the meeting held on 6th January 2020.

### **Commission's views**

Delay in execution of the projects by APGCL is a matter of concern for the Commission. Directions have been issued once again in this tariff order. The Commission has constituted a SAC sub-committee for APGCL to review the timely execution of projects.

## **Issue 13: Fixed Asset Register**

### **Stakeholders Comments**

FINER submitted that the Commission in Order dated 01.03.2019 directed APGCL to prepare and update the Fixed Asset Register, duly certified by Chartered Accountant, every year and submit the same during tariff proceedings. The Auditors have categorically stated that there are irregularities in the register and that physical verification of assets is yet to be done. FINER requested the Commission that APGCL be directed to explain the said irregularities and undertake physical verification of assets

at the earliest. APGCL should also be directed to make the register public so that it may be reviewed by the public.

### **Response of APGCL**

APGCL submitted that the Fixed Asset Register is updated as on 31.03.19 and will be provided as and when asked by the Commission.

APGCL further submitted that APGCL has selected the valuer for valuation and verification of fixed assets and inventories and the work is in progress.

### **Commission's views**

APGCL may make Fixed Asset Register available for inspection if so desired by Stakeholders.

## **Issue 14: APGCL & AEGCL are symbiotic**

### **Stakeholders Comments**

CAC submitted that APGCL & AEGCL successor companies of erstwhile ASEB, are separate entities. There is no clause of deemed generation applicable for these companies to be imposed mutually to fix the accountability of their failures. The alibi like a failure of AEGCL to evacuate power from the plant for which APGCL could not meet its commitment is not acceptable. A system of passing the buck to the consumers by way of tariff hike has been followed as a solution of such hitches between the companies. It contradicts the very philosophy of the Electricity Act, 2003. CAC submitted that the Commission needs to analyse such repetitive failures of companies and devise means for its redressal.

CAC submitted that APGCL & AEGCL are symbiotic for each other. AEGCL's good is also dependent on APGCLs' better functioning as narrated time and again before the commission. Yet, a better understanding between them on this crucial issue seems to be missing. CAC requested the Commission to intervene

### **Response of APGCL**

APGCL submitted that due to evacuation concerns, it had held consultations with AEGCL and requested them to remedy this constraint. A 20 MVA Auto Transformer at Tinsukia had been identified which may fit the requirements of the non-functional Namrup one. APGCL also agreed to bear the costs of shifting the transformer to Namrup



in the meeting with AEGCL on 2nd August 2018. Decision was taken to execute the same under AEGCL supervision. But, in view of upcoming NRPP no investment were made as the existing two numbers of 20 MVA transformer will be sufficient to evacuate the total power generated by NTPS. APGCL submitted that it has submitted the SLDC Certificate w.r.t. to loss of 67.78 MUs due to evacuation & transformer constraints.

APGCL requested the Commission to instruct AEGCL to develop a mechanism so that AEGCL may be able to provide certification of deemed generation in case of loss of generation due to evacuation & transformer constraints.

APGCL further submitted that it has noted the comment of the respondent. The issue raised by respondent pertains to the generating, distribution & transmission companies as a whole.

**Commission's views**

The Commission examines such claims as per provisions in Regulations and records made available.

## 4 Truing up of ARR for FY 2018-19

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### 4.1 Methodology for Truing Up

- 4.1.1 The Commission approved the ARR for existing Generating Stations viz. NTPS, LTPS and KLHEP for FY 2018-19 vide Order dated March 19, 2018. Further, the Commission has undertaken APR for FY 2018-19 for LRPP vide Order dated March 1, 2019 in Petition No. 18 of 2018.
- 4.1.2 APGCL submitted Truing-up Petition for FY 2018-19 based on audited annual accounts and provisions of MYT Regulations, 2015 and subsequent amendments thereof. APGCL has sought true-up for FY 2018-19, with the Revenue Gap/(Surplus) to be recovered from APDCL during FY 2020-21.
- 4.1.3 The Commission approves the cost parameters through approval of the ARR at the beginning of the year, keeping in view the data available at that point of time. The cost approvals for each of the items are based on projection of expenses and revenue before beginning of the year and the provisions of MYT Regulations, 2015 and subsequent amendments thereof, wherever applicable. The projections might vary over the course of the year.
- 4.1.4 The actual cost/values for certain elements/parameters may vary as against the approved cost during the year due to various controllable and uncontrollable factors. The Generating Company may end up with higher or lower expenditure, as the case may be, at the end of the year as against the approved cost.
- 4.1.5 The Commission analyses the actual expenditure for the previous year/years based on the audited Annual Accounts of the Generating Company and allows/disallows the recovery of the actual expenditure through the ensuing year's tariff, subject to prudence check.
- 4.1.6 In the present Chapter, the Commission has carried out Truing up for FY 2018-19 for existing Generating Stations, i.e., NTPS, LTPS, KLHEP and LRPP based on the submissions of APGCL, audited annual accounts for FY 2018-19 and provisions of the MYT Regulations, 2015 and subsequent amendments thereof. Apart from the audited accounts, the Commission sought Station-wise reconciliation of expenses claimed in the Petition with audited accounts for FY 2018-19 and the same has been considered for Truing up purpose.

4.1.7 In this Chapter, the Commission has analysed all the elements of actual expenditure and revenue of APGCL for FY 2018-19 and; undertaken the truing-up of expenses and revenue in accordance with Regulation 10.1 of the MYT Regulations, 2015. The Commission has approved the sharing of gains and losses on account of controllable factors between APGCL and its sole beneficiary, viz., APDCL, in accordance with Regulation 13 of the MYT Regulations, 2015 and subsequent amendments thereof.

## 4.2 Plant Availability Factor (PAF)/Capacity Index

4.2.1 The Actual PAF/Capacity Index for NTPS and LTPS and KLHEP for FY 2018-19 as submitted by APGCL are shown in the Table below:

**Table 5: Actual PAF/Capacity Index as submitted by APGCL**

Station	Actual
NTPS	44.72%
LTPS	54.30%
KLHEP	87.39%
LRPP	80.60%

4.2.2 APGCL submitted that they have considered 44.72% PAF for NTPS. APGCL submitted the following as reasons for loss of generation impacting the PAF:

- a) During FY 2018-19, it has lost the opportunity to generate 67.78 MU of electricity due to Grid unavailability and Grid disturbance.
- b) The generation loss of 1.03 MU was due to breakdown of various transmission lines and other grid disturbance from time to time during FY 2018-19.
- c) Also, generation loss of 66.76 MU was on account of evacuation constraints faced due to issues with the auto transformers used for evacuation of power from NTPS.
- d) In case of LRPP, APGCL submitted that the availability was lower than the normative PAF as the unit required stabilization after commissioning in the initial months.

### Commission's Analysis

4.2.3 In accordance with Regulation 49.1 and Regulation 51 of MYT Regulations, 2015, amended from time to time the Target PAF / Capacity Index for recovery of full Fixed

Charges are 50% for NTPS and LTPS and 85% for KLHEP.

4.2.4 Regarding the LRPP, the Regulation provides the normative availability of 85%. Moreover, 65% of normative availability was specified during the stabilisation period of 90 days. Accordingly, the normative availability for LRPP works out as 79.67% for FY 2018-19.

4.2.5 As regards NTPS, SLDC has certified PAF of 36.58%. The difference of 8.14% in PAF between 44.72% claimed by APGCL and 36.58% certified by SLDC has been sought by APGCL on the basis of “uncontrollable factors” like grid disturbance, grid unavailability and breakdown of various Transmission lines. As regards the justification of lower PAF of NTPS, the Commission raised certain queries and directed APGCL to provide detailed information with supporting documents. The Commission notes the following submission of APGCL vide its reply dated January 10, 2020:

- a) In the months of April 18, October 18 and January 19, there were multiple and repetitive transformer breakdowns. Though some maintenance was carried out locally, yet these repetitive breakdowns of the transformer has severely affected power evacuation from 132 kV switchyard. APGCL has lost total 67.78 MU due to these random technical breakdowns of transformer and the same has been certified by SLDC.
- b) APGCL due to evacuation concerns had held consultations with AEGCL and requested them to rectify this constraint. A 20 MVA Auto Transformer at Tinsukia had been identified which may fit the requirements.
- c) The Maximum generation capacity that can be evacuated by existing capacity of Auto transformer is 28 MW excluding local loads and plant auxiliary.

4.2.6 On a query raised by the Commission related to low Gas availability and Generation Loss due to low gas availability, APGCL submitted that during FY 2018-19, 0.42 MMSCMD out of allotted 0.46 MMSCMD gas received for NTPS resulting in a generation loss of 71.50 MU. Similarly, for LTPS+LRPP during 2018-19, 0.69 MMSCMD out of allotted 0.72 MMSCMD gas received resulting to a generation loss of 68.23 MU.

4.2.7 On scrutiny of the Petition as well as the replies to the queries, the Commission observes the following:

- a) APGCL has submitted SLDC certificate dated November 11, 2019, which shows that there is a loss of 66.759 MU due to auto transformer constraints against NTPS for the FY 2018-19.
- b) As regards lower gas supply, the Commission notes that during FY 2018-19, 0.42 MMSCMD out of allotted 0.46 MMSCMD and 0.69 MMSCMD out of allotted 0.72 MMSCMD gas was received for NTPS and LTPS+LRPP respectively as submitted by APGCL. The arrangement of gas is the responsibility of APGCL only, and no relaxation can be allowed for generation loss on account of lower gas availability.
- c) APGCL claimed loss of 1.026 MU pertaining to Grid disturbance and SLDC certificate confirms the same.

4.2.8 Based on the above, the Commission considers 66.759 MU losses due to auto transformer constraint and 1.026 MU losses due to evacuation constraint, i.e. a total of 67.78 MU losses, which translates to around 7.89% availability loss. Accordingly, Commission allows availability of 44.47% for NTPS.

4.2.9 The Commission generally considers the PAF/Capacity Index as per SLDC Certificate for the purpose of Truing up. The Commission notes that PAF/Capacity Index submitted in the Petition by APGCL tallies with the PAF/Capacity Index certified by SLDC for LTPS, LRPP and KLHEP. The Commission approves the actual availability for LTPS, KLHEP and LRPP as per SLDC certificate.

4.2.10 The Commission has approved the normative and actual PAF/Capacity Index for FY 2018-19 as shown in the following Table:

**Table 6: PAF/Capacity Index as approved by the Commission for FY 2018-19**

Station	Target Availability/Capacity Index (NAPAF) (%)	Actual (%)
NTPS	50%	44.47%
LTPS	50%	54.30%
KLHEP	85%	87.39%
LRPP	79.67%	80.60%

4.2.11 Regulation 53.1 (b) of the MYT Regulations, 2015 specifies that recovery of fixed charges below the level of NAPAF shall be on pro-rata basis. As the actual PAF/Capacity Index for NTPS is lower than NAPAF, the reduction of fixed charges for NTPS is computed in subsequent Sections.

4.2.12 Further, actual availability of other Generating Stations is higher than normative, hence, full recovery of fixed charges for FY 2018-19 was allowed such stations.

### 4.3 Plant Load Factor (PLF)

4.3.1 APGCL in its Petition has submitted the actual PLF for NTPS as 35.22%, for LTPS as 51.54%, for KLHEP as 42.16%, and for LRPP 75.92% for FY 2018-19.

#### Commission's Analysis

4.3.2 As per Regulation 49.2 (i) of the MYT Regulations 2015 amended from time to time, the target PLF for eligibility of incentive is 50% for NTPS and LTPS. As per Regulation 49.2 (ii) of the MYT Regulations 2015 amended from time to time, the target PLF for eligibility of incentive is 90% for LRPP. The Commission notes that actual PLF for NTPS for FY 2018-19 is lower than normative; hence, it is not eligible for incentive. However, since actual PLF for LTPS is higher than 50%, the incentive for LTPS has been computed in subsequent Section of this Chapter. For LRPP the commission noted that actual PLF for FY 2018-19 is lower than normative; hence, it is not eligible for incentive.

4.3.3 Further, the generation of KLHEP is more than design energy; hence, it is eligible for incentive. The incentive has been computed in subsequent Section of this Chapter.

4.3.4 The Commission approves the actual PLF of 36.07% for NTPS, 54.30% for LTPS, 49.08% for KLHEP and 75.54% for LRPP for FY 2018-19, after truing up.

### 4.4 Auxiliary Consumption

4.4.1 APGCL submitted the actual Auxiliary Consumption for FY 2018-19 and Auxiliary Consumption approved by the Commission in the Tariff Order dated March 19, 2018 as shown in the following Table:

**Table 7: Auxiliary Consumption for FY 2018-19 as submitted by APGCL**

Sl. No.	Station	Tariff Order dated March 19, 2018	Actual submitted by APGCL
1	NTPS	4.50%	6.75%
2	LTPS	5.50%	10.30%
3	KLHEP	0.50%	0.50%

Sl. No.	Station	Tariff Order dated March 19, 2018	Actual submitted by APGCL
4	LRPP	3.50%	3.01%

### Commission's Analysis

4.4.2 The Commission notes that actual Auxiliary Consumption for NTPS and LTPS is higher than the approved norms. In reply to the Commission's query regarding the justification of higher than approved Auxiliary Consumption for NTPS and LTPS, APGCL submitted that Auxiliary consumption of NTPS is higher due to part loading of units resulting from low/non-availability of gas. Further, APGCL in their Petition mentioned that the Auxiliary consumption of LTPS is higher than the approved values due to low gas pressure in supply of gas. Due to low gas pressure in supply, the usage of gas compressors has increased resulting in high auxiliary consumption of LTPS. The Auxiliary Consumption of NTPS and LTPS is higher than normative.

4.4.3 As Auxiliary Consumption is a performance parameter, for the purpose of truing up, the Commission has approved the Auxiliary Consumption for FY 2018-19 at the same level as that approved in the Tariff Order dated 19<sup>th</sup> March 2018. The sharing of gains/losses on account of Auxiliary Consumption has been undertaken in subsequent Section in this Chapter.

4.4.4 The Auxiliary Consumption approved by the Commission for the Truing Up of FY 2018-19 is shown in the Table below:

**Table 8: Auxiliary Consumption (%) for FY 2018-19 as approved by the Commission for truing up**

Sl. No.	Station	Actual	Approved after Truing up
1	NTPS	6.75%	4.50%
2	LTPS	10.30%	5.50%
3	LRPP	3.01%	3.50%
4	KLHEP	0.50%	0.50%

## 4.5 Gross Generation and Net Generation

4.5.1 The actual Gross Generation and Net Generation submitted by APGCL for FY 2018-19 is shown in the following Table:

**Table 9: Actual Gross and Net Generation for FY 2018-19 as submitted by APGCL**

Sl. No.	Station	Actual Gross Generation (MU)	Actual Net generation (MU)
1	NTPS	314.37	293.17
2	LTPS	472.09	423.49
3	LRPP	429.98	417.03
	<b>Total Thermal</b>	<b>1216.44</b>	<b>1133.69</b>
4	KLHEP	369.29	367.44
	<b>Total APGCL</b>	<b>1585.73</b>	<b>1501.13</b>

### Commission's Analysis

- 4.5.2 The Commission notes that actual Gross Generation and Net Generation submitted by APGCL for FY 2018-19 corresponds to the Gross and Net Generation declared in SLDC certificate.
- 4.5.3 For truing up purpose, the Commission has approved the actual Gross Generation as per SLDC Certificate. The Net Generation has been approved after applying the Auxiliary Consumption approved for truing up.
- 4.5.4 Gross Generation and Net Generation approved by the Commission for FY 2018-19 is shown in the following Table:

**Table 10: Gross and Net Generation for FY 2018-19 as approved by the Commission**

Sl. No.	Station	Gross Generation (MU)	Net generation (MU)
1	NTPS	314.37	300.23
2	LTPS	472.09	446.13
3	LRPP	429.98	414.93
	<b>Total Thermal</b>	<b>1216.44</b>	<b>1161.28</b>
4	KLHEP	369.29	367.44
	<b>Total APGCL</b>	<b>1585.73</b>	<b>1528.72</b>

### 4.6 Station Heat Rate (SHR)

- 4.6.1 APGCL submitted that the Commission in the Tariff Order dated March 19, 2018 has approved SHR for NTPS, LTPS and LRPP as 3900 kcal/kWh, 3200 kcal/kWh and 2,150 kcal/kWh respectively. The actual SHR was 4323 kcal/kWh for NTPS, 2812



kcal/kWh for LTPS and 2120 kcal/kWh for LRPP.

### Commission's Analysis

- 4.6.2 The Commission notes that actual SHR for NTPS is higher than the approved norms for FY 2018-19. APGCL submitted that this is because of part loading of units resulting due to lower gas supply & evacuation constraints and old nature of the plant equipments and machinery. However, the arrangement of gas is the responsibility of APGCL, hence, the relaxation in normative SHR on account of lower supply of gas cannot be allowed.
- 4.6.3 The Commission also noted that LTPS was completely on closed cycle mode of operation during FY 2018-19, thereby the SHR of LTPS is lower than the approved SHR. Therefore, The Commission allowed the actual SHR of LTPS as submitted by APGCL.
- 4.6.4 The Commission approves SHR for NTPS and LTPS as per MYT Regulations, 2015, as amended from time to time. Being a controllable factor, the sharing of gains/losses has been computed in a subsequent Section of this Chapter.
- 4.6.5 The SHR approved by the Commission for NTPS, LTPS and LRPP for FY 2018-19 for truing up is shown in the following Table:

**Table 11: Station Heat Rate (kcal/kWh) for FY 2018-19 as approved by the Commission**

Sl. No.	Station	Tariff Order dtd.19.03.2018	Actual submitted by APGCL	Approved after Truing up
1	NTPS	3900	4323	3900
2	LTPS with WHRU	3200	2812	2812
3	LRPP	2150	2120	2150

### 4.7 Fuel Cost

- 4.7.1 APGCL submitted that the Commission in the Tariff Order dated March 19, 2018, had approved Fuel Cost of Rs. 124.63 Crore for NTPS and Rs 124.43 Crore for LTPS. As against this, APGCL has incurred actual fuel cost of Rs. 95.19 Crore for NTPS, Rs. 116.16 Crore for LTPS and 79.77 Crore for LRPP. APGCL has submitted the month-wise true copies of Fuel Bills raised by APGCL's suppliers for FY 2018-19 in its quarterly FPA reports. APGCL claimed the actual fuel cost of Rs. 95.19 Crore for

NTPS, Rs. 116.16 Crore for LTPS and 79.77 Crore for LRPP.

### **Commission's Analysis**

- 4.7.2 Since, gas supply is common for LTPS and LRPP, the Commission has considered the same values of GCV of Gas and Price of Gas for LTPS and LRPP for the purpose of truing up.
- 4.7.3 The Commission has verified the actual fuel price and Gross Calorific Value (GCV) of fuels from the actual fuel bills submitted by APGCL. Based on the detailed scrutiny of the fuel bills, the Commission has considered the actual price of fuel and GCV for NTPS, LTPS and LRPP.
- 4.7.4 The Commission has computed the weighted average price of gas and weighted average GCV of Gas for NTPS and LTPS based on actual month-wise quantity of gas received, moth-wise GCV of gas received and month-wise fuel cost.
- 4.7.5 The actual weighted average GCV and landed price of gas considered by the Commission for truing up of fuel cost is shown in the Table below:

**Table 12: Actual GCV and Price for FY 2018-19 considered by the Commission**

<b>Station</b>	<b>Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)</b>	<b>Wt. Avg. Price of Gas (Rs. /1000 SCM)</b>
NTPS	8893.61	6218.55
LTPS & LRPP	9131.31	8129.49

- 4.7.6 The Commission has trued up the Fuel Cost based on the approved performance parameters and actual fuel price and GCV for FY 2018-19. The Commission has approved the Gross Generation for NTPS, LTPS and LRPP as discussed in earlier Section of this Chapter. The fuel cost for different thermal stations corresponding to approved generation has been computed based on the approved normative parameters as shown in the following Table:

**Table 13: Normative Fuel Cost for FY 2018-19 as computed by the Commission**

S. No.	Particulars	Unit	NTPS	LTPS	LRPP
1	Gross Generation	MU	314.37	472.09	429.98
2	Heat Rate	kcal/kWh	3,900.00	2,812.00	2,150.00
3	Overall Heat	Giga cal.	1,226,054.70	1,327,519.89	924,448.40
4	GCV of gas	kcal/SCM	8,893.61	9,131.31	9,131.31
5	Gas consumption	M. SCM	137.86	145.38	101.24
6	Price of Gas	Rs./1000 SCM	6,218.55	8,129.49	8,129.49
7	Cost of gas	Rs. Crore	85.73	118.19	82.30

4.7.7 On the above basis, normative Fuel Cost and actual Fuel Cost for FY 2018-19 for different thermal stations corresponding to actual gross generation is given in the Table below:

**Table 14: Fuel Cost for FY 2018-19 as approved by the Commission for truing up**

Station	Actual Fuel Cost submitted by APGCL (Rs. Crore)	Normative Fuel Cost approved by Commission (Rs. Crore)
NTPS	95.19	85.73
LTPS	116.17	118.19
LRPP	79.77	82.30

4.7.8 The sharing of efficiency gains and losses on account of fuel cost has been discussed in subsequent Section of this Chapter.

## **4.8 Incentive for Generation**

4.8.1 APGCL has claimed the Incentive on generation as per provisions of MYT Regulations, 2015 as amended from time to time. Since, actual PLF for LTPS is higher than the normative PLF of 50% for FY 2018-19, APGCL has claimed the Incentive of Rs. 0.63 Crore for LTPS at Rs. 0.50/kWh on the additional generation over and above normative PLF.

4.8.2 As regards KLHEP, APGCL submitted that Net Generation in FY 2018-19 was 367.44 MU. As per the MYT Regulations, 2015, as amended from time to time, APGCL submitted that the actual availability of KLHEP is 87.39% which is higher than that of Normative availability 85%. Accordingly, APGCL claimed the Incentive of

Rs 1.03 Crore in the truing up of FY 2018-19.

### Commission's Analysis

- 4.8.3 APGCL is eligible for incentive for the Thermal stations at a flat rate of Rs. 0.50/kWh, for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target PLF. The incentive calculations for Thermal Generating Stations are given in the Tables below:

**Table 15: Incentive approved by the Commission for Thermal Generating Stations**

Sr. No.	Station	Net Generation (MU)		Ex-bus energy eligible for incentive (MU)	Incentive (Rs. Crore)
		At target PLF	Actual		
1	LTPS	410.83	423.49	12.66	0.63

- 4.8.4 As per the MYT Regulations, 2015, Hydro Generating Stations is eligible for Incentive on account of higher Generation than Design Energy and on account of higher Capacity Index than normative Capacity Index.

- 4.8.5 As regards KLHEP, the Commission notes that actual Net Generation of KLHEP is 367.44 MU, which is lower than Net Design Energy of 388.05 MU. Hence, KLHEP is not eligible for Incentive on account of higher generation. Further, it is noted that Actual Capacity Index is higher than normative. The Commission works out the incentive based on month-wise actual Capacity Index and Annual Fixed Charges approved after Truing up. The Commission approves Incentive of Rs. 1.03 Crore for KLHEP for FY 2018-19 as shown in the following Table:

**Table 16: Incentive approved by the Commission for KLHEP**

Sl. No.	Month	Actual AFC for FY 2018-19	Days	Capacity Index (%)		Capacity Charges with Incentive	Incentive
				Normative	Actual		
1	April	6.04	30	85%	59.30%	2.11	(0.91)
2	May	6.24	31	85%	82.64%	3.03	(0.09)
3	June	6.04	30	85%	99.62%	3.54	0.52
4	July	6.24	31	85%	95.96%	3.52	0.40
5	August	6.24	31	85%	90.84%	3.33	0.21
6	September	6.04	30	85%	94.37%	3.35	0.33
7	October	6.24	31	85%	94.37%	3.46	0.34
8	November	6.04	30	85%	89.11%	3.17	0.15

Sl. No.	Month	Actual AFC for FY 2018-19	Days	Capacity Index (%)		Capacity Charges with Incentive	Incentive
				Normative	Actual		
9	December	6.24	31	85%	82.31%	3.02	(0.10)
10	January	6.24	31	85%	87.44%	3.21	0.09
11	February	5.64	28	85%	91.13%	3.02	0.20
12	March	6.24	31	85%	81.70%	3.00	(0.12)
<b>13</b>	<b>Total</b>	<b>73.48</b>	<b>365.00</b>		<b>87.39%</b>	<b>37.77</b>	<b>1.03</b>

4.8.6 Accordingly, the Commission approves the incentive of Rs. 0.63 Crore for LTPS and Rs.1.03 Crore for KLHEP for FY 2018-19.

#### 4.9 O&M Expenses

4.9.1 APGCL submitted that considering the hybrid escalation factor comprising WPI and CPI for the last three years, the Commission approved numbers for FY 2018-19 have been escalated to arrive at the new normative values of O&M expenses for FY 2018-19.

4.9.2 Against this new normative O&M expenses, the actual O&M expenses and APGCL's claim for O&M expenses for FY 2018-19 are as shown in the table below.

**Table 17: O&M expenses for FY 2018-19 as claimed by APGCL (Rs. Crore)**

Station	Calculated as per Regulation on numbers approved in Order of 19.03.2018	Calculated as per Regulation on numbers approved for True-up of FY 17-18 and as per APR for FY 18-19	Actuals as per audited accounts for FY 2018-19(including ROP)	Amount considered for True up Petition for FY 2018-19 (excluding Special R&M and impact of Revision of Pay)
NTPS	42.74	42.57	49.51	40.32
LTPS	46.30	46.11	38.53	29.78
KLHEP	23.85	23.75	29.27	24.76
LRPP	18.92	17.56	18.63	18.63
<b>Total</b>	<b>131.81</b>	<b>129.99</b>	<b>135.95</b>	<b>113.49</b>

4.9.3 The Station-wise details of head-wise O&M expenses claimed for FY 2018-19 by

APGCL are given in the table below:

**Table 18: Details of O&M expenses claimed by APGCL for FY 2018-19 (Rs. Crore)**

Station	Employee Cost	R&M	A&G	Total
NTPS	31.87	4.84	3.61	40.32
LTPS	18.83	5.93	5.01	29.78
KLHEP	15.12	5.57	4.07	24.76
LRPP	14.63	3.57	0.43	18.63
<b>Total</b>	<b>80.46</b>	<b>19.92</b>	<b>13.12</b>	<b>113.49</b>

4.9.4 APGCL submitted that that increase in Revision of Pay and Special R&M are being claimed separately as per the Tariff Regulations 2015, shown in the Table below:

**Table 19: ROP and payment of arrears for FY 2018-19 (Rs. Crore)**

Station	Approved as per order of March 2018	Approved in Order for March 2019	Amount appeared in Annual Accounts for FY 2018-19	Amount claimed for True-Up
NTPS	1.62	8.35	9.19	9.19
LTPS	1.89	9.87	8.75	8.75
KLHEP	2.71	4.15	4.51	4.51
LRPP	0	0	0	0
<b>Total</b>	<b>6.22</b>	<b>22.37</b>	<b>22.45</b>	<b>22.45</b>

### Commission's Analysis

4.9.5 In the Tariff Order dated 19<sup>th</sup> March 2018, the Commission has approved O&M Expenses on normative basis as per the provisions of MYT Regulations, 2015. In the MYT Order, the Commission has determined the O&M expenses by escalating the trued-up expenses for FY 2017-18 at an escalation factor of 3.09% equal to average of last two years CPI and WPI considered in the ratio of 60:40.

4.9.6 For computation of normative O&M expenses in this Order, the Commission has considered the revised escalation factor of 3.09% over the trued-up O&M expense of FY 2017-18. The Commission works out the normative O&M expenses for FY 2018-19 as shown in the following Table:

**Table 20: Normative O&M Expenses worked out for FY 2018-19 (Rs. Crore)**

Station	Employee Cost	A&G	R&M	Total
NTPS	35.51	2.47	4.75	42.73
LTPS	39.19	2.22	4.88	46.29
KLHEP	15.70	4.51	3.63	23.84

- 4.9.7 Further, the Commission notes that LRPP has been commissioned on April 26, 2018. The Commission in its Order dated March 1, 2019 in Petition No. 18 of 2018 has approved normative O&M Expenses for LRPP while undertaking APR for FY 2018-19. The Commission hereby approves normative O&M Expenses of Rs. 17.56 Crore for LRPP for FY 2018-19 as per MYT Regulations, 2015.
- 4.9.8 The Commission notes that, for operation of LRPP, no separate employees are recruited. The employees of LTPS has been allocated to LRPP. The Commission notes that APGCL submitted the actual O&M Expenses for LTPS and LRPP.
- 4.9.9 In response to the specific query regarding the allocation of expenses between LTPS and LRPP, APGCL submitted that Employee Cost has been allocated in proportion to installed capacity of LTPS and LRPP i.e., 99.25 MW and 64.98 MW respectively. Moreover, A&G Expenses and R&M Expenses have been considered based on actuals.
- 4.9.10 The Commission has approved the normative O&M Expenses for LTPS based on past trend. Since, the employees have been allocated to LRPP, the normative O&M expenses for LTPS ought to revise on account of the same. The Commission notes that APGCL submitted the actual Employee Cost of Rs. 18.83 Crore for LTPS and Rs. 14.63 Crore for LRPP, which are in the ratio of 56:44. However, the ratio of Installed capacity is 60:40. For the purpose of truing up, the Commission has revised the Employee cost for LTPS based on actual Employee cost submitted by APGCL. Further, there is no revision in A&G Expenses and R&M Expenses has been considered as the same has been considered based on actuals.
- 4.9.11 In view of the above, the Commission approves the normative O&M Expenses for APGCL for FY 2018-19 as shown in the following Table:

**Table 21: Normative O&M Expenses for FY 2018-19 as approved by the Commission (Rs. Crore)**

Station	Employee Cost	A&G	R&M	Total
NTPS	35.51	2.47	4.75	42.73
LTPS	22.05	2.22	4.88	29.15
KLHEP	15.70	4.51	3.63	23.84
LRPP				17.56

4.9.12 The Commission has approved the amount of Rs. 22.45 Crore towards Revision of Pay for FY 2018-19 separately. For the purpose of sharing of gains and losses, the Commission has considered the actual O&M Expenses submitted by APGCL, excluding Revision of Pay amount.

#### 4.10 Depreciation

4.10.1 APGCL submitted that the Commission in the Tariff Order dated March 19, 2018 approved Depreciation of Rs. 40.50 Crore for APGCL for FY 2018-19.

4.10.2 APGCL submitted that it has computed the Depreciation as per MYT Regulations, 2015 and considering Capital Cost of the asset admitted by the Commission with 10% salvage value. Also, depreciation on grants has been subtracted. The table below summarizes the plant wise Depreciation considered for True-up of FY 2018-19:

**Table 22: Details of Depreciation claimed by APGCL for FY 2018-19 (Rs. Crore)**

Station	Particulars	Tariff Order	Approved in APR	APGCL's Submission
NTPS	Depreciation	1.86	1.53	1.62
	Less: Depreciation on assets funded by Grants	0.13	0.11	0.11
	<b>Net Depreciation</b>	<b>1.74</b>	<b>1.42</b>	<b>1.50</b>
LTPS	Depreciation	17.83	17.47	13.04
	Less: Depreciation on assets funded by Grants	2.42	2.41	1.78
	<b>Net Depreciation</b>	<b>15.41</b>	<b>15.05</b>	<b>11.25</b>
KLHEP	Depreciation	24.92	24.48	23.65



Station	Particulars	Tariff Order	Approved in APR	APGCL's Submission
	Less: Depreciation on assets funded by Grants	2.61	2.61	2.51
	<b>Net Depreciation</b>	<b>22.30</b>	<b>21.87</b>	<b>21.14</b>
LRPP	Depreciation	8.7	11.3	11.83
	Less: Depreciation on assets funded by Grants	7.65	8.53	9.56
	<b>Net Depreciation</b>	<b>1.05</b>	<b>2.77</b>	<b>2.27</b>

### Commission's Analysis

4.10.3 For the purpose of Truing up, the Commission has considered the Station-wise Closing GFA of FY 2017-18 as the opening GFA for FY 2018-19. The Commission has considered the addition of GFA during FY 2018-19 as submitted by APGCL.

4.10.4 Regarding LRPP, the Commission notes that APGCL has submitted the actual additional capitalisation of Rs. 12.21 Crore as against the capitalisation of Rs. 22.34 Crore. The Commission in its Order for approval of capital cost has approved the total additional capitalisation of Rs. 22.34 Crore, post COD for LRPP. APGCL has claimed the additional capitalisation of Rs. 12.21 Crore in FY 2018-19 and Rs. 8.95 Crore in FY 2019-20, which comes out as Rs. 21.16 Crore. The additional capitalisation claimed is lower than approved additional capitalisation. The Commission sought details of actual capitalisation made by APGCL during FY 2018-19 and proposed capitalisation for FY 2019-20. Hence, for the purpose of truing up for FY 2018-19, the Commission approves the actual capitalisation of Rs. 12.21 Crore for FY 2018-19 and proposed capitalisation of Rs. 8.95 Crore for FY 2019-20. Any variation on account of time overrun and cost overrun towards additional capitalisation shall be considered at time of Truing up for FY 2019-20.

4.10.5 The Commission has considered the actual capitalisation for NTPS, LTPS and KLHEP based on audited accounts for FY 2018-19.

4.10.6 The Commission has computed depreciation as per scheduled rates specified in the Tariff Regulations, 2015 as amended from time to time. As per Regulation 33 of the MYT Regulations, 2015, the total depreciation during the life of the asset shall not exceed 90% of the original cost of Asset. The Commission has computed the

depreciation separately for assets added under each asset head in each year. The Commission has disallowed the depreciation in excess of 90% of the original cost of asset under different asset heads.

4.10.7 In line with the approach adopted in the previous Orders and as specified in Regulation 33 of the MYT Regulations, 2015, the Commission has not considered the depreciation on assets funded through grants or capital subsidy, for FY 2018-19.

4.10.8 The station-wise depreciation approved by the Commission in the True-up for FY 2018-19 is shown in the following table:

**Table 23: Depreciation for FY 2018-19 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Petition	Approved after True up
NTPS	Depreciation	1.86	1.62	1.54
	Less: Depreciation on assets funded by Grants	0.13	0.11	0.11
	<b>Net Depreciation</b>	<b>1.74</b>	<b>1.50</b>	<b>1.43</b>
LTPS	Depreciation	17.83	13.04	17.40
	Less: Depreciation on assets funded by Grants	2.42	1.78	2.41
	<b>Net Depreciation</b>	<b>15.41</b>	<b>11.25</b>	<b>14.99</b>
KLHEP	Depreciation	24.92	23.65	24.39
	Less: Depreciation on assets funded by Grants	2.61	2.51	2.61
	<b>Net Depreciation</b>	<b>22.30</b>	<b>21.14</b>	<b>21.78</b>
LRPP	Depreciation	8.7	11.83	11.54
	Less: Depreciation on assets funded by Grants	7.65	9.56	8.77
	<b>Net Depreciation</b>	<b>1.05</b>	<b>2.27</b>	<b>2.77</b>

4.10.9 The detailed Station-wise computation of depreciation for NTPS, LTPS, LRPP and KLHEP has been provided in **Annexure 2**.

#### **4.11 Interest on Loan Capital**

4.11.1 APGCL submitted that it has computed the Interest on long term Loan for FY 2018-

19 on normative basis. APGCL has considered the normative loan portfolio and the repayment is considered equal to the depreciation for FY 2018-19. The interest rate has been considered as the weighted average rate of actual interest rate applicable to APGCL at the beginning of FY 2018-19.

4.11.2 Accordingly, APGCL has claimed the Interest and Finance Charges of Rs. 26.42 Crore for FY 2018-19, which includes Interest and Charges of Rs. 0.10 Crore for NTPS, Rs. 0.25 Crore for LTPS, Rs. 22.92 Crore for KLHEP and Rs. 3.15 Crore for LRPP, as shown in the following Table:

**Table 24: Interest Charges as submitted by APGCL for FY 2018-19 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL Submission
NTPS	Net Normative Opening Loan	8.3	0.79
	Addition of normative loan during the year	4.71	1.48
	Normative Repayment during the year	1.74	1.5
	Net Normative Closing Loan	11.27	0.77
	Avg. Normative Loan	9.785	0.78
	Interest Rate	8.13%	10.07%
	Interest on Loan Capital	0.8	0.08
	Add: Bank Charges	0	0.02
	<b>Net Interest on Loan Capital</b>	<b>0.8</b>	<b>0.10</b>
LTPS	Net Normative Opening Loan	9.44	4.65
	Addition of normative loan during the year	10.19	0.37
	Normative Repayment during the year	15.41	11.25
	Net Normative Closing Loan	4.22	0
	Avg. Normative Loan	6.83	2.33
	Interest Rate	8.13%	10.07%
	Interest on Loan Capital	0.55	0.23
	Add: Bank Charges	0	0.02
	<b>Net Interest on Loan Capital</b>	<b>0.55</b>	<b>0.25</b>
KLHEP	Net Normative Opening Loan	244.08	237.85
	Addition of normative loan during the year	10.33	0.16
	Normative Repayment during the year	22.3	21.14

Station	Particulars	Tariff Order	APGCL Submission
	Net Normative Closing Loan	232.11	216.88
	Avg. Normative Loan	238.095	227.36
	Interest Rate	8.13%	10.07%
	Interest on Loan Capital	19.36	22.9
	Add: Bank Charges	0	0.02
	<b>Net Interest on Loan Capital</b>	<b>19.36</b>	<b>22.92</b>
LRPP	Net Normative Opening Loan	25	30.28
	Addition of normative loan during the year	0	4.34
	Normative Repayment during the year	1.05	2.27
	Net Normative Closing Loan	23.95	32.35
	Avg. Normative Loan	24.475	31.31
	Interest Rate	10.00%	10.07%
	Interest on Loan Capital	2.25	3.15
	Add: Bank Charges	0	0
	<b>Net Interest on Loan Capital</b>	<b>2.25</b>	<b>3.15</b>
	<b>Total</b>	<b>22.95</b>	<b>26.42</b>

### Commission's Analysis

4.11.3 In the Tariff Order dated 19<sup>th</sup> March 2018, the Commission approved the Interest on Loan Capital on normative basis as per Regulation 35 of the MYT Regulations, 2015. In the said Order, the Commission has approved the Station-wise Interest on loan capital by considering the Station-wise normative loan.

4.11.4 As per the above said Regulation, normative loan outstanding as on April 1, 2018, shall be worked out by deducting the cumulative repayment as admitted by the Commission up to March 31, 2018, from the gross normative loan. Accordingly, the Commission has computed the normative loan outstanding as on April 1, 2018 as shown in the following Table:

**Table 25: Computation of Normative loan outstanding as on April 1, 2018 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP
Gross Normative Loan	5.68	268.56	391.10
Less: Cumulative repayment (equal to	4.89	263.91	153.25

Particulars	NTPS	LTPS	KLHEP
accumulated depreciation)			
<b>Net Normative loan</b>	<b>0.79</b>	<b>4.65</b>	<b>237.85</b>

4.11.5 For LRPP, the Commission has considered the opening normative net loan of Rs. 30.32 Crore based on its Order dated June 25, 2019.

4.11.6 The addition of loan has been considered equal to debt portion of capitalized works as approved by the Commission in this Order. The loan repayment has been considered equivalent to depreciation approved in this Order. The Commission has considered the interest rate as submitted by APGCL.

4.11.7 The Commission has scrutinised the actual loan details and actual interest amount submitted by APGCL. The Commission considers weighted average rate of interest of 10.07% for the purpose of truing up.

4.11.8 The interest on loan capital as approved by the Commission after true-up for FY 2018-19 is shown in the following Table:

**Table 26: Interest on Loan Capital for FY 2018-19 as approved by the Commission (Rs. Crore)**

Station	Particulars	Approved after Truing up
NTPS	Net Normative Opening Loan	0.79
	Addition of normative loan during the year	1.48
	Normative Repayment during the year	1.43
	Net Normative Closing Loan	0.85
	Interest Rate	10.07%
	Interest on Loan Capital	0.08
	Interest and Finance Charges	0.02
	Total Interest Expenses	0.10
LTPS	Net Normative Opening Loan	4.65
	Addition of normative loan during the year	0.37
	Normative Repayment during the year	14.99
	Net Normative Closing Loan	-
	Interest Rate	10.07%
	Interest on Loan Capital	0.23

Station	Particulars	Approved after Truing up
	Interest and Finance Charges	0.02
	Net Interest on Loan Capital	0.25
KLHEP	Net Normative Opening Loan	237.85
	Addition of normative loan during the year	0.16
	Normative Repayment during the year	21.78
	Net Normative Closing Loan	216.24
	Interest Rate	10.07%
	Interest on Loan Capital	22.87
	Interest and Finance Charges	0.02
	Net Interest on Loan Capital	22.89
LRPP	Net Normative Opening Loan	30.32
	Addition of normative loan during the year	4.33
	Normative Repayment during the year	2.77
	Net Normative Closing Loan	31.88
	Interest Rate	10.07%
	Interest on Loan Capital	2.92
	Interest and Finance Charges	-
	Net Interest on Loan Capital	2.92

#### 4.12 Return on Equity (RoE)

4.12.1 APGCL submitted that the Commission in the Tariff Order dated 19<sup>th</sup> March 2018 approved RoE separately for each Generating Station for FY 2018-19. Since, there has been no variation in the Equity; APGCL has claimed the same amount in the True-up for FY 2018-19 as approved in Tariff Order dated 19<sup>th</sup> March 2018. APGCL has claimed ROE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs. 10.64 Crore for KLHEP and Rs 2.16 Crore for LRPP.

##### Commission's Analysis

4.12.2 The Commission has approved the Return on Equity in accordance with Regulation 34 of the MYT Regulations, 2015. The Commission has not considered any addition of equity for capitalised works as approved in this Order. Therefore, the approved Return on Equity at 15.50% is shown in the Table below:

**Table 27: Return on Equity as approved by the Commission for FY 2018-19 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Petition	Approved after Truing up
NTPS	Opening Equity	55.00	55.00	55.00
	Closing equity	55.00	55.00	55.00
	Rate of Return (%)	15.50%	15.50%	15.50%
	Return on Equity	8.53	8.53	8.53
LTPS	Opening Equity	143.08	143.08	143.08
	Closing equity	143.08	143.08	143.08
	Rate of Return (%)	15.50%	15.50%	15.50%
	Return on Equity	22.18	22.18	22.18
KLHEP	Opening Equity	68.65	68.65	68.65
	Closing equity	68.65	68.65	68.65
	Rate of Return (%)	15.50%	15.50%	15.50%
	Return on Equity	10.64	10.64	10.64
LRPP	Opening Equity	10.71	12.98	12.99
	Closing equity	10.71	14.84	14.85
	Rate of Return (%)	15.50%	15.50%	15.50%
	Return on Equity	1.53	2.16	2.01

#### 4.13 Interest on Working Capital (IoWC)

4.13.1 APGCL submitted that the Commission in the Tariff Order dtd. 19<sup>th</sup> March 2018 approved IoWC of Rs.20.55 Crore for FY 2018-19. As against this, APGCL has claimed normative IoWC of Rs. 18.52 Crore for FY 2018-19 in accordance with MYT Regulations, 2015. APGCL has considered the interest rate of 12.60% as per MYT Regulations, 2015.

4.13.2 APGCL has claimed IoWC of Rs. 5.79 Crore for NTPS, Rs. 6.10 Crore for LTPS, Rs. 2.70 Crore for KLHEP and Rs 3.94 Crore for LRPP.

##### Commission's Analysis

4.13.3 The Commission has computed IoWC in accordance with Regulation 37.1 of the MYT Regulations, 2015. For computation of working capital requirement, the Commission has considered the normative fuel cost and normative O&M Expenses.

4.13.4 The rate of Interest has been considered equal to State Bank of India Base Rate as on 1<sup>st</sup>April of the respective year plus 350 basis points, i.e., 12.20%. IoWC approved by the Commission after true-up for FY 2018-19 is shown in the following Table:

**Table 28: IoWC as approved by the Commission for FY 2018-19 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL submission	Approved after True up
NTPS	Fuel Cost for one month	8.39	7.93	9.90
	O&M Expenses for one month	3.70	3.36	3.56
	Maintenance Spares-30% of O&M	13.31	12.10	12.82
	Receivables for two months	26.13	24.07	28.56
	Total Working Capital Requirement	51.52	47.46	54.84
	Rate of Interest (%)	12.60%	12.20%	12.20%
	<b>Interest on Working Capital</b>	<b>6.49</b>	<b>5.79</b>	<b>6.69</b>
LTPS	Fuel Cost for one month	8.41	9.68	9.07
	O&M Expenses for one month	4.02	2.48	2.43
	Maintenance Spares-30% of O&M	14.46	8.93	8.75
	Receivables for two months	31.12	28.90	28.05
	Total Working Capital Requirement	58.00	50.00	48.30
	Rate of Interest (%)	12.60%	12.20%	12.20%
	<b>Interest on Working Capital</b>	<b>7.31</b>	<b>6.10</b>	<b>5.89</b>
KLHEP	O&M Expenses for one month	2.21	2.06	1.99
	Maintenance Spares-30% of O&M	3.98	7.43	3.58
	Receivables for two months	17.21	12.56	12.25
	Total Working Capital Requirement	23.40	22.05	17.81
	Rate of Interest (%)	12.60%	12.20%	12.20%
	<b>Interest on Working Capital</b>	<b>2.95</b>	<b>2.7</b>	<b>2.17</b>
LRPP	Fuel Cost for one month	6.11	6.65	7.72
	O&M Expenses for one month	1.58	1.55	1.46
	Maintenance Spares-30% of O&M	5.68	5.59	5.27
	Receivables for two months	16.82	18.54	20.57
	Total Working Capital Requirement	30.18	32.33	35.02
	Rate of Interest (%)	12.60%	12.20%	12.20%
	<b>Interest on Working Capital</b>	<b>3.80</b>	<b>3.94</b>	<b>4.27</b>



#### 4.14 Prior period Expenses/(Income)

4.14.1 APGCL has not claimed any prior period income/Expenses for FY 2018-19.

##### Commission's Analysis

4.14.2 The Commission noted the same and has not considered any prior period income/expenses for FY 2018-19.

#### 4.15 Income Tax

4.15.1 APGCL has claimed Income Tax of Rs. 6.54 Crore for FY 2018-19 as per audited accounts. APGCL submitted the TDS Statement and Tax paid Challan along with the Petition.

##### Commission's Analysis

4.15.2 The Commission has verified the actual Income Tax paid with Tax Challan and TDS Statement submitted by APGCL. The Commission approves the actual Income Tax of Rs. 6.54 Crore for FY 2018-19 for truing up. The Commission has allocated Income Tax to the existing Generating Stations with the same philosophy as proposed by APGCL. Accordingly, the Commission approves Station-wise Income Tax of Rs. 1.66 Crore for NTPS, 2.28 Crore for LTPS and Rs. 1.30 Crore for KLHEP for FY 2018-19 after Truing up. The Commission has not considered any Income tax towards LRPP.

#### 4.16 Special R&M Expenses

4.16.1 APGCL submitted that it has incurred the following Special R&M expenses in FY 2018-19:

**Table 29: Special R&M Expenses incurred by APGCL in FY 2018-19 (Rs. Crore)**

Name of Work	Total Amount Approved	As per Audited Accounts	Claimed in true-up for FY 2018-19	Remarks
Major Overhauling of Unit 1 of KLHEP	25.9	0.00	0.00	As per the W.O. the delivery schedule was 12 months from receipt of advance. The fund was received from GoA on 23.03.2018. The advance payment was done on

Name of Work	Total Amount Approved	As per Audited Accounts	Claimed in true-up for FY 2018-19	Remarks
				<p>13.04.2018. Hence the completion date was 12.04.2019.</p> <p>But due to peak season the overhauling could not be carried out in April 2019. Hence the Major Overhauling is scheduled in January 2020.</p> <p>Thus, No claim since the amount already received from GoA.</p>

4.16.2 APGCL Submitted that no Special R & M works could be undertaken in FY 2018-19.

#### Commission's Analysis

4.16.3 The Commission notes that, in Tariff Order for FY 2018-19, it has approved the special R&M of Rs. 25.90 Crore towards overhauling of Unit 1 of KLHEP. However, APGCL has not incurred the expenditure during FY 2018-19, hence, the same has not been considered for final trueing up.

#### 4.17 Non-Tariff Income

4.17.1 APGCL submitted that the Commission in the Tariff Order dated 19<sup>th</sup> March 2018 approved Non-Tariff Income of Rs. 18.14 Crore. As against this, APGCL has claimed Non-Tariff Income of Rs. 55.48 Crore as per audited accounts for the purpose of True-up. The Station-wise Other income submitted by APGCL is shown in the following Table:

**Table 30: Non-Tariff Income as claimed by APCGL for True-up for FY 2018-19**

Station	Approved as per order of March 2018	As per audited accounts for FY 2018-19	True up Petition for FY 2018-19
NTPS	5.83	17.83	17.83
LTPS	7.84	24.00	24.00
KLHEP	4.46	13.65	13.65
LRPP	-	-	-
<b>Total</b>	<b>18.14</b>	<b>55.48</b>	<b>55.48</b>

## Commission's Analysis

4.17.2 For the purpose of Truing up for FY 2018-19, the Commission has considered the actual Non-Tariff Income of Rs. 55.48 Crore as per audited accounts, as submitted by APGCL. Accordingly, the Commission approves Non-Tariff Income of Rs. 17.83 Crore for NTPS, Rs. 24.00 Crore for LTPS, Rs. 13.65 Crore for KLHEP and Nil for LRPP as submitted by APGCL.

### 4.18 Sharing of Gains and Losses

4.18.1 Regulation 11.2 of the MYT Regulations, 2015 specifies the controllable factors for Generating Stations and Regulation 13 specifies the treatment of sharing of gain or loss on account of such controllable factors. The Commission has discussed the treatment of each controllable factor as under:

#### O&M Expenses

4.18.2 Regulation 11.2 of the MYT Regulations, 2015 specifies O&M Expenses (excluding terminal liabilities with regard to employees on account of changes in pay scales or dearness allowance due to inflation) as a controllable factor. Hence, for undertaking sharing of gains or losses, the Commission has excluded the Revision of Pay from normative as well as actual employee expenses. Accordingly, Revision of Pay are allowed on actual basis.

4.18.3 The sharing of (gains)/losses on account of O&M Expenses is shown in the following Table:

**Table 31: Sharing of (gains)/losses for O&M Expenses for FY 2018-19 (Rs. Crore)**

Sr. No.	Particulars	Revised Normative	Actual	(Gains)/Losses	(Gains)/Losses passed to Beneficiary	Net Entitlement
		(A)	(B)	(C)=(B-A)	D=(1/3)*C	E=A+D
1	NTPS	42.73	40.32	(2.41)	(0.80)	41.92
2	LTPS	29.15	29.77	0.62	0.21	29.36
3	KLHEP	23.84	24.76	0.92	0.31	24.15
4	LRPP	17.56	18.63	1.07	0.36	17.92
<b>5</b>	<b>Total</b>	<b>113.28</b>	<b>113.48</b>	0.20	0.07	113.35

Note: \* - Revision of Pay has been excluded from the total O & M Expenses, while computing the sharing of gains/(losses)

#### Fuel Cost

4.18.4 Sharing of (gains)/losses on account of performance parameters and Fuel Cost in the True-up for FY 2018-19 is shown in the Table below:

**Table 32: Sharing of (Gains)/Loss on account of Fuel Parameters as approved by the Commission in the True-up for FY 2018-19 (Rs. Crore)**

Station	Normative Cost	Actual Cost	(Gains)/ Loss	(Gains)/ losses passed to beneficiary
NTPS	85.73	95.18	9.46	3.15
LTPS	118.19	116.17	(2.02)	(0.67)
LRPP	82.30	79.77	(2.53)	(0.84)

Auxiliary Consumption

4.18.5 As per MYT Regulations, 2015, Auxiliary Energy Consumption is considered as a controllable parameter. Sharing of (gains)/losses on account of Auxiliary Consumption in the True-up for FY 2018-19 is shown in table below:

**Table 33: Sharing of (Gain)/Loss on account of Auxiliary Energy Consumption as approved by the Commission for True-up for FY 2018-19**

Station	Net Normative Generation (MU)	Net Actual Generation (MU)	ECR (Rs. /kWh)	(Gain)/ Loss (MU)	(Gain)/ Loss (Rs. Crore)	(Gains)/ losses passed to beneficiary
NTPS	300.23	293.17	2.86	7.06	2.02	0.67
LTPS	446.13	423.49	2.65	22.64	6.00	2.00
LRPP	414.93	417.03	1.98	(2.10)	(0.42)	(0.14)

4.18.6 The total sharing of Gains and Losses for FY 2018-19 has been summarised in the following Table:

**Table 34: Total Sharing of (Gain)/Loss approved by the Commission for True-up for FY 2018-19 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
(Gains)/Losses passed to beneficiary for O&M Expenses	(0.80)	0.21	0.31	0.36
(Gains)/Losses (Gains)/Losses passed to beneficiary for Fuel Cost	3.15	(0.67)	-	(0.84)

Particulars	NTPS	LTPS	KLHEP	LRPP
(Gains)/Losses passed to beneficiary for Auxiliary Consumption	0.67	2.00	-	(0.14)
<b>Grand Total</b>	<b>3.02</b>	<b>1.53</b>	<b>0.31</b>	<b>(0.63)</b>

#### 4.19 Reduction in Annual Fixed Charges

4.19.1 Since, the actual PAF for NTPS is lower than the normative PAF, the Annual Fixed Charges are to be disallowed on pro-rata basis as shown in the following Table:

**Table 35: Reduction of fixed costs as approved by the Commission for True-up for FY 2018-19 (Rs. Crore)**

Particulars	PAF (%) – Normative	PAF (%) – Actual	AFC (Rs. Crore)	Allowable AFC (Rs. Crore)	Disallowed AFC
NTPS	50%	44.47%	52.49	46.68	5.81
LTPS	50%	54.30%	59.49	59.49	-
LRPP	79.67%	80.60%	30.83	30.83	-

#### 4.20 Summary of True-up for FY 2018-19

4.20.1 The Summary of true-up for FY 2018-19 is shown in the following Table:

**Table 36: True-up ARR for Existing Generating Stations for FY 2018-19 as approved by the Commission (Rs. Crore)**

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order	APGCL's Petition	Approved after Truing up	Tariff Order	APGCL's Petition	Approved after Truing up	Tariff Order	APGCL's Petition	Approved after Truing up	Tariff Order	APGCL's Petition	Approved after Truing up
<b>A</b>	<b>Annual Fixed Charges</b>												
1	O&M expenses	42.57	40.32	42.73	46.11	29.78	29.15	23.75	24.76	23.84	17.56	18.63	17.56
2	Special R&M Expenses	-	-	-	-	-	-	-	-	-	-	-	-
3	Revision of Pay	8.35	9.19	9.19	9.87	8.75	8.75	4.15	4.51	4.51	-	-	-
4	Depreciation	1.42	1.50	1.43	15.05	11.25	14.99	21.87	21.14	21.78	2.77	2.27	2.77
5	Interest on Loans	0.4	0.10	0.10	0.24	0.25	0.25	23.15	22.92	22.89	3.05	3.15	2.92
6	Return on Equity	8.53	8.53	8.53	22.18	22.18	22.18	10.64	10.64	10.64	2.09	2.16	2.01
7	Interest on WC	7	5.79	6.69	7.89	6.10	5.89	2.38	2.69	2.17	4.26	3.94	4.27
8	Income Tax	-	1.66	1.66	-	2.28	2.28	-	1.30	1.30	-	1.30	1.30
9	Prior Period Expenses	-	-	-	-	-	-	-	-	-	-	-	-
10	Less: Non-Tariff Income	7.13	17.83	17.83	9.22	24.00	24.00	5.75	13.65	13.65	-	-	-
<b>11</b>	<b>Fixed Cost</b>	<b>61.14</b>	<b>49.26</b>	<b>52.49</b>	<b>92.12</b>	<b>56.60</b>	<b>59.49</b>	<b>80.19</b>	<b>74.31</b>	<b>73.48</b>	<b>29.73</b>	<b>31.45</b>	<b>30.83</b>
<b>B</b>	<b>Fuel Cost</b>	<b>89.79</b>	<b>95.18</b>	<b>85.73</b>	<b>120.69</b>	<b>116.17</b>	<b>118.19</b>	-	-	-	<b>86.45</b>	<b>79.77</b>	<b>82.30</b>
<b>C</b>	<b>Total ARR</b>	<b>150.93</b>	<b>144.44</b>	<b>138.22</b>	<b>212.81</b>	<b>172.77</b>	<b>177.68</b>	80.19	<b>74.31</b>	<b>73.48</b>	<b>116.18</b>	<b>111.22</b>	<b>113.13</b>
D	Incentive for Generation	-	-	-	-	0.63	0.63	-	1.04	1.03	-	-	-
E	Gains/(Losses) passed to beneficiary	-	-	(2.79)	-	-	1.53	-	-	0.31	-	-	(0.63)
<b>F</b>	<b>Net ARR</b>	<b>150.93</b>	<b>144.44</b>	<b>135.43</b>	<b>212.81</b>	<b>173.40</b>	<b>179.85</b>	<b>80.19</b>	<b>75.35</b>	<b>74.82</b>	<b>116.18</b>	<b>111.22</b>	<b>112.51</b>

## 4.21 Revenue from Sale of Power

4.21.1 APGCL submitted the Station-wise revenue from sale of power for FY 2018-19 as shown in the Table below, as Rs. 512.69 Crore as per Audited Accounts:

**Table 37: Revenue from Sale of Power as claimed by APGCL (Rs. Crore)**

Particulars	Fixed/ Capacity charges	Variable charges	Total Revenue appeared in Accounts FY 2018-19	Total Revenue claimed in True up for FY 2018-19
NTPS	46.68	83.47	130.15	130.15
LTPS	54.48	124.38	178.86	178.86
LRPP	25.68	76.06	101.75	101.75
KLHEP	53.07	48.87	101.94	101.94
MSHEP	0	1.89	1.89	0
Cumulative Revenue Gap approved in Order dated March 19, 2018	17.52	0	17.52	0
<b>Total</b>	<b>197.43</b>	<b>334.67</b>	<b>532.1</b>	<b>512.69</b>

### Commission's Analysis

4.21.2 The Commission has considered the actual revenue billed of Rs. 512.69 Crore for FY 2018-19 for truing up, based on the audited accounts. The Commission has not considered the cumulative revenue gap of Rs. 17.52 Crore approved in Tariff Order dated March 19, 2018, in revenue as well as in expenses.

## 4.22 Revenue Gap/(Surplus) for FY 2018-19

4.22.1 APGCL has claimed the Revenue surplus of Rs. 8.28 Crore in the Truing up for FY 2018-19. Further, APGCL has submitted the holding cost of Rs 1.01 Crore. Accordingly, APGCL claimed the revenue surplus of Rs 9.29 Crore including holding cost.

### Commission's Analysis

4.22.2 The Commission has computed the effective capacity of NTPS and LTPS based on the actual retirement of different Units, and accordingly computed the allowable ARR for NTPS and LTPS.

4.22.3 The Commission has considered the effective capacity of 99.50 MW for NTPS. Further, LRPP is commissioned on April 26, 2018 and Unit 2 & 3 are de-commissioned on April 26, 2018. Accordingly, the effective capacity has been considered as 99.25 MW for LTPS and 64.98 MW for LRPP. Accordingly, the Commission has computed the Net ARR at effective capacity as shown in the following Table:

**Table 38: ARR for effective Capacity as approved by the Commission (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
Fixed Charges	48.69	56.78	73.48	113.13
Fuel Cost	85.73	118.19	-	-
(Gains)/losses passed through beneficiary	(2.79)	2.17	1.34	(0.63)
<b>Grand Total</b>	<b>131.63</b>	<b>177.13</b>	<b>74.82</b>	<b>112.51</b>

4.22.4 The Commission has computed the Revenue Gap/(Surplus) for FY 2018-19 as shown in the following Table:

**Table 39: Revenue Gap/(Surplus) for FY 2018-19 as approved by the Commission (Rs. Crore)**

Particulars	Submitted by APGCL	Approved after Truing up
<b>Truing up for FY 2018-19</b>		
ARR for NTPS (considering effective capacity)	144.44	131.63
ARR for LTPS (considering effective capacity)	173.40	177.13
ARR for LRPP	111.22	112.51
ARR for KLHEP	75.35	74.82
<b>Combined ARR</b>	<b>504.41</b>	<b>496.09</b>
Revenue from Sale of Power	512.69	512.69
<b>Revenue Gap/(Surplus)</b>	<b>(8.28)</b>	<b>(16.60)</b>
<b>Computation of carrying /(holding) cost on Revenue Gap/(Surplus) in FY 2018-19 Order</b>		
Carrying /(holding) cost for FY 2018-19 (half Year)	(0.51)	(1.01)
Carrying /(holding) cost for FY 2019-20 (full Year)	(0.51)	(1.86)



<b>Particulars</b>	<b>Submitted by APGCL</b>	<b>Approved after Truing up</b>
Carrying /(holding) cost for FY 2020-21 (half Year)	-	(0.93)
<b>Total</b>	<b>(1.01)</b>	<b>(3.81)</b>
<b>Cumulative Revenue Gap/(Surplus) along with Carrying / (Holding) Cost</b>	<b>(9.29)</b>	<b>(20.40)</b>

4.22.5 The Commission approves the Revenue Surplus of Rs. 20.40 Crore arising out of Truing up for FY 2018-19, including the holding cost. This amount is to be refunded to APDCL in 12 equal monthly instalments viz. Rs 1.70 Crore per month during FY 2020-21.

## 5 Annual Performance Review for FY 2019-20

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### 5.1 Methodology for Annual Performance Review

5.1.1 The Commission had approved the revised ARR for FY 2019-20 for existing Generating Stations in the Tariff Order dated March 1, 2019.

5.1.2 Regulation 9.3 of the MYT Regulations, 2018, specifies that the Commission shall undertake the APR and True-up for the respective years of the Control Period from FY 2019-20 to FY 2021-22, as reproduced below: “9.3 *The scope of **the annual review** and True up shall be a comparison of the actual performance of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee with the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges and shall comprise the following:*

*Annual Performance Review: a comparison of the performance targets estimated to be achieved for the current financial year (based on 6 months actual data) with the approved forecast for that financial year including adjusting trajectories of uncontrollable if needed.*

5.1.3 APGCL submitted the Annual Performance Review (APR) Petition for FY 2019-20, supported by actual information available till September 2018 and estimated the values for the next six months.

5.1.4 From the above said Regulation, the main objective of the APR is to compare the performance targets for FY 2019-20 vis-à-vis forecast approved in the Tariff Order for FY 2019-20. The Revenue Gap/(Surplus) arising out of APR for FY 2019-20 shall not be passed on to the beneficiaries, and the same shall be considered at the time of Truing-up only.

5.1.5 In the present Chapter, the Commission has analysed the revised submission of all the elements of ARR vis-à-vis values approved in the Tariff Order for FY 2019-20. The Commission has computed the Revenue Gap/(Surplus) as an indication of the performance in FY 2019-20. No sharing of gains/(losses) has been undertaken at this stage and the same shall be considered at the time of Truing up for FY 2019-20.

### 5.2 Plant Availability Factor (PAF)/Capacity Index

5.2.1 APGCL submitted that as per Regulation 47.1 of the MYT Regulations, 2018, the NAPAF for recovery of full fixed charges is 50% for NTPS. However, due to the

problem of low gas supply and frequent forced shutdown of the aged units/auxiliaries, normative Plant Availability factor may not be achieved.

- 5.2.2 APGCL submitted that Normative Plant Availability factor for recovery of full fixed charges is 50% for LTPS. It is expected that the normative numbers may not be achieved due to lower availability of gas in the first 7 months of FY 2019-20.
- 5.2.3 Further, Regulation 49 of MYT Regulations, 2018 specifies normative PAF for KLHEP as 85% for FY 2019-20. Due to planned maintenance of KLHEP Unit 1, the normative availability may not be achieved for the year.
- 5.2.4 APGCL submitted that it expected to achieve the Plant Availability Factor of 85% for LRPP for FY 2019-20.
- 5.2.5 APGCL requested the Commission to approve the revised estimated Availability for FY 2019-20 as shown in the Table below:

**Table 40: Availability as submitted by APGCL for FY 2019-20**

Sl. No.	Station	Tariff Order	Apr-Oct (actual)	Nov-March (estimated)	Estimated total
1	NTPS	50.00%	30.53%	40.76%	34.76%
2	LTPS	50.00%	46.67%	50.00%	48.06%
3	KLHEP	85.00%	89.98%	52.52%	74.37%
4	LRPP	85.00%	90.15%	85.00%	88.00%

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

- 5.2.6 The Commission notes that APGCL has projected the availability for NTPS and LTPS, lower than the normative PAF due to the problem of low gas supply and frequent forced shutdown of the aged Units/auxiliaries. The Commission also notes that APGCL has projected lower than the normative PAF for KLHEP.
- 5.2.7 The Commission notes that the supply of gas was lower during FY 2019-20 (H1). The arrangement of fuel is responsibility of the Generator.
- 5.2.8 In accordance with the MYT Regulations, 2018, APGCL shall be eligible to recover full fixed charges if the normative PAF is achieved as specified in MYT Regulations, 2018. Accordingly, the Commission approves the normative PAF as per MYT Regulations, 2018 as shown in the following Table:

**Table 41: Target PAF/Capacity Index for recovery of full fixed Charges**

Station	Target Availability/Capacity Index (%)
NTPS	50%
LTPS	50%
KLHEP	85%
LRPP	85%

### 5.3 Plant Load Factor (PLF)

5.3.1 APGCL submitted that as per Regulation 47.2 of the MYT Regulations, 2018, the NAPLF is 50% for NTPS. APGCL submitted that, due to the lower gas supply, grid constraint and issues of aging and frequent forced shutdowns, the plant has not been able to achieve normative PLF. Further, post commissioning of NRPP, the plant load factor of NTPS is expected to decrease due to low availability of gas.

5.3.2 As per MYT Regulations, 2018, Normative Plant Load Factor for availing incentive for LTPS is specified as 66% for FY 2019-20. However, as there is shortage of gas, PLF is considered same as that as normative Availability of 50%.

5.3.3 Further, APGCL submitted that due to the planned maintenance of KLHEP Unit 1, the normative plant load factor may not be achieved during the year.

5.3.4 APGCL requested the Commission to approve the revised estimated PLF for FY 2018-19 as shown in the Table below:

**Table 42: Plant Load Factors submitted by APGCL for FY 2019-20**

Sl. No.	Station	Tariff Order	Apr-Oct (actual)	Nov-March (estimated)	Estimated total
1	NTPS	50.00%	25.77%	40.67%	31.98%
2	LTPS	66.00%	41.41%	50.00%	44.99%
3	KLHEP	44.50%	58.50%	12.61%	39.38%
4	LRPP	90.00%	86.47%	90.00%	87.94%

#### Commission's Analysis

5.3.5 The Commission notes that APGCL has projected the PLF for NTPS lower than the normative PLF due to the problem of low gas supply and frequent forced shutdown of the aged Units/auxiliaries. The Commission also notes that APGCL has projected the PLF for LTPS as lower than the normative PLF due to shortage of gas. The Commission also observes that due to planned maintenance of KLHEP Unit 1

APGCL couldn't achieve the normative PLF of KLHEP.

- 5.3.6 However, APGCL shall be eligible for incentive only if actual PLF is higher than the normative PLF specified in MYT Regulations, 2018. For the purpose of APR, the Commission considers Gross Generation as submitted by APGCL and accordingly PLF. However, the incentive shall be allowed as per normative PLF specified in MYT Regulations, 2018.

#### 5.4 Auxiliary Consumption

- 5.4.1 As per the Regulation 47.3 of the MYT Regulations ,2018, APGCL submitted that the Auxiliary Consumption of NTPS is estimated to be higher than the approved Auxiliary Consumption in FY 2019-20 due to part loading of Units resulting from low/non-availability of gas, which is an uncontrollable factor.
- 5.4.2 For LTPS, APGCL submitted that the Auxiliary Consumption is expected to be higher than the approved values due to low gas pressure in supply of gas, due to which the usage of gas compressors increases, resulting in high Auxiliary Consumption, which is an uncontrollable factor.
- 5.4.3 APGCL estimated the Auxiliary Consumption of 6.02% for NTPS, 8.56% for LTPS, 0.50% for KLHEP and 3.14% for LRPP for the APR.

#### Commission's Analysis

- 5.4.4 The Commission notes that there is a variation in Auxiliary Consumption that has been estimated by APGCL based on actual performance of H1 of FY 2019-20 vis-à-vis Auxiliary Consumption approved in the Tariff Order dated March 01, 2019 for FY 2019-20. The Commission is of the view that the availability of gas in the required quantity and at desired pressure is the responsibility of APGCL only, and no relaxation can be given on account of lower gas availability or lower gas pressure.
- 5.4.5 The Commission considers the Auxiliary Consumption for existing Generating Stations as per MYT Regulations, 2018, for the purpose of APR, as shown in the following Table:

**Table 43: Auxiliary Consumption as approved by the Commission for FY 2019-20**

Sl. No.	Station	Tariff Order	Estimated by APGCL	Approved for APR
1	NTPS	4.50%	6.02%	4.50%
2	LTPS	5.50%	8.56%	5.50%

Sl. No.	Station	Tariff Order	Estimated by APGCL	Approved for APR
3	KLHEP	0.50%	0.50%	0.50%
4	LRPP	3.50%	3.14%	3.50%

## 5.5 Gross Generation and Net Generation

5.5.1 The actual Gross Generation and Net Generation estimated by APGCL for 2019-20 is shown in the following Table:

**Table 44: Gross and Net Generation as submitted by APGCL for FY 2019-20**

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	221.24	207.92
2	LTPS	396.89	362.92
3	LRPP	520.82	504.45
4	KLHEP	346.46	344.73

### Commission's Analysis

5.5.2 The Commission observed that during the 1<sup>st</sup> half of FY 2019-20 the availability of the gas was lower than the contracted capacity which led to lower generation. In view of the above for the purpose of APR, the Commission has considered the gross generation for FY 2019-20 as submitted by APGCL. The Commission has also considered the Net generation after considering the normative auxiliary consumption of the respective plants.

5.5.3 As regards KLHEP, it is observed that APGCL has estimated generation from KLHEP lower than value approved in the Tariff Order dated 1.03.2019. In this regard, APGCL submitted that the actual generation from KLHEP in H1 of FY 2019-20 is 300.46 MU and for H2 is projected to be 46.00 MU due to scheduled plant maintenance. As such the total projected generation is lower than approved gross generation. For the purpose of APR, the Commission has considered the gross generation for KLHEP as submitted by APGCL.

5.5.4 The Commission has computed the Net Generation based on above estimated Gross Generation and approved Auxiliary Consumption for FY 2019-20. The Gross Generation and Net Generation approved by the Commission in the APR for FY

2019-20 is shown in the following Table:

**Table 45: Gross Generation and Net Generation considered by the Commission in the APR for FY 2019-20**

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	221.24	211.28
2	LTPS	396.89	375.06
3	LRPP	520.82	502.59
	<b>Total Thermal</b>	<b>1138.95</b>	<b>1088.94</b>
4	KLHEP	346.46	344.73
	<b>Total APGCL</b>	<b>1485.41</b>	<b>1433.66</b>

## 5.6 Station Heat Rate

5.6.1 APGCL submitted that the normative SHR is 3900 kcal/kWh for NTPS in partial combined cycle mode of operation as per Regulation 47.4 of the MYT Regulation 2018. However, SHR is estimated to be higher than the approved SHR in FY 2019-20 due to part loading of Units resulting from low/non-availability of gas along with evacuation constraints and old nature of the plant equipments.

5.6.2 As per Regulation 47.4, of the MYT Regulations, 2018, the normative Station Heat Rate is 3200 kCal/kWh for FY 2019-20 for LTPS in Partial combined cycle mode of operation. The actual SHR of LTPS in the first seven (7) months have been higher than normative. APGCL submitted that an issue of accuracy of gas consumption data which is being taken up with the gas transporter. Hence, it has considered SHR at actual for the first 7 months and normative for rest of the year.

5.6.3 The SHR approved by the Commission in MYT Order and as submitted by APGCL for FY 2019-20 is shown in the following Table:

**Table 46: Gross Station Heat Rate (kcal/kWh) as projected by APGCL for FY 2019-20**

Sl. No.	Station	Tariff Order	APGCL's submission
1	NTPS	3900	4519.73
2	LTPS	3200	3673.47
3	LRPP	2150	2154.64

### Commission's Analysis

5.6.4 For the purpose of APR, the Commission considers SHR as per MYT Regulations, 2018. Accordingly, the Commission considers SHR of 3900 kcal/kWh for NTPS, 3200 kcal/kWh for LTPS and 2150 kCal/kWh for LRPP for FY 2019-20.

## 5.7 Fuel Cost

5.7.1 APGCL submitted that as per Regulation 11 of the MYT Regulations, 2018, 'Fuel Price' and 'Calorific Value of Fuel' are uncontrollable items. The actual values of 'Fuel Price' and 'Calorific Value of Fuel' are shown in the table below:

**Table 47: Actual Plant-wise GCV and Price as submitted by APGCL for FY 2019-20**

Sl. No.	Station	Wtd. Avg. GCV of gas (kcal/SCM)	Wtd. Avg. Price of gas (Rs./1000 SCM) [Apr-Oct actual]	Wtd. Avg. Price of gas (Rs./1000 SCM) [Nov-Mar est.]	Wtd. Avg. Price of gas (Rs./1000 SCM)
1	NTPS	9147	6901	6008	6455
2	LTPS	9419	9443	8440	8941
3	LRPP	9419	9443	8440	8941

5.7.2 APGCL submitted that the actual fuel price for October 2019 has been considered for projection of price for H2 of FY 2019-20. APGCL estimated the fuel cost of Rs. 72.66 Crore for NTPS for FY 2019-20 as shown in the following Table:

**Table 48: Total Fuel Cost for NTPS for FY 2019-20 as submitted by APGCL (Rs. Crore)**

Particulars	Unit	Tariff Order	April - Oct (actual)	Nov - March (estimated)	FY 2019-20 estimated
Gross Generation	MU	173.73	135.22	86.03	221.24
Heat Rate	kcal/kWh	3900	4962.39	3900	4519.73
GCV of gas	kcal/SCM	8893.61	9147.27	9147.27	9147.27
Overall Heat	Giga Cal.	677547	670995	335499.6	999951.97
Gas consumption	M. SCM	76.18	73.35	36.68	109.32
Price of Gas	Rs. /1000 SCM	6076.99	6901.34	6008.03	6454.69
<b>Total cost of Gas</b>	<b>Rs. Crore</b>	<b>46.30</b>	<b>50.62</b>	<b>22.04</b>	<b>72.66</b>

5.7.3 Similarly, APGCL estimated the fuel cost of Rs. 139.15 Crore for LTPS and Rs.



107.62 Crore for LRPP for FY 2019-20 as shown in the following Table:

**Table 49: Total Fuel Cost for LTPS for FY 2019-20 as submitted by APGCL (Rs. Crore)**

Particulars	Unit	Tariff Order	April - Oct (actual)	Nov - March (estimated)	FY 2019-20 estimated
Gross Generation	MU	425.74	219.6	177.29	396.89
Heat Rate	kcal/kWh	3200	4011.67	3200	3673.47
Overall Heat	Giga. cal.	1362368	880951	567337	1457964.5
GCV of gas	kcal/SCM	9126.42	9419.27	9419.27	9419.27
Gas consumption	M. SCM	149.28	93.53	60.23	154.79
Price of Gas	Rs. /1000 SCM	7758.11	9442.74	8439.57	8941.16
Total cost of Gas	Rs. Crore	<b>115.81</b>	<b>88.31</b>	<b>50.83</b>	<b>139.15</b>

**Table 50: Total Fuel Cost for LRPP for FY 2019-20 as submitted by APGCL (Rs. Crore)**

Particulars	Unit	Tariff Order	April - Oct (actual)	Nov -March (estimated)	FY 2019-20 estimated
Gross Generation	MU	520.82	307.87	212.95	520.82
Heat Rate	kcal/kWh	2150	2157.95	2150	2154.64
Overall Heat	Giga cal.	1119763	664364	457847.9	1122179.5
GCV of gas	kcal/SCM	9126.42	9419.27	9419.27	9419.27
Gas consumption	M. SCM	122.69	70.53	48.61	119.14
Price of Gas	Rs. /1000 SCM	7758.11	9442.74	8439.57	8941.16
Total cost of Gas	Rs. Crore	<b>95.19</b>	<b>66.6</b>	<b>41.02</b>	<b>107.62</b>

### Commission's Analysis

- 5.7.4 The Commission in Tariff Order dated March 1, 2019 had approved the Fuel Cost for NTPS, LTPS and LRPP for FY 2019-20 based on approved performance parameters and latest GCV and price of Fuels available at that time.
- 5.7.5 For the purpose of APR, the Commission has adopted the same approach and approves the Fuel Cost based on approved performance parameters in this Order and latest fuel price and GCV.
- 5.7.6 The Commission has considered the GCV of gas and landed price of gas based on

the fuel bills submitted by APGCL for the period from April 2019 to December 2019. In case of NTPS, LTPS and LRPP, the Commission has considered the actual weighted average GCV of gas received for the period from April 2019 to December 2019. For price of gas for FY 2019-20, the Commission has considered the actual weighted average landed price of gas for the period from April 2019 to December 2019.

5.7.7 The GCV and landed price of gas considered by the Commission for projection of fuel cost is shown in the following Table:

**Table 51: GCV and Landed Price of Gas for FY 2019-20 as approved by the Commission**

Station	Particulars	Approved for APR
NTPS	GCV of Gas (kcal/SCM)	9,144.81
	Price of Gas (Rs./1000SCM)	6,588.33
LTPS and LRPP	GCV of Gas (kcal/SCM)	9,400.62
	Price of Gas (Rs./1000SCM)	8,909.02

5.7.8 The Commission has estimated the fuel cost for NTPS, LTPS and LRPP based on approved performance parameters, GCV of gas and landed price of gas. The fuel cost provisionally approved by the Commission for NTPS, LTPS and LRPP for FY 2019-20 for APR purposes is shown in the following Table:

**Table 52: Fuel Cost approved by the Commission in APR for FY 2019-20**

S. No.	Particulars	Unit	NTPS	LTPS	LRPP
1	Gross Generation	MU	221.24	396.89	520.82
2	Heat Rate	kcal/kWh	3,900.00	3200.00	2150.00
3	Overall Heat	Giga cal.	862,836.00	1,270,048.00	1,119,763.00
4	GCV of gas	kcal/SCM	9,144.81	9,400.62	9,400.62
5	Gas consumption	M. SCM	94.35	135.10	119.12
6	Price of Gas	Rs./1000 SCM	6,588.33	8,909.02	8,909.02
<b>7</b>	<b>Total Cost of Gas</b>	<b>Rs. Crore</b>	<b>62.16</b>	<b>120.36</b>	<b>106.12</b>

## 5.8 O&M Expenses

5.8.1 APGCL submitted that the Commission in the Tariff Order dated March 1, 2019 had approved O&M expenses of Rs. 51.72 Crore for NTPS, Rs 56.49 Crore for LTPS, Rs. 28.44 Crore for KLHEP and Rs. 20.04 Crore for LRPP for FY 2019-20, which works out to total of Rs. 156.69 Crore.

5.8.2 APGCL claimed the O&M Expenses for Rs. 40.12 Crore for NTPS, Rs. 41.74 Crore for LTPS, Rs. 30.95 Crore for KLHEP an Rs. 22.62 Crore for LRPP, which works out to total of Rs. 135.44 Crore.

### Commission's Analysis

5.8.3 The Commission in the Tariff Order dated March 1, 2019 has calculated O&M Expenses on normative basis as per MYT Regulations, 2018 for FY 2019-20. For the purpose of APR, the Commission continues with the same approach and approves Station-wise O&M expenses on normative basis as per MYT Regulations, 2018.

5.8.4 The Commission has computed the normative O&M Expenses for the FY2019-20 Period in accordance with Regulation 50.1 of the MYT Regulations, 2018. The derived base figure of FY 2018-19 in MYT Order has been escalated by 6.30% to compute the normative O&M expenses for FY 2019-20 as shown in the table below:

5.8.5 The Normative O&M expenses for FY 2019-20 are shown in the following Table:

**Table 53: Normative O&M expenses for FY 2019-20 as computed by the Commission (Rs. Crore)**

Station	Tariff Order	APGCL's Submission	Normative O&M
NTPS	51.72	40.12	51.90
LTPS	56.49	41.74	56.69
KLHEP	28.44	30.95	28.54
LRPP	20.04	22.62	20.04

5.8.6 Based on the submission of APGCL, it is noted that LTPS capacity has been reduced after Commissioning of LRPP, due to decommissioning of certain units of LTPS. However, there is no change in installed capacity for NTPS because of delay in commissioning of NRPP. The installed capacity vis-a-vis effective capacity is shown in the table below:

**Table 54: installed capacity vis-a-vis effective capacity for FY 2019-20**

Station	Installed capacity	No of units	Units Decommissioned	Units available for Generation & Capacity in MW	Effective Capacity
NTPS	119.5	6	1	2, 3(21MW), 4 (11 MW), 5 (24 MW), 6 (22.50 MW-WHRU)	99.50
LTPS	157.20	8	1,2,3,4	5,6,7(20 MW Each),8 (37.20 MW-WHRU)	97.20

5.8.7 Considering the above, the Commission has proportionately considered the normative O & M expenses by applying the effective installed capacity. Accordingly, the following O & M expenses are provisionally approved for FY 2019-20.

**Table 55: O&M expenses considered in APR for FY 2019-20 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
Normative O&M Expenses	43.21	22.86	28.54	20.04

## 5.9 Capital Expenditure and Capitalisation

5.9.1 APGCL submitted that the commission in the Tariff Order dated March 1, 2019 has approved the capital investment plan for FY 2019-20. Further, APGCL has revised the schemes and corresponding outlay of the generating stations for FY 2019-20 and has claimed the following Capital Expenditure in the APR for FY 2019-20.

**Table 56: Capital Expenditure plan as submitted by APGCL for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's submission
NTPS	Capital Expenditure	11.95	4.80
	Capitalisation	9.77	4.80
LTPS	Capital Expenditure	23.44	11.10
	Capitalisation	23.44	11.10
KLHEP	Capital Expenditure	21.32	10.15
	Capitalisation	20.47	10.15
LRPP	Capital Expenditure		8.95
	Capitalisation	-	8.95

### Commission's Analysis

5.9.2 The commission in the Tariff Order dated March 1, 2019 had approved the expenditure and capitalisation for the existing generating stations.

5.9.3 As regards LRPP, the Commission has considered the additional capitalisation of Rs. 8.95 Crore for LRPP as discussed in earlier Chapter of this Order.

5.9.4 For the purpose of the APR, the Commission provisionally considers the Capital Expenditure and Capitalisation as submitted by APGCL, as shown in the following Table:

**Table 57: Capital Expenditure and Capitalisation as considered by the Commission (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
Capital Expenditure	4.80	11.10	10.15	8.95
Capitalisation	4.80	11.10	10.15	8.95

5.9.5 As regards the funding of Capitalisation for NTPS, LTPS and KLHEP, the Commission has considered 100% debt funding as proposed by APGCL. The funding of additional capitalisation of LRPP has been considered in accordance with Capital Cost approval Order dated March 1, 2019 in Petition No. 18 of 2018.

### 5.10 Depreciation

5.10.1 APGCL submitted the Depreciation considering Capital Cost of the asset admitted by the Commission with 10% salvage value. Also, depreciation on grants has been subtracted. APGCL submitted the Depreciation of Rs. 1.56 Crore for NTPS, Rs. 11.55 Crore for LTPS, Rs. 21.35 Crore for KLHEP and Rs. 2.31 Crore for LRPP for FY 2019-20.

### Commission's Analysis

5.10.2 The Commission has considered the opening GFA for FY 2019-20 equivalent to the closing GFA for FY 2018-19 as approved in this Order. The Commission has computed depreciation as per scheduled rates specified in the MYT Regulations, 2018.

5.10.3 As per Regulation 32 of the MYT Regulations, 2018, the total depreciation during the life of the asset shall not exceed 90% of the original cost of Asset. The Commission

has computed the depreciation separately for assets added under each asset head in each year. The Commission has disallowed the depreciation in excess of 90% of the original cost of asset under different asset heads.

5.10.4 Further, in line with the approach adopted in the MYT Order and as specified in Regulation 32 of the MYT Regulations, 2018, the Commission has not considered the depreciation on assets funded through grants, consumer contribution or capital subsidy, for FY 2019-20.

5.10.5 The depreciation provisionally approved in the APR for FY 2019-20 is given in the Table below:

**Table 58: Station-wise depreciation approved for APR for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Submission	Approved after APR
NTPS	Depreciation	1.90	1.67	1.70
	Less: Depreciation Funded by Grants	0.16	0.12	0.15
	<b>Net Depreciation</b>	<b>1.74</b>	<b>1.56</b>	<b>1.55</b>
LTPS	Depreciation	17.83	13.35	17.67
	Less: Depreciation Funded by Grants	2.53	1.80	2.43
	<b>Net Depreciation</b>	<b>15.30</b>	<b>11.55</b>	<b>15.24</b>
KLHEP	Depreciation	24.39	23.89	23.89
	Less: Depreciation Funded by Grants	2.76	2.53	2.55
	<b>Net Depreciation</b>	<b>21.63</b>	<b>21.35</b>	<b>21.33</b>
LRPP	Depreciation	13.60	12.07	<b>12.02</b>
	Less: Depreciation Funded by Grants	10.85	9.76	<b>9.72</b>
	<b>Net Depreciation</b>	<b>2.75</b>	<b>2.31</b>	<b>2.30</b>

5.10.6 The detailed Station-wise computation of depreciation for NTPS, LTPS, KLHEP and LRPP has been provided in **Annexure 2**.

## 5.11 Interest on Loan Capital

5.11.1 APGCL submitted that it has computed the Interest on long-term Loan on normative basis for FY 2019-20. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2019-20. The

interest rate has been considered as the expected weighted average rate of interest for FY 2019-20. APGCL has claimed the Interest on Loan of Rs. 0.22 Crore for NTPS, Rs. 0.00 Crore for LTPS, Rs. 21.25 Crore for KLHEP and Rs. 3.23 Crore for LRPP for FY 2019-20.

### Commission's Analysis

5.11.2 In the Tariff Order dated March 1, 2019, the Commission has approved Interest and finance charges on normative basis for FY 2019-20 as per MYT Regulations, 2018. For the APR, the Commission has considered the same approach and provisionally approved the Interest and finance charges on normative basis.

5.11.3 The closing net normative loan for FY 2018-19 as approved in this Order has been considered as opening net normative loan for FY 2019-20. The addition of loan has been considered equal to debt portion of capitalised works as approved in this Order. The loan repayment has been considered equivalent to Depreciation approved in this Order. As per MYT Regulations, 2018, weighted average rate of interest shall be computed based on actual outstanding loan as on April 1, 2019. The Commission has computed the weighted average interest rate of 10.18% for FY 2019-20.

5.11.4 The Interest on loan capital provisionally approved by the Commission for FY 2019-20 is shown in the following Table:

**Table 59: Interest on Loan Capital as approved for APR for FY 2018-19 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL Submission	Approved in APR
NTPS	Net Normative Opening Loan	5.14	0.77	0.85
	Addition of normative loan during the year	4.75	4.25	4.75
	Normative Repayment during the year	1.74	1.56	1.55
	Net Normative Closing Loan	8.16	3.47	4.04
	Interest Rate	10.30%	10.18%	10.18%
	Interest on Loan Capital	0.68	0.22	0.25
	Interest and Finance Charges	-	-	-
	<b>Total Interest on Loan Capital</b>	<b>0.68</b>	<b>0.22</b>	<b>0.25</b>
LTPS	Net Normative Opening Loan	-	-	-
	Addition of normative loan during the year	16.10	10.45	10.45
	Normative Repayment during the year	15.30	11.55	15.24
	Net Normative Closing Loan	0.80	-	-
	Interest Rate	10.30%	10.18%	10.18%

Station	Particulars	Tariff Order	APGCL Submission	Approved in APR
	Interest on Loan Capital	0.04	-	-
	Interest and Finance Charges	-	-	-
	<b>Total Interest on Loan Capital</b>	<b>0.04</b>	-	-
KLHEP	Net Normative Opening Loan	219.70	216.88	216.24
	Addition of normative loan during the year	11.20	5.22	9.29
	Normative Repayment during the year	21.63	21.35	21.33
	Net Normative Closing Loan	209.28	200.74	204.20
	Interest Rate	10.30%	10.18%	10.18%
	Interest on Loan Capital	22.09	21.25	21.39
	Interest and Finance Charges	-	-	-
	<b>Total Interest on Loan Capital</b>	<b>22.09</b>	<b>21.25</b>	<b>21.39</b>
LRPP	Net Normative Opening Loan	34.80	32.35	31.88
	Addition of normative loan during the year	0.00	1.08	1.08
	Normative Repayment during the year	2.75	2.31	2.30
	Net Normative Closing Loan	32.05	31.12	30.66
	Interest Rate	10.30%	10.18%	10.18%
	Interest on Loan Capital	3.44	3.23	3.18
	Interest and Finance Charges	-	-	-
	<b>Total Interest on Loan Capital</b>	<b>3.44</b>	<b>3.23</b>	<b>3.18</b>

## 5.12 Return on Equity (RoE)

5.12.1 APGCL submitted the Return on Equity (RoE) at a rate of 15.5% in accordance with the MYT Regulations, 2018. APGCL submitted that there has been no addition in Equity in FY 2019-20. Further, it submitted that the actual tax paid is being claimed separately. APGCL has estimated the ROE for FY 2019-20 same as approved in Tariff Order March 1, 2019. APGCL claimed ROE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs. 10.96 Crore for KLHEP and Rs. 2.34 Crore for LRPP for FY 2019-20 for the purpose of APR.

### Commission's Analysis

5.12.2 The Commission has approved the Return on Equity in accordance with Regulation 33 of the MYT Regulations, 2018. The Commission has not considered any addition of equity for capitalised works as approved in this Order. Therefore, the approved Return on Equity at 15.50% is shown in the Table below:



**Table 60: Return on Equity as approved by the Commission for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL Submission	Approved in APR
NTPS	Opening Equity for year	55	55	55
	Closing Equity for year	55	55	-
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>8.53</b>	<b>8.53</b>	<b>8.53</b>
LTPS	Opening Equity for year	143.08	143.08	143.08
	Closing Equity for year	143.08	143.08	143.08
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>22.18</b>	<b>22.18</b>	<b>22.18</b>
KLHEP	Opening Equity for year	68.65	68.65	68.65
	Closing Equity for year	68.65	72.72	68.65
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>10.64</b>	<b>10.96</b>	<b>10.64</b>
LRPP	Opening Equity for year	16.1	14.84	14.85
	Closing Equity for year	16.1	15.3	15.31
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>2.5</b>	<b>2.34</b>	<b>2.34</b>

### 5.13 Interest on Working Capital (IoWC)

5.13.1 APGCL submitted that the Commission in Tariff Order dated March 1, 2019 had approved IoWC of Rs.15.95 Crore for FY 2019-20. As against this, APGCL has estimated IoWC of Rs. 19.24 Crore for FY 2019-20 based on the revised parameters. APGCL has considered the Rate of Interest of 11.50% as approved by the Commission in the Tariff Order dated March 1, 2019.

#### Commission's Analysis

5.13.2 The Commission has computed IoWC in accordance with Regulation 36 of the MYT Regulations, 2018. For computation of working capital requirement, the Commission has considered the fuel cost and O&M Expenses on normative basis.

5.13.3 The rate of Interest has been considered equivalent to normative interest rate of Three hundred (300) basis points above the average State Bank of India MCLR (One year tenor) prevalent during the last available six months for the determination of tariffs. Thereby, the interest rate has been considered to be 11.22%.

5.13.4 For the purpose of APR, IoWC provisionally approved by the Commission for FY

2019-20 is shown in the following Table:

**Table 61: Interest on Working Capital approved for APR for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Petition	Approved by the commission
NTPS	Fuel Cost for one month	4.23	6.06	10.20
	O&M Expenses for one month	1.57	3.34	3.60
	Maintenance Spares-30% of O&M	5.65	12.04	12.96
	Receivables for two months	12.21	20.12	28.91
	Total Working Capital Requirement	23.66	41.55	55.68
	Rate of interest	11.50%	11.22%	11.22%
	<b>Interest on Working capital</b>	<b>2.72</b>	<b>4.66</b>	<b>6.25</b>
LTPS	Fuel Cost for one month	9.65	11.6	11.04
	O&M Expenses for one month	3.22	3.48	1.91
	Maintenance Spares-30% of O&M	11.58	12.52	6.86
	Receivables for two months	31.23	35.43	29.57
	Total Working Capital Requirement	55.68	63.03	<b>49.37</b>
	Rate of interest	11.50%	11.22%	11.22%
	<b>Interest on Working capital</b>	<b>6.40</b>	<b>7.07</b>	<b>5.54</b>
KLHEP	O&M Expenses for one month	2.37	2.58	2.38
	Maintenance Spares-30% of O&M	4.27	9.28	4.28
	Receivables for two months	15.79	13.62	13.08
	Total Working Capital Requirement	22.43	25.48	19.74
	Rate of interest	11.50%	11.22%	11.22%
	<b>Interest on Working capital</b>	<b>2.58</b>	<b>2.86</b>	<b>2.21</b>
LRPP	Fuel Cost for one month	<b>7.91</b>	<b>8.97</b>	8.84
	O&M Expenses for one month	1.67	1.89	1.67
	Maintenance Spares-30% of O&M	6.01	6.79	6.01
	Receivables for two months	21.32	23.8	23.07
	Total Working Capital Requirement	36.91	41.44	39.60
	Rate of interest	11.50%	11.22%	11.22%
	<b>Interest on Working capital</b>	<b>4.24</b>	<b>4.65</b>	<b>4.44</b>

## 5.14 Non-Tariff Income

5.14.1 APGCL submitted that the Commission had approved Non-Tariff Income of Rs. 22.09 Crore for FY 2019-20 in the Tariff Order dated March 1, 2019. As against this,

APGCL submitted the Non-Tariff Income of Rs 7.13 Crore for NTPS, Rs 9.22 Crore for LTPS and Rs 5.75 Crore for KLHEP, totalling Rs. 22.09 crore.

### Commission's Analysis

5.14.2 For the purpose of APR, the Commission provisionally approves the Non-Tariff income for FY 2019-20 as submitted by APGCL, as shown in the following Table:

**Table 62: Non-Tariff Income approved for APR for FY 2019-20 (Rs. Crore)**

Station	Tariff Order dated 01.03.2019	APGCL's Estimation	Approved for APR
NTPS	7.13	7.13	7.13
LTPS	9.22	9.22	9.22
KLHEP	5.75	5.75	5.75
LRPP	0.00	0.00	0.00
<b>Total</b>	<b>22.09</b>	<b>22.09</b>	<b>22.09</b>

## 5.15 Other Expenses

### 5.15.1 Special R&M Expenses

5.15.1.1 APGCL submitted that The Commission in its order dated 1<sup>st</sup> March 2019, had approved Special R&M for Unit 6 of LTPS, Unit 5 of LTPS, Unit II of KLHEP. However, no work has been undertaken in the FY 2019-20.

### 5.15.2 Capacity Building

5.15.2.1 APGCL submitted that the Commission had approved Capacity Building expenses of employees of Rs. 0.30 Crore for FY 2019-20 in the Tariff Order dated March 1, 2019. As against this, APGCL submitted the Capacity Building expenses of employees of Rs 0.10 Crore for NTPS, Rs 0.10 Crore for LTPS and Rs 0.10 Crore for KLHEP, totalling Rs. 0.30 Crore.

**Table 63: Other expenses submitted by APGCL for APR for FY 2019-20 (Rs. Crore)**

Other expenses	Tariff Order		Estimated for APR	
	Special R&M	Capacity Building	Special R&M	Capacity Building
NTPS	4.00	0.10	-	0.10
LTPS	10.00	0.10	-	0.10
KLHEP	15.00	0.10	-	0.10
LRPP	-	-	-	-

### **Commission's Analysis**

5.15.3 For the purpose of APR, based on APGCL's submission, the Commission has approved Rs 0.30 Crore as the Other Expenses amount claimed for FY 2019-20.

### **5.16 Summary of APR for FY 2019-20**

5.16.1 The summary of station-wise ARR after APR for FY 2018-19 is shown in the following Table:

**Table 64: ARR for Existing Generation Stations for FY 2018-19 as approved by the Commission in APR (Rs. Crore)**

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order	APGCL's Submission	Approved for APR	Tariff Order	APGCL's Submission	Approved for APR	Tariff Order	APGCL's Submission	Approved for APR	Tariff Order	APGCL's Submission	Approved for APR
<b>A</b>	<b>Annual Fixed Charges</b>												
1	O&M expenses	18.83	40.12	43.21	38.62	41.74	22.86	28.44	30.95	28.54	20.04	22.62	20.04
2	Special R&M Expenses	-	-	-	10.00	-	-	15.00	-	-	-	-	-
3	ROP Arrears & Impact on Salary	4.00	-	-	-	-	-	-	-	-	-	-	-
4	Depreciation	0.63	1.56	1.29	10.46	11.55	10.41	21.63	21.35	21.33	2.75	2.31	2.30
5	Interest on Loan	0.25	0.23	0.21	0.03	-	-	22.09	21.25	21.39	3.44	3.23	3.18
6	Return on Equity	3.10	8.53	7.10	15.16	22.18	15.16	10.64	10.96	10.64	2.50	2.34	2.34
7	Interest on Working Capital	2.72	4.66	6.25	6.40	7.07	5.54	2.58	2.86	2.21	4.24	4.65	4.44
8	Capacity Building	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-	-	-
9	Less: Non-Tariff Income	7.13	7.13	7.13	9.22	9.22	9.22	5.75	5.75	5.75	-	-	-
<b>10</b>	<b>Fixed Cost</b>	<b>22.50</b>	<b>48.06</b>	<b>51.03</b>	<b>71.55</b>	<b>73.42</b>	<b>44.86</b>	<b>94.73</b>	<b>81.72</b>	<b>78.48</b>	<b>32.97</b>	<b>35.14</b>	<b>32.30</b>
<b>B</b>	<b>Fuel Cost</b>	<b>46.30</b>	<b>72.66</b>	<b>62.16</b>	<b>115.81</b>	<b>139.15</b>	<b>120.36</b>	-	-	-	<b>95.19</b>	<b>107.62</b>	<b>106.12</b>
<b>C</b>	<b>Total ARR</b>	<b>68.80</b>	<b>120.72</b>	<b>113.19</b>	<b>187.36</b>	<b>212.57</b>	<b>165.23</b>	<b>94.73</b>	<b>81.72</b>	<b>78.48</b>	<b>128.16</b>	<b>142.77</b>	<b>138.42</b>

## **5.17 Revenue from Sale of Power**

5.17.1 APGCL has estimated total Revenue from Sale of Power for APR as Rs. 488.82 Crore for FY 2019-20.

### **Commission's Analysis**

5.17.2 For the purpose of APR for FY 2019-20, the Commission has considered the revenue from Fixed Charges equal to Fixed Charges approved by the Commission for FY 2019-20 in the Tariff Order dated March 1, 2019. Accordingly, the Commission has considered the revenue from Fixed charges of Rs. 22.31 Crore for NTPS, Rs. 71.55 Crore for LTPS, Rs. 94.73 Crore for KLHEP and Rs 33.06 Crore for LRPP, which works out to total revenue of Rs. 221.65 Crore for FY 2019-20.

5.17.3 As regards the revenue from Energy Charges, the Commission has considered the normative fuel cost approved in this Order for NTPS, LTPS and LRPP. Any variation in actual fuel cost billed shall be considered at time of Truing up for FY 2019-20, subject to prudence check. Accordingly, revenue from Energy Charges works out to Rs. 288.65 Crore for FY 2019-20.

5.17.4 Thus, the Commission has worked out revenue of Rs. 510.30 Crore for FY 2019-20 for the purpose of APR.

## **5.18 Revenue Gap/(Surplus) for FY 2019-20**

5.18.1 APGCL has estimated Revenue Gap of Rs. 68.95 Crore for FY 2019-20. APGCL submitted that since the figures for FY 2019-20 are estimated and are subject to True-up, it has not considered the Revenue Gap for recovery during FY 2019-20, as the same shall be considered at the time of True-up of FY 2019-20.

### **Commission's Analysis**

5.18.2 For computation of Revenue Gap/(surplus), the Commission has considered the ARR at effective capacity for NTPS and LTPS. The fixed charges have been reduced after considering the effective capacity. The Effective capacity has been considered as 99.50 MW for NTPS and 97.20 MW for LTPS.

5.18.3 Accordingly, the Commission has computed the Revenue gap/(surplus) for FY 2019-20 as shown in the following Table:

**Table 65: Revenue Gap/Surplus after APR for FY 2019-20 (Rs. Crore)**

<b>Sr. No.</b>	<b>Particulars</b>	<b>Approved after APR</b>
1	ARR for NTPS	104.65
2	ARR for LTPS	151.03
3	ARR for KHEP	78.48
4	ARR for LRPP	138.42
<b>5</b>	<b>Combined ARR</b>	<b>472.57</b>
6	Less: Revenue from sale of Power	510.30
<b>7</b>	<b>Revenue Gap/(surplus)</b>	<b>(37.72)</b>

5.18.4 The APR reveals a Revenue surplus of Rs. 37.72 Crore for FY 2019-20. It is only indicative in the absence of Audited Annual Accounts for FY 2019-20. Hence, this is not carried forward. It will be considered only after Truing up process for FY 2019-20, after the Audited Annual Accounts are made available.

## 6 ARR for FY 2020-21

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### 6.1 Introduction

6.1.1 This Chapter deals with the determination of ARR for FY 2020-21 in accordance with the provisions of MYT Regulations, 2018 based on analysis of submissions made by APGCL.

6.1.2 APGCL has filed Petitions for approval of ARR for the Control Period for existing stations, i.e., NTPS, LTPS, and KLHEP. The Commission has determined the Station-wise ARR for NTPS, LTPS, and KLHEP for the Control Period in line with MYT Regulations, 2018 as discussed in subsequent sections of this Chapter.

### 6.2 Effective Capacity for FY 2020-21

6.2.1 APGCL submitted that considering the revised commissioning date of ongoing projects, the project schedules of new projects and the present status of ongoing and new projects, it has projected the generation capacity from existing Stations for the FY 2020-21.

6.2.2 Based on the submission of APGCL, the Commission noted that the expected commissioning date of NRPP is 1<sup>st</sup> April 2020. It is expected that only two Units totalling 43.5 MW of NTPS will run post commissioning of NRPP, based on availability of fuel with one 21 MW GT and 22.5 MW Unit-6 of NTPS. For the purpose of approval of ARR, the Commission has considered the COD of NRPP and effective capacity for NTPS as submitted by APGCL.

6.2.3 Further, it is also noted that, post commissioning of LRPP on 26<sup>th</sup> April 2018, only 4 Units of Phase II LTPS totalling 97.2 MW are running. Unit 2 and 3 have been decommissioned in accordance with the Tariff Order dated March 19, 2018.

6.2.4 The effective capacity considered for FY 2020-21 is shown in the following Table:

**Table 66: Effective Installed Capacity for Existing Generating Stations post commissioning of LRPP and NRPP**

Station	Units Operational	Capacity of Units (MW)	Total Capacity (MW)
NTPS	2, 3, and 6	Unit 2 or 3 = 21 MW Unit 6 (WHRU) = 22.5	21+22.5=43.5 MW (Any one of unit 2 & 3 will be operating)



Station	Units Operational	Capacity of Units (MW)	Total Capacity (MW)
		MW	at one time based on availability of gas.)
LTPS	5,6,7 and 8	Unit 5, 6 and 7=20 MW each Unit 8(WHRU)=37.2 MW	(20*3) + 37.2=97.2 MW (based on availability of gas.)
LRPP	All units are operational (7Nos)	9.965 MW each for all 7 units	9.965*7=69.76 MW
NRPP	All units are operational (2 Nos)	Unit 1 =62.25 Unit2(WHRU)= 36.15	62.25+36.15=.98.4 MW
KLHEP(Hydro)	All units are operational (2 Nos)	50 MW each	50*2=100 MW

### 6.3 Gas Supply Position for FY 2020-21

6.3.1 APGCL in the present Petition submitted that the supply of gas was erratic during FY 2019-20. The Commission sought the details of gas availability and gas allocation to each Station considering the commissioning of NRPP and LRPP. In this regard, APGCL submitted the following details:

- (a) *Existing allocation of Gas:* - NTPS=0.66 MMSCMD and LTPS=0.90 MMSCMD
- (b) *Post commissioning of NRPP:* - NTPS=0.168 MMSCMD and NRPP=0.492 MMSCMD
- (c) *Post commissioning of LRPP:* - LTPS=0.54 MMSCMD and LRPP=0.36 MMSCMD

6.3.2 The Commission notes that after commissioning of NRPP (GT/Open Cycle), the available gas after consumption of gas for NRPP will be used for NTPS. The

Commission also noted that the position of gas availability prior to Commissioning of NRPP was lower than the expected availability. The lower availability of gas would affect the generation from NTPS. However, since the NRPP is yet to be commissioned, the existing gas available shall be fully utilised for generation from NTPS.

- 6.3.3 As regards the gas supply position of LTPS, the Commission notes that after commissioning of LRPP, 0.36 MMSCMD of gas will be allocated to LRPP and the remaining gas will be utilised for generation from LTPS. The lower generation of LTPS on account of non-availability of gas will reflect in the recovery of Fixed Charges for LTPS, as the same is linked to Availability, which in turn requires availability of gas.
- 6.3.4 The Commission is of the view that arrangement of fuel is the primary responsibility of the Generating Company. Hence, APGCL should make its best efforts for increasing the availability of gas from allocated sources so as to avoid loss of generation in its Generating Stations. For the purpose of projection of ARR for FY 2020-21, the Commission has considered the present gas availability as submitted by APGCL in its Petition.

#### **Plant Availability Factor (%)**

- 6.3.5 APGCL in its Petition has submitted the Availability for existing Stations for FY 2020-21 as shown in the following Table:

**Table 67: Plant Availability factor as projected by APGCL for FY 2020-21**

<b>Station</b>	<b>Tariff Order</b>	<b>Projected by APGCL</b>
NTPS	50%	45.59%
LTPS	50%	50.00%
KLHEP	85%	85.00%
LRPP	85%	85.00%

- 6.3.6 APGCL submitted that the generation from Namrup thermal power station is expected to reduce due to proposed commissioning of the GT Unit of NRPP from 1<sup>st</sup> January 2020 and that of the whole plant at 1<sup>st</sup> March 2020. APGCL also mentioned that it is expected that only two units totaling 43.5 MW of Namrup thermal power

station will run post commissioning of NRPP. However, due to the problem of low gas supply and frequent forced shutdown of the aged units/auxiliaries, APGCL will not be able to achieve the normative Plant Availability Factor.

### Commission's Analysis

6.3.7 Regulation 47.1 of MYT Regulations, 2018 specifies the Normative Plant Availability factor for recovery of full fixed charges, as 50% for both NTPS as well as LTPS and 85% for both KLHEP as well as LRPP. The Commission notes that APGCL has projected the Availability of NTPS is lower than the normative PAF.

6.3.8 In accordance with the MYT Regulations, 2018, APGCL shall be eligible to recover full fixed charges if the normative PAF is achieved as specified in MYT Regulations, 2018.

6.3.9 In the present Order, the Commission has not disallowed any fixed charges for NTPS. However, any adjustment for fixed charges shall be considered at time of truing up if NRPP is commissioned in FY 2020-21 as claimed.

**Table 68: Plant Availability factor as approved by Commission for FY 2020-21**

Station	Tariff Order	Projected by APGCL	Approved by Commission
NTPS	50%	45.59%	50.00%
LTPS	50%	50.00%	50.00%
KLHEP	85%	85.00%	85.00%
LRPP	85%	85.00%	85.00%

### 6.4 Plant Load Factor (%)

6.4.1 APGCL submitted the Plant Load Factor (%) for existing Stations for FY 2020-21 as shown in the following Table:

**Table 69: Plant Load Factor (%) as projected by APGCL**

Station	Tariff Order	APGCL's Submission
NTPS	50 %	45.59%
LTPS	66 %	50 %

Station	Tariff Order	APGCL's Submission
KLHEP	44.50%	43.95%
LRPP	90 %	85 %

### Commission's Analysis

6.4.2 Regulation 47.2 (i) of MYT Regulations, 2018 specifies the Normative Plant Load factor for availing Incentive as 50% for NTPS, 66% for LTPS, 44.50% for KLHEP and 90% for LRPP. Hence, the Commission approves PLF for Incentive for NTPS and LTPS as specified in the MYT Regulations, 2018. The incentive for Thermal Stations shall be computed at time of Truing up for FY 2020-21.

6.4.3 As regards KLHEP, Regulation 53.6 of the MYT Regulations, 2018 specifies that in case the actual saleable energy in a year exceeds  $\{DE \times (100 - AUX) * (100 - FEHS) / 10000\}$  MWh, the Energy Charge for the energy in excess of the above shall be billed equal to the lowest variable charges of the central sector thermal power generating stations in the north east region. Accordingly, the incentive for actual energy over and above Design energy shall be computed for KLHEP at time of Truing up.

6.4.4 For the purpose of projection of Generation, the Commission has considered the Plant Load Factor projected by APGCL.

### 6.5 Auxiliary Consumption (%)

6.5.1 APGCL submitted the Auxiliary Consumption for existing Stations for FY 2020-21 as per MYT Regulations, 2018, as shown in the following Table:

**Table 70: Auxiliary Consumption as projected by APGCL**

Station	Tariff Order	APGCL's Submission
NTPS	4.50%	4.50%
LTPS	5.50%	5.50%
KLHEP	0.50%	0.50%
LRPP	3.50%	3.50%

### Commission's Analysis

6.5.2 Regulation 47.3 (i) & (ii) of the MYT Regulations, 2018 specifies the Auxiliary Consumption of 4.50% for NTPS, 5.50% for LTPS, 0.50% for KLHEP and 3.50% for

LRPP. Further, Regulation 49.1 of MYT Regulations, 2018 specifies the Auxiliary Consumption of 0.50% for KLHEP.

6.5.3 Accordingly, the Commission approves the Auxiliary Consumption of 4.50% for NTPS, 5.50% for LTPS, 0.50% for KLHEP and 3.50% for LRPP for FY 2020-21 as specified in the MYT Regulations, 2018.

## 6.6 Gross Generation and Net Generation

6.6.1 APGCL projected the Gross Generation and Net Generation for existing Generating Stations for FY 2020-21 as shown in the following Table:

**Table 71: Gross Generation and Net Generation as projected by APGCL for FY 2020-21**

Station	Gross Generation (MU)		Net Generation (MU)	
	Tariff Order	APGCL's Submission	Tariff Order	APGCL's Submission
NTPS	173.73	173.73	165.91	165.91
LTPS	425.74	425.74	402.32	402.32
KLHEP	390.00	385.00	388.05	383.01
LRPP	519.40	519.40	501.22	501.22

### Commission's Analysis

6.6.2 As per earlier submission of APGCL, for NRPP the schedule operation date for Open Cycle was January 1<sup>st</sup>, 2020 and 1<sup>st</sup> March 2020 for Closed Cycle. However as per subsequent submission, the commissioning of NRPP is expected by April 2020. Hence, the Commission has considered the Generation from NRPP at normative Plant Load Factor. Further, the impact of Generation and fuel cost has been directly considered in ARR for APDCL. Further, the Commission has projected generation from LRPP and LTPS as submitted by APGCL.

6.6.3 In case of KLHEP, the Commission notes that APGCL has projected the generation from KLHEP lower than the design energy of 390 MU for FY 2020-21 because of planned outage of Unit 1 for overhauling. The Commission has accepted the generation projected by APGCL.

6.6.4 The Commission has computed the Net Generation based on above estimated Gross

Generation and approved Auxiliary Consumption for FY 2020-21. The Gross Generation and Net Generation approved by the Commission for FY 2020-21 is shown in the following Table:

**Table 72: Gross and Net Generation as approved by Commission for FY 2020-21**

Station	Gross Generation (MU)	Net Generation (MU)
NTPS	173.73	165.91
LTPS	425.74	402.32
KLHEP	390.00	388.05
LRPP	519.40	501.22
<b>Total</b>	<b>1,508.86</b>	<b>1,457.50</b>

## 6.7 Station Heat Rate

6.7.1 APGCL, in its Petition, has projected SHR for existing Stations for FY 2020-21 as shown in the following Table:

**Table 73: Station Heat Rate (kcal/kWh) as submitted by APGCL for FY 2020-21**

Station	Tariff Order	APGCL's Submission
NTPS	3900	3900
LTPS	3200	3200
LRPP	2150	2150

### Commission's Analysis

6.7.2 The Commission approves SHR for NTPS, LTPS and LRPP as per MYT Regulations, 2018. Accordingly, the Commission approves SHR of 3900 kcal/kWh for NTPS, 3200 kcal/kWh for LTPS and 2150 kcal/kWh for LRPP for FY 2020-21.

## 6.8 Fuel Cost

6.8.1 APGCL has projected the landed price of gas for FY 2020-21 as shown in the following Table:

**Table 74: Projected Landed Cost of the Gas for FY 2020-21 (Rs. /1000 SCM) as calculated by APGCL**

Particulars	Unit	NTPS	LTPS	LRPP
Gross Generation	MU	173.73	425.74	519.40

Heat Rate	kcal/kWh	3900	3200	2150
Overall Heat	G. cal.	677547	1362355	1116710
GCV of gas	kcal/SCM	9147.27	9419.27	9419.27
Gas consumption	M. SCM	74.07	144.63	118.56
Price of Gas	Rs./1000 SCM	6010.24	8440.93	8440.93
<b>Total cost of Gas</b>	<b>Rs. Crore</b>	<b>44.52</b>	<b>122.09</b>	<b>100.07</b>

### Commission's Analysis

- 6.8.2 In the MYT Order, the Commission had approved the Fuel cost for NTPS, LTPS and LRPP for FY 2020-21 based on approved performance parameters and latest GCV and price of fuels available at that time. For the purpose of approving the fuel cost for FY 2020-21, the Commission has adopted the same approach and approves the Fuel cost based on approved performance parameters in this Order and latest fuel price and GCV.
- 6.8.3 The Commission has considered the GCV of gas and landed price of gas based on the latest fuel bills submitted by APGCL in FPA submission.
- 6.8.4 The Commission notes that there is no supply of from AGCL from August onwards. However, the same may be started in FY 2020-21. Hence, consideration of fuel cost for FY 2020-21 based on fuel prices for the period from October 2019 to December 2019 would not be appropriate and would not reflect the fuel price correctly. Hence, the Commission has considered the weighted average Fuel Price and GCV of gas for the period from July 2019 to December 2019. Considering the decreasing trend in price of gas, the Commission has not considered any escalation in price of gas.
- 6.8.5 The GCV and landed price of gas considered by the Commission for projection of fuel cost is shown in the following Table:

**Table 75: GCV and Landed Price of Gas for FY 2020-21 considered by the Commission**

Station	Particulars	Approved by the Commission
NTPS	GCV of Gas (kcal/SCM)	9,132.69
	Price of Gas (Rs./1000SCM)	6,257.52
LTPS	GCV of Gas (kcal/SCM)	9,328.96
	Price of Gas (Rs./1000SCM)	8,553.56

- 6.8.6 The Commission has projected the fuel cost for NTPS, LTPS and LRPP based on approved Performance parameters, GCV of gas and landed price of gas. The fuel

cost projected by the Commission for NTPS, LTPS and LRPP for FY 2020-21 is shown in the following Table:

**Table 76: Fuel Cost approved by the Commission for FY 2020-21**

S. No.	Particulars	Unit	NTPS	LTPS	LRPP
1	Gross Generation	MU	173.73	425.74	519.40
2	Heat Rate	kcal/kWh	3,900.00	3,200.00	2,150.00
3	GCV of gas	kcal/SCM	9,132.69	9,328.96	9,328.96
4	Overall Heat	G. cal.	677,547.00	1,362,355.20	1,116,700.82
5	Gas consumption	M. SCM	74.19	146.04	119.70
6	Price of Gas	Rs./1000 SCM	6,257.52	8,553.56	8,553.56
7	Total Cost of Gas	Rs. Crore	<b>46.42</b>	<b>124.91</b>	<b>102.39</b>

## 6.9 O&M Expenses

- 6.9.1 APGCL submitted that the Commission in the Tariff Order dated March 1, 2019 had approved O&M expenses of Rs. 20.01Crore for NTPS, Rs 41.05 Crore for LTPS, Rs. 30.24 Crore for KLHEP and Rs. 21.30 Crore for LRPP for FY 2019-20, which works out to total of Rs. 156.69 Crore.
- 6.9.2 APGCL claimed the O&M Expenses for Rs. 20.34 Crore for NTPS, Rs. 40.32 Crore for LTPS, Rs. 30.59 Crore for KLHEP an Rs. 21.30 Crore for LRPP, which works out to total of Rs. 135.44 Crore.

### Commission's Analysis

- 6.9.3 The Commission in the Tariff Order dated March 1, 2019 has approved O&M Expenses on normative basis as per MYT Regulations, 2018 for FY 2020-21 after due consideration of effective capacity of LTPS and NTPS. For the purpose of ARR, the Commission continues with the same approach and approves Station-wise O&M expenses on normative basis as per MYT Regulations, 2018 after due consideration of effective capacity of LTPS and NTPS.
- 6.9.4 The Commission has computed normative O&M expenses by applying escalation factor of 6.30%, on normative O&M Expenses for FY 2019-20 approved in the APR.
- 6.9.5 The Normative O&M expenses for FY 2020-21 are shown in the following Table:



**Table 77: Normative O&M expenses for FY 2020-21(Rs. Crore)**

Station	Tariff Order	Approved by the Commission
NTPS	54.98	55.17
LTPS	60.05	60.26
KLHEP	30.25	30.34
LRPP	21.30	21.30

6.9.6 Considering effective capacity for NTPS and LTPS as discussed in earlier Section of this Chapter, the Commission has proportionately considered the O & M expenses by applying the effective installed capacity. Accordingly, the following O & M expenses are approved for FY 2020-21

**Table 78: O&M expenses approved in ARR for FY 2020-21 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
O&M Expenses	20.08	24.31	30.34	21.30

## **6.10 Depreciation**

6.10.1 APGCL submitted that it has projected the depreciation in accordance with MYT Regulations, 2018, and based on approved GFA and proposed capital additions during FY 2020-21. APGCL has not considered the depreciation on assets funded through grants/subsidies as per Regulation 32 of MYT Regulations, 2018.

6.10.2 APGCL projected the Depreciation of Rs. 1.83 Crore for NTPS, Rs. 12.12 Crore for LTPS, Rs. 22.94 Crore for KLHEP and 2.31 Crore for LRPP for FY 2020-21.

### **Commission's analysis**

6.10.3 The Commission has considered the opening GFA for FY 2020-21 equivalent to the closing GFA for FY 2019-20 as approved in this Order. The Commission has computed depreciation as per scheduled rates specified in the MYT Regulations, 2018.

6.10.4 As per Regulation 32 of the MYT Regulations, 2018, the total depreciation during the

life of the asset shall not exceed 90% of the original cost of Asset. The Commission has computed the depreciation separately for assets added under each asset head in each year. The Commission has disallowed the depreciation in excess of 90% of the original cost of asset under different asset heads.

6.10.5 Further, in line with the approach adopted in the Tariff Order and as specified in Regulation 32 of the MYT Regulations, 2018, the Commission has not considered the depreciation on assets funded through grants, consumer contribution or capital subsidy, for FY 2020-21.

**Table 79: Depreciation for FY 2020-21 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Submission	Approved by Commission
NTPS	Depreciation	2.37	1.98	2.08
	Less: Depreciation on assets funded by Grants	0.23	0.14	0.20
	<b>Net Depreciation</b>	<b>2.14</b>	<b>1.83</b>	<b>1.87</b>
LTPS	Depreciation	18.52	13.97	18.46
	Less: Depreciation on assets funded by Grants	2.68	1.85	2.50
	<b>Net Depreciation</b>	<b>15.84</b>	<b>12.12</b>	<b>15.97</b>
KLHEP	Depreciation	25.26	25.64	24.83
	Less: Depreciation on assets funded by Grants	3.03	2.70	2.64
	<b>Net Depreciation</b>	<b>22.23</b>	<b>22.94</b>	<b>22.19</b>
LRPP	Depreciation	13.60	12.07	12.23
	Less: Depreciation on assets funded by Grants	10.85	9.76	9.89
	<b>Net Depreciation</b>	<b>2.75</b>	<b>2.31</b>	<b>2.34</b>

6.10.6 The Station-wise computation of Depreciation is provided in **Annexure 2** to this Order.

## 6.11 Interest on Loan

6.11.1 APGCL has computed the Interest on loan as per the methodology specified in the MYT Regulations, 2018. APGCL submitted that the opening normative loan as on April 1, 2019 has been taken as the base and the additions during the period have

been considered to arrive at the normative loan for FY 2020-21. APGCL estimated the Interest on Loan of Rs. 0.60 Crore for NTPS, Rs. 0.45 Crore for LTPS, Rs. 20.65 Crore for KLHEP and Rs. 3.10 Crore for LRPP.

### Commission's Analysis

6.11.2 In the Tariff Order, the Commission has approved Interest and finance charges on normative basis for FY 2019-20 as per Regulation 34 of the MYT Regulations, 2018. For the ARR, the Commission has considered the same approach and approved the Interest and finance charges on normative basis.

6.11.3 The closing net normative loan for FY 2019-20 as approved in this Order has been considered as opening net normative loan for FY 2020-21. The addition of loan has been considered equal to debt portion of capitalised works as approved in this Order. The loan repayment has been considered equivalent to Depreciation approved in this Order. As per MYT Regulations, 2018, weighted average rate of interest shall be computed based on actual outstanding loan as on April 1, 2020. The Commission sought details of estimated outstanding loan as on April 1, 2020. The Commission has computed the weighted average interest rate of 10.34% for FY 2020-21.

6.11.4 The Interest on loan capital approved by the Commission for FY 2020-21 is shown in the following Table:

**Table 80: Interest on Loan Capital for FY 2020-21 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Submission	Approved by Commission
NTPS	Net Normative Opening Loan	9.58	3.47	4.04
	Addition of normative loan during the year	3.04	6.44	3.04
	Normative Repayment during the year	2.14	1.83	1.87
	Net Normative Closing Loan	10.48	8.07	5.21
	Interest Rate	10.18%	10.34%	10.34%
	<b>Interest on Loan Capital</b>	<b>1.02</b>	<b>0.60</b>	<b>0.48</b>
LTPS	Net Normative Opening Loan	-	0.00	-
	Addition of normative loan during the year	15.20	20.91	20.91
	Normative Repayment during the year	15.84	12.12	15.97
	Net Normative Closing Loan	-	8.79	4.94
	Interest Rate	10.18	10.34%	10.34%
	<b>Interest on Loan Capital</b>	<b>-</b>	<b>0.45</b>	<b>0.26</b>
KLHEP	Net Normative Opening Loan	209.28	200.74	204.20

Station	Particulars	Tariff Order	APGCL's Submission	Approved by Commission
	Addition of normative loan during the year	7.82	20.90	20.90
	Normative Repayment during the year	22.23	22.94	22.19
	Net Normative Closing Loan	194.87	198.71	202.91
	Interest Rate	10.18	10.34%	10.34%
	<b>Interest on Loan Capital</b>	<b>20.58</b>	<b>20.65</b>	<b>21.05</b>
LRPP	Net Normative Opening Loan	32.05	31.12	30.66
	Addition of normative loan during the year	0.00	0.00	-
	Normative Repayment during the year	2.75	2.31	2.34
	Net Normative Closing Loan	29.30	28.82	28.32
	Interest Rate	10.18%	10.34%	10.34%
	<b>Interest on Loan Capital</b>	<b>3.12</b>	<b>3.10</b>	<b>3.05</b>

## 6.12 Return on Equity

6.12.1 APGCL has computed the Return on Equity on average equity for the year at rate of return of 15.5% as per the MYT Regulations, 2018. Against approved Return on Equity of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs.10.64 Crore for KLHEP and Rs 2.37 Crore for LRPP, APGCL has projected Return of Equity of Rs. 8.53 Crore, Rs. 22.18 Crore, Rs. 11.27 Crore and Rs. 4.67 Crore respectively, for FY 2020-21.

### Commission's Analysis

6.12.2 The Commission has approved the Return on Equity in accordance with Regulation 33 of the MYT Regulations, 2018. Accordingly, the Commission has not considered any addition of equity for capitalised works as approved in this Order. Therefore, the approved Return on Equity at 15.50% same as proposed by APGCL is shown in the Table below:

**Table 81: Return on Equity for FY 2020-21 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL Submission	Approved by The Commission
NTPS	Opening Equity	55.00	55.00	55.00
	Closing Equity	55.00	55.00	55.00
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>8.53</b>	<b>8.53</b>	<b>8.53</b>
LTPS	Opening Equity	143.08	143.08	143.08
	Closing Equity	143.08	143.08	143.08
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>22.18</b>	<b>22.18</b>	<b>22.18</b>
KLHEP	Opening Equity	68.65	72.72	68.65
	Closing Equity	68.65	72.72	68.65
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>10.64</b>	<b>11.27</b>	<b>10.64</b>
LRPP	Opening Equity	16.10	15.30	15.31
	Closing Equity	16.10	15.30	15.31
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>2.50</b>	<b>2.37</b>	<b>2.37</b>

### 6.13 Interest on Working Capital (IoWC)

6.13.1 APGCL has computed the IoWC as per provisions of the MYT Regulations, 2018 for existing generating Stations for FY 2020-21, APGCL has considered the rate of interest of 11.50% as approved in the MYT Order.

6.13.2 APGCL has projected IoWC of Rs. 2.63 Crore for NTPS, Rs. 6.76 Crore for LTPS, Rs 3.15 Crore KLHEP and R. 4.35 Crore for LRPP for FY 2020-21.

#### Commission's Analysis

6.13.3 The Commission has computed IoWC in accordance with Regulation 36 of the MYT Regulations, 2018. Rate of Interest has been considered equal to the normative interest rate of Three Hundred (300) basis point above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available 6 months for the determination of tariff, which works out to be 11.22%.

6.13.4 Interest on working capital approved by the Commission for FY 2020-21 is shown in the following Table:

**Table 82: Interest on Working Capital for FY 2020-21 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order	APGCL's Estimation	Approved by Commission
NTPS	Fuel Cost for one month	4.23	3.71	4.24
	O&M Expenses for one month	1.67	1.70	1.67
	Maintenance Spares-30% of O&M	6.00	6.10	6.02
	Receivables for two months	11.79	11.91	11.76
	Total Working Capital Requirement	23.69	23.42	23.70
	<b>IoWC</b>	<b>2.72</b>	<b>2.63</b>	<b>2.66</b>
LTPS	Fuel Cost for one month	9.65	10.17	10.41
	O&M Expenses for one month	3.42	3.36	2.03
	Maintenance Spares-30% of O&M	12.31	12.10	7.29
	Receivables for two months	32.57	34.64	30.84
	Total Working Capital Requirement	57.95	60.27	<b>50.56</b>
	<b>IoWC</b>	<b>6.66</b>	<b>6.76</b>	<b>5.67</b>
KLHEP	O&M Expenses for one month	2.52	2.55	2.53
	Maintenance Spares-30% of O&M	4.54	9.18	4.55
	Receivables for two months	15.44	16.35	16.04
	Total Working Capital Requirement	22.49	28.08	<b>23.12</b>
	<b>IoWC</b>	<b>2.59</b>	<b>3.15</b>	<b>2.59</b>
LRPP	Fuel Cost for one month	7.91	8.34	8.53
	O&M Expenses for one month	1.78	1.78	1.78
	Maintenance Spares-30% of O&M	6.39	6.39	6.39
	Receivables for two months	21.49	22.25	22.64
	Total Working Capital Requirement	37.56	38.76	39.34
	<b>IoWC</b>	<b>4.32</b>	<b>4.35</b>	<b>4.41</b>

## 6.14 Non-Tariff Income

6.14.1 APGCL has projected the Other Income for existing Generating stations for FY 2020-21 as Rs. 7.13 Crore for NTPS, Rs. 9.22 Crore for LTPS, Rs. 5.75 Crore for KLHEP and Rs. 0.00 Crore for LRPP.

### Commission's Analysis

6.14.2 The Commission has considered the Other income as projected by APGCL for existing Stations as shown in the following Table:

**Table 83: Other Income approved for FY 2020-21 (Rs. Crore)**

<b>Station</b>	<b>Approved in Tariff Order dated 01.03.2019</b>	<b>APGCL's Estimation</b>	<b>Approved by the Commission</b>
NTPS	7.13	7.13	7.13
LTPS	9.22	9.22	9.22
KLHEP	5.75	5.75	5.75
LRPP	0.00	0.00	0.00

**6.14.3 Summary of ARR for FY 2020-21**

6.14.4 Based on the above analysis, the station-wise ARR approved for FY 2020-21 for existing Stations is summarised in the Table below:

Table 84: Summary of ARR for FY 2020-21 as approved by the Commission (Rs. Crore)

Sr . No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order	APGCL's Submission	Approved by Commission	Tariff Order	APGCL's Submission	Approved by Commission	Tariff Order	APGCL's Submission	Approved by Commission	Tariff Order	APGCL's Submission	Approved by Commission
<b>A</b>	<b>Annual Fixed Charges</b>												
1	O&M expenses	20.01	20.34	20.08	41.05	40.32	24.31	30.24	30.59	30.34	21.30	21.30	21.30
2	Impact of ROP	-	-	-	-	-	-	-	-	-	-	-	-
3	Special R&M	-	-	-	15	13.00	13.00	12	15.10	15.10	-	-	-
4	Depreciation	0.78	1.83	0.68	10.82	12.12	10.92	22.23	22.94	22.19	2.75	2.31	2.34
5	Interest on Loans	0.37	0.60	0.17	-	0.45	0.17	20.58	20.65	21.05	3.12	3.10	3.05
6	Return on Equity	3.1	2.63	3.10	15.16	22.18	15.16	10.64	11.27	10.64	2.50	2.37	2.37
7	Interest on Working Capital	2.72	8.53	2.66	6.66	6.76	5.67	2.59	2.15	2.59	4.32	4.35	4.41
	Capacity Building	0.1	0.15	0.10	0.10	0.15	0.10	0.10	0.15	0.10	-	-	-
8	<i>Less: Other Income</i>	7.13	7.13	7.13	9.22	9.22	9.22	5.75	5.75	5.75	-	-	-
<b>9</b>	<b>Annual Fixed Charges</b>	<b>19.96</b>	<b>26.94</b>	<b>19.67</b>	<b>79.58</b>	<b>85.76</b>	<b>60.11</b>	<b>92.63</b>	<b>98.11</b>	<b>96.26</b>	<b>33.99</b>	<b>33.43</b>	<b>33.47</b>
<b>B</b>	<b>Fuel Cost</b>	<b>46.3</b>	<b>44.52</b>	<b>46.42</b>	<b>115.81</b>	<b>122.09</b>	<b>124.91</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>94.93</b>	<b>100.07</b>	<b>102.39</b>
<b>C</b>	<b>ARR</b>	<b>66.26</b>	<b>71.46</b>	<b>66.09</b>	<b>195.39</b>	<b>207.85</b>	<b>185.02</b>	<b>92.63</b>	<b>98.11</b>	<b>96.26</b>	<b>128.92</b>	<b>133.50</b>	<b>135.86</b>



## 7 Tariff for FY 2020-21

### 7.1 Cumulative Revenue Gap/ (Surplus) and Net ARR for recovery

7.1.1 APGCL has computed the cumulative Revenue Gap/(Surplus) for True-up of FY 2018-19 as shown in the following Table:

**Table 85: Revenue Gap/(Surplus) as submitted by APGCL (Rs. Crore)**

Sr. No.	Particulars	Rs. Crore
1	Stand-alone Revenue Gap/(Surplus) for FY 2018-19	8.28
2	Carrying Cost for FY 2018-19 at SBI Base Rate + 3.5%	1.01
3	<b>Total</b>	<b>9.29</b>

#### Commission's Analysis

7.1.2 For computation of cumulative past Revenue Gap/(Surplus) for recovery, the Commission has considered the Revenue Gap/(Surplus) after truing up 2018-19 approved in this Order along with carrying/Holding cost. No Revenue Gap/(Surplus) has been proposed to be recovered through tariff in FY 2020-21 arising out of APR of FY 2019-20, in accordance with the MYT Regulations, 2018.

7.1.3 The Commission has computed the cumulative Revenue Gap/(Surplus) as shown in the following Table:

**Table 86: Revenue Gap/(Surplus) for FY 2018-19 as approved by the Commission (Rs. Crore)**

Particulars	Submitted by APGCL	Approved after Truing up
<b>Truing up for FY 2018-19</b>		
ARR for NTPS (considering effective capacity)	144.44	131.63
ARR for LTPS (considering effective capacity)	173.40	177.13
ARR for LRPP	111.22	112.51
ARR for KLHEP	75.35	74.82
<b>Combined ARR</b>	<b>504.41</b>	<b>496.09</b>
Revenue from Sale of Power	512.69	512.69
<b>Revenue Gap/(Surplus)</b>	<b>(8.28)</b>	<b>(16.60)</b>

Particulars	Submitted by APGCL	Approved after Truing up
<b>Computation of carrying /(holding) cost on Revenue Gap/(Surplus) in FY 2018-19 Order</b>		
Carrying /(holding) cost for FY 2018-19 (half Year)	(0.51)	(1.01)
Carrying /(holding) cost for FY 2019-20 (full Year)	(0.51)	(1.86)
Carrying /(holding) cost for FY 2020-21 (half Year)	-	(0.93)
<b>Total</b>	<b>(1.01)</b>	<b>(3.81)</b>
<b>Cumulative Revenue Gap/(Surplus) along with Carrying / (Holding) Cost</b>	<b>(9.29)</b>	<b>(20.40)</b>

7.1.4 The Commission approves the Revenue Surplus of Rs. 20.40 Crore arising out of Truing up for FY 2018-19, including the holding cost. This amount is to be refunded to APDCL in 12 equal monthly instalments viz. Rs 1.70 Crore per month during FY 2020-21, as adjustments in the monthly bill.

## 7.2 Fixed Charges and Energy Charges for FY 2020-21 for NTPS, LTPS and LRPP

7.2.1 APGCL has proposed the Generation Tariff for NTPS and LTPS as shown in the following Table:

**Table 87: Proposed Generation tariff as submitted by APGCL (Rs. Crore)**

Station	Particulars	FY 2020-21
NTPS	Annual Fixed Charges (Rs. Crore)	26.94
	Monthly Fixed Charges (Rs. Crore)	2.25
	Energy Charges (Rs. /kWh)	2.68
LTPS	Annual Fixed Charges (Rs. Crore)	85.76
	Monthly Fixed Charges (Rs. Crore)	7.15
	Energy Charges (Rs. /kWh)	3.03
LRPP	Annual Fixed Charges (Rs. Crore)	33.43
	Monthly Fixed Charges (Rs. Crore)	2.79
	Energy Charges (Rs. /kWh)	2.00

## Commission's Analysis

7.2.2 The Commission has determined the Tariff for FY 2020-21 for NTP, LTPS and LRPP as under:

### Annual Fixed Charges

7.2.3 In earlier Chapter, the Commission has determined the Annual Fixed Charges for NTPS, LTPS and LRPP.

7.2.4 Regulation 51.1 of the MYT Regulations, 2018 specifies that the NAPAF for full recovery of Annual Fixed Charges shall be 50% for both NTPS and LTPS and 85% for LRPP.

7.2.5 The Fixed Charges for NTPS, LTPS and LRPP as approved by the Commission for FY 2020-21 is shown in the following Table:

**Table 88: Fixed Charges as approved for FY 2020-21 by the Commission (Rs. Crore)**

Generating Station	Annual Fixed Charges	Monthly Fixed Charges
NTPS	19.67	1.64
LTPS	60.11	5.01
LRPP	33.47	2.79

7.2.6 However, in the event of actual Availability for the year, computed in accordance with the Regulation 51.1 of the MYT Regulations, 2018, being less than the Normative Availability, the Fixed Charges shall be proportionately adjusted as per the MYT Regulations, 2018.

### Energy Charges

7.2.7 The Commission has determined the Energy Charges (on energy sent-out basis) for NTPS, LTPS and LRPP as shown in the following Table:

**Table 89: Energy Charges for FY 2020-21 approved by the Commission (Rs. Crore)**

Station	Particulars	FY 2020-21
NTPS	Fuel Cost (Rs. Crore)	46.42
	Net Generation (MU)	165.91
	<b>Energy Charges (Rs. /kWh)</b>	<b>2.80</b>
LTPS	Fuel Cost (Rs. Crore)	124.91
	Net Generation (MU)	402.32

Station	Particulars	FY 2020-21
	<b>Energy Charges (Rs. /kWh)</b>	<b>3.10</b>
LRPP	Fuel Cost (Rs. Crore)	102.39
	Net Generation (MU)	501.22
	<b>Energy Charges (Rs. /kWh)</b>	<b>2.04</b>

### 7.3 Capacity Charges and Energy Charge Rate for KLHEP

7.3.1 APGCL has proposed the tariff for KLHEP as shown in the following Table:

**Table 90: Proposed Generation tariff for KLHEP as submitted by APGCL**

Station	Particulars	FY 2020-21
KLHEP	Capacity Charges (Rs. Crore)	49.05
	Energy Charges (Rs. /kWh)	1.26

#### Commission's Analysis

7.3.2 Regulation 53 of the MYT Regulations 2018 specifies the computation of Capacity Charges and Energy Charges for Hydro Generating Stations. The Commission has determined the Capacity Charges and Energy Charges for KLHEP for FY 2020-21 based on the applicable AFC and projected Availability as under:

**Table 91: Capacity Charges and Energy Charges approved by the Commission for KLHEP for FY 2020-21**

Particulars	FY 2020-21
Annual Fixed Charge (Rs. Crore)	96.26
<b>Capacity Charges (Rs. Crore)</b>	<b>48.13</b>
Design Energy (MU)	390.00
Auxiliary Consumption (%)	0.50%
Net Design Energy (MU)	388.05
<b>Energy Charge Rate (Rs. /kWh)</b>	<b>1.24</b>

7.3.3 The Capacity Charges shall be computed for calendar month on monthly basis as per Regulation 53.2 and 53.3 of MYT Regulations, 2018.

## 7.4 Generation Tariff for FY 2020-21

7.4.1 The Commission approves the Generation Tariff for FY 2020-21 including past Revenue Gap/(Surplus) as shown in the following Table:

**Table 92: Generation Tariff for FY 2020-21 approved by the Commission**

Particulars	Particulars	FY 2020-21
NTPS	Annual Fixed Charges (Rs. Crore)	19.67
	Monthly Fixed Charges (Rs. Crore)	1.64
	Energy Charges (Rs./kWh)	2.80
LTPS	Annual Fixed Charges (Rs. Crore)	60.11
	Monthly Fixed Charges (Rs. Crore)	5.01
	Energy Charges (Rs./kWh)	3.10
LRPP	Annual Fixed Charges (Rs. Crore)	33.47
	Monthly Fixed Charges (Rs. Crore)	2.79
	Energy Charges (Rs./kWh)	2.04
KLHEP	Capacity Charges (Rs. Crore)	48.13
	Energy Charge Rate (Rs./kWh)	1.24

7.4.2 Since, the Commission has determined Station-wise Generation Tariff for FY 2020-21, the billing shall be done for each station separately on monthly basis in accordance with the provisions of MYT Regulations, 2018.

7.4.3 For NRPP, the Commission has already approved the provisional tariff as shown in the following Table:

**Table 93: Provisional Tariff for NRPP for FY 2020-21 as approved by the Commission**

Particulars	Particulars	FY 2020-21
NTPS	Annual Fixed Charges (Rs. Crore)	116.19
	Monthly Fixed Charges (Rs. Crore)	9.73
	Energy Charges (Rs. /kWh)	1.33

The above Tariff shall be made applicable only after commissioning of NRPP.

## **7.5 Applicability of Tariff**

7.5.1 The approved Generation tariff for FY 2020-21 shall be effective from April 1, 2020 and shall continue until replaced/modified by an Order of the Commission.

**Sd/-**

**(B. Borthakur)**

**Member, AERC**

**Sd/-**

**(S. C. Das)**

**Chairperson, AERC**

## 8 Directives

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The Commission issued certain directives to APGCL in the past Tariff Orders, with an objective of attaining operational efficiency and streamlining the flow of information, which would be beneficial to the sector and the Petitioner, both in the short-term and long-term.

As regards the directives issued by the Commission, APGCL has submitted the report to the Commission on compliance of directives issued in past Tariff Orders. The Commission has reviewed the compliance of directives submitted by APGCL and the status is as follows:

### **Status of Directives issued in the Tariff Order dated 1<sup>st</sup> March 2019.**

#### **Directive 1: Employee's Provident Fund**

The Commission once again directs APGCL to complete the formalities of forming the Trust for Employee's Provident Fund as early as possible.

#### **Status:**

APGCL informed that the matter is being continuously pursued with the Government of Assam.

#### **Directive 2: Procurement of gas**

APGCL should continue to pursue with its gas suppliers/ transporter to obtain the contracted quantum of gas on a regular basis.

The Commission also directs APGCL to take action for revision in modalities of MGQ formula in the revised Agreements to be signed with all the Gas Suppliers & Gas Transporters and submit copies of the same to the Commission within three months from the date of this Order. Further, APGCL should claim compensation, in case the MGQ is not met by Gas Supplier/Gas Transporter.

#### **Status:**

APGCL submitted that the gas received from M/s OIL and M/s GAIL was less than the allotted quantity for FY 2019-20. The status regarding the agreements for NTPS and LTPS with the Gas Suppliers & Transporters were submitted as given below:

#### **Namrup Thermal Power Station (NTPS):**

##### **OIL India Limited:**

The agreement for sale and purchase of Natural Gas between OIL India Limited and APGCL for supply of 0.66 MMSCMD gas to NTPS was signed on 28-11-2007 for a period of 10(Ten) years and the said agreement expired on 27th November 2017. By the provision of Article No. 2.0 of the original Agreement, the same was renewed for another 5 years with validity up to 27-11-2022.

**AGCL:**

The Agreement executed between AGCL and erstwhile ASEB on 22.03.2003 has validity up to 24.05.2020. As per the agreement with M/s AGCL (Transporter) for NTPS, the contract quantity is 0.8 MMSCMD. On expiry of the agreement, the contracted quantity to be transported will be taken as that of the quantum of gas supplied by OIL i.e. 0.66 MMSCMD.

**Lakwa Thermal Power Station (LTPS):**

**OIL**

M/s OIL India Ltd had entered an agreement with APGCL for 0.50 MMSCMD of gas on 16.09.2015 and as per article no. 7: MGQ shortfall quantity, both for buyer and seller, shall be calculated at the end of every month. As per the calculation formula, as stipulated in the agreement, M/s OIL has not served any MGQ bill to APGCL from the date of signing the agreement.

**AGCL:**

M/s AGCL has forwarded the draft GTA for a period up to 2023. The comments have already been incorporated in the draft GTA and formalities to execute the GTA will be completed very shortly.

**Directive 3: Completion of New Power Projects within scheduled time and augmentation of own generating capacity**

The Commission directs APGCL to commission both the units of NRPP as per the revised schedule. APGCL is also directed to expedite the completion of other ongoing Projects including Solar PV projects.

**Status:**

APGCL submitted that pre-commissioning activity of Open Cycle mode of NRPP is going on and the combined cycle mode is expected to be commissioned by March 2020.

APGCL submitted that the 70 MW Amguri Solar Power Project, 120 MW Lower Kopili HEP,



24 MW Borpani Middle-II SHEP, 13.5 MW MSHEP and 2X800 MW Margherita Super Thermal Power Project are under different stages of implementation.

#### **Directive 4: Fixed Asset Register**

The Commission directs APGCL that Fixed Asset Register should be prepared and updated every year, and these should be duly certified by Chartered Accountant. APGCL is directed to maintain Fixed Asset Register at their end and submit to the Commission as and when asked during tariff proceedings.

#### **Status:**

APGCL submitted that the Fixed Asset Register (FAR) has been updated upto 31.03.2019. The Fixed Asset Register is readily available and will be provided as and when asked for, by the Commission.

#### **Directive 5 – Capacity Building**

The Commission approved Rs 1 Cr for training and capacity building of employees in APGCL for the MYT control period. The Commission directs APGCL to submit the detailed expenditure on account of capacity building, separately to the Commission, at the time of true up.

#### **Status:**

Noted and being complied with.

### **New Directives:**

The Commission hereby issues the following directives to APGCL as under:

#### **Directive 1: Completion of new Power Projects within scheduled time and augmentation of own generating capacity**

The Commission directs APGCL to complete their ongoing projects on time.

APGCL should set up new solar projects on its own, as solar projects require lesser time for commissioning. This would also help the Company build expertise in solar technology and add much required new capacity to their pool of generation projects.

APGCL is, also, directed to explore the possibility of setting up solar power plants at remote areas of the State so that its generating stations are spread out throughout the State. This would help reduce losses and transmission cost.

**Directive 2: Preventive Maintenance.**

The Commission directs APGCL to earnestly pursue preventive maintenance of its power stations using diagnostic tools and strategies, to avoid forced shutdown of its turbines and loss in revenue.

Planned /scheduled shutdowns should also be opted for as and when necessary to maintain the power stations in operations and avoid accidents.

**Directive 3 – Employee’s Provident Fund**

The Commission directs APGCL to deposit the contributions by the Employees including past liabilities for GPF in a separate bank account.

**Directive 4 – Special R&M**

It is observed that APGCL does not carry out Special R&M in the year for which it is approved. This has also resulted in frequent breakdown of Units. Henceforth, APGCL should carry out Special R&M within the approved period failing which the same will not be allowed as an expenditure in the subsequent year.

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

**Sd/-  
(B. Borthakur)  
Member, AERC**

**Sd/-  
(S. C. Das)  
Chairperson, AERC**

# Annexure 1 Minutes of the 26th Meeting of the State Advisory Committee

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**VENUE:** BIDYUT NIYAMAK BHAWAN, GUWAHATI – 22.

**DAY / DATE:** THURSDAY, February 13, 2020.

**LIST OF MEMBERS / SPECIAL INVITEES:** AT ANNEXURE-A (ENCLOSED)

The 26th Meeting of State Advisory Committee (SAC) was chaired by the Hon'ble Chairperson, AERC, Shri S.C. Das IAS, (Retd).

Welcoming all members and invitees, the Chairperson, expressed happiness that the meeting could be arranged in the new Office Building of the Commission, which is still under construction. Thereafter, Chairperson AERC introduced and welcomed Mrs Bulbuli Borthakur and Shri Satyendra Nath Kalita, who joined as new Members of AERC on December 21, 2019. He then informed that the meeting was convened, primarily, to discuss the Tariff Petitions for FY 2020-21, filed by the State Power Utilities on November 30, 2019 and invited suggestions from the SAC members. He further informed the participants that a Public Hearing is also scheduled to be held on February 19, 2020 on these petitions.

The Welcome address was followed by an introductory session among the members and invitees. Thereafter, the agenda items were taken up for discussion in seriatim. The important points discussed in the course of the meeting are briefly recorded below.

## **Agenda: Confirmation of the Minutes of the 25<sup>th</sup> meeting of SAC held on 26.07.2019**

The draft Minutes of the 25<sup>th</sup> Meeting of the Committee were circulated among the Members and Special Invitees in August 2019. Comments were received from a few members and these were incorporated in the minutes before finalizing.

The final minutes were confirmed and accepted by the members.

**Agenda: Action Taken on the minutes of the 25th Meeting of SAC.**

A power-point presentation was made by Assistant Director (Engineering) AERC, Shri J. Bezbaruah on the salient features of action taken reports submitted by the power utilities. Hard copies of the action taken reports were also circulated among the members of SAC. Chairperson AERC asked the respective utilities to respond to any query from the SAC Members. The important points of discussion are noted below:

- i. Regarding the status of setting up a 250 MW Natural gas based power station in Combined Cycle Power (CCP) mode or Gas Engine at Chandrapur and a 725 MW Gas based Thermal power station at north bank of Brahmaputra, Mrs. Kalyani Baruah, MD, APGCL informed that M/s TATA Consulting Engineers Limited was awarded the separate contracts for conducting feasibility study for the above projects. The Project Reports are expected in March 2020.
- ii. Shri Anuj K. Baruah, Adviser, AASSIA enquired as to whether a part of land of APGCL at Chandrapur has been handed over to GMC for garbage dumping.

MD, APGCL informed that on a request from the Government of Assam, the Board of Directors of APGCL approved handing over of 40 bighas of land to GMC for dumping purpose on the condition that GMC would provide the assorted garbage necessary for setting up an integrated Waste Management plant in the area. She informed that the total land of APGCL at Chandrapur is more than 1000 bighas and the 40 bighas of land allotted to GMC is at an isolated place about 1.5 – 2kms away from the Chandrapur plant and have separate approaches.

Shri Neeraj Verma (IAS), Principal Secretary, Power, Government of Assam remarked that the project was proposed by Chairman APDCL/AEGCL/APGCL and a team of officers after they visited a similar waste to energy plant in Delhi as

Guwahati also require well-organized techniques of garbage disposal as Delhi and other cities in India.

Shri Subodh Sharma, President, Bidyut Grahak Manch and Shri Anuj Kumar Baruah expressed concern that GMC may start dumping garbage while APGCL is yet to make a proper plan for their Waste to energy plant, which would lead to serious environmental concerns.

Chairperson AERC observed that while a waste –to energy power plant is welcome, the concerns of the Members are genuine. He, therefore, requested the Principal Secretary, Power, Government of Assam to ensure that a garbage treatment plant is set up by GMC before dumping of garbage starts. He further requested Shri Verma to take up the issue with Guwahati Metropolitan Development Agency (GMDA) and GMC and also asked MD, APGCL to discuss the matter with GMC. He said that in the meantime APGCL should get the DPR ready to set up the plant.

Shri Subodh Sharma stated that a Coordination Committee has to be established to coordinate between the State Government, APGCL, GMDA and GMC.

Principal Secretary, Power, Government of Assam informed that APGCL is in the process of getting the DPR ready. He further informed that as per the agreement with GMC, there is a project facilitation Committee headed by him and the Deputy Commissioner, Kamrup as Member. He assured that the concerns of the members would be addressed and suggestions of Chairperson, AERC would be followed.

- iii. Shri Champak Barua, Former Member (T), ASEB remarked that there was a proposal about two years back of a pumped storage power station in Chandrapur and it was stated that gas would be available by 2020. He enquired regarding the status of the project.

MD, APGCL informed that although few developers had shown interest in the project, however, none participated in the tender process and therefore, the project did not materialize.

Chairperson, AERC remarked that APGCL must carry out a feasibility study regarding such projects themselves. He observed that Chandrapur also has the potential for setting up solar project of 50-100 MW and APGCL should seriously make an effort to study the feasibility and viability of such projects. He observed that with progress in storage technologies, the price of solar power in developed countries like the United States is falling significantly even with storage facilities and there is possibility that in India too, price will reduce in future. He, therefore, suggested that APGCL should conduct feasibility studies for both the pumped storage power project as well as solar project at Chandrapur and inform the results in the next SAC meeting.

- iv. Shri K. Medhi, Secretary, NESSIA enquired as to when any power is likely to be available to the people from proposed power projects at Chandrapur.

MD APGCL informed that the National Gas Grid is expected to be completed by December 2021. However, the price of the gas that would be available is still uncertain and likely to be priced between \$10- \$12 per MMBTU. Therefore, a decision can be made regarding setting up of the gas-based projects only after feasibility reports are available.

- v. During the course of the presentation, MD, APGCL informed that the Namrup Replacement Power Project (NRPP) would tentatively go into commercial operation by end of March 2020. The members were informed that there were some leakages due to rusting of some of the equipments of the plant and M/s BHEL are doing the necessary repairing works.

Shri Subodh Sharma enquired as to how the rusting could occur and if the cost overrun due to time overrun have to be borne by the consumers.

MD, APGCL replied that the project was sanctioned in 2009 and although many

parts/ turbines were procured then, actual construction started from 2012 onwards. She further informed that as NRPP is a turnkey project with fixed cost, any cost attributed to time overruns need not be borne by the consumers.

Shri Subodh Sharma suggested that proper project management and planning should be adopted by the Generating Company to avoid such delay and rusting. He opined that PERT/ CPM techniques must be taken up and adhered to for each new project.

- vi. Regarding the status of 70 MW Amguri Solar Power Project, it was informed by MD, APGCL that LoA has been issued to M/s JAKSON Power Ltd at a Tariff rate of Rs. 3.98/Unit on 26.12.19. Signing of Power Purchase Agreement (PPA), Implementation Support Agreement (ISA) and Land Lease Agreement (LLA) will be completed by February 2020. She further informed that the project is to be completed within 14 months from the date of signing the PPA.

Chairperson, AERC stressed that APGCL should themselves try to set up some solar projects within the State after proper feasibility studies. He stated that this suggestion has been made several times in different meetings and hearings with the Company. He expressed dismay that out of the total requirement of power in the State 2000 MW at present, only 300-350 MW is supplied from the Company. He opined that APGCL needs to expand its generation not only for its own survival but more generation from APGCL would also help reduce the transmission (POC) charges.

MD, APGCL informed that APGCL is evaluating setting up of a 25 MW solar project at Namrup. APGCL is also surveying a plot of land measuring about 1000 -1500 bighas at Bilasipara for setting up of a solar plant. She informed that although some other areas were selected earlier, those were eventually found to be low lying and unsuitable.

Chairperson, AERC suggested that APGCL may explore setting up solar projects

in far flung areas such as Lakhimpur, Dhemaji so that its generating stations are spread out throughout the State which would help reduce losses and cause local area development.

- vii. Shri Subodh Sharma suggested that since waterways were being developed lately, APGCL may explore the possibility of setting up coal-based power projects near the Brahmaputra basin.

Chairperson AERC remarked that the Ministry of Power, Government of India gives priority to renewable power projects over thermal projects at present and since Assam has the potential for solar projects, APGCL should concentrate on such projects. Besides, he observed that the time for implementation of these projects is also less. He observed that the Margherita Coal Based Thermal Power Project could not be set up so far only due to non- availability of coal linkage. He further observed that although this issue has been taken up by the State Government at the highest level with the concerned Ministry of Government of India, no apparent progress has been made.

MD, APGCL informed that CEA had asked APGCL regarding feasibility of transportation of machineries/ fuel and the study was allotted to M/s BHEL. The Study report has now been submitted and a summary of the report is being drafted. Once it is available, the matter would be forwarded to CEA and the Government of Assam can further pursue the matter for coal allocation.

- viii. Regarding supply of gas, MD, APGCL informed that only 65% of the gas has been available for NTPS for FY 2019-20. However, since the project is quite old, there were times when although gas was available for NTPS, it could not be utilized. Regarding LTPS, it was informed that although 85% of the committed gas was available from OIL, only 78% was available from GAIL. Mrs Baruah further informed that although meetings were held with ONGC, OIL and GAIL regarding availability of gas and the Companies have ensured that they will try to improve gas availability, however, the situation seems unlikely to improve given the dearth of gas availability throughout the country. She also informed that AGCL had taken 25 days off for maintenance of its pipeline to LTPS, but this has been extended to 45 days, therefore the pipeline would become operational only by February 15, 2020.



Shri Subodh Sharma and Shri Anuj Kumar Baruah stated that from the true up petition of APGCL for FY 2018-19, it may be inferred that APGCL was not able to utilise the gas even when it was available due to breakdown of its turbines. They opined that APGCL should stress upon improving their performance parameters like Station Heat rate, auxiliary consumption, etc. rather than stating less gas availability as a reason for less generation.

MD, APGCL remarked that the situation was continuously monitored in LTPS and although, there were shutdowns in LTPS a number of times during the year, but less gas supply is one of the main reasons for lower power generation. She further informed that out of gas commitment of 0.66 mmscmd for NTPS, only 0.49 mmscmd was supplied and once NRPP comes into operation, the entire gas may be required for the project.

Shri Kumud Medhi, President, NESSIA appealed to the State Government to take up the issue of coal linkage and adequate gas supply at the highest level of the Central Government.

- ix. Regarding fixation of threshold limit for Tariff Based Competitive Bidding (TBCB), Chairperson AERC informed that the matter has been brought to the notice of the State Government, however, no reply has been received by the Commission so far. He mentioned that in TBCB projects, since the initial investments would be made by the private parties, EMIs have to be paid to them. He observed that if the EMIs are loaded onto the tariff, then the transmission tariff would increase substantially and there would be objections from the consumers. However, if the State Government agreed to pay the EMIs, maintenance and other expenses for the lines can be taken care of in the tariff. He further observed that if the lines developed through TBCB mode are underutilized, then EMIs may have adverse impact in tariff. Therefore, a decision on the issue has to be taken by the State Government.

Principal Secretary, Power, Government of Assam opined that the matter is under examination by the Power Department and whether, the Government would go for TBCB mode of investment would depend on the target investments required over the next few years. Shri Verma stated that besides ADB, the State Government will get financial assistance from Asian Infrastructure and

Investment Bank (AIIB) to the tune of Rs 3500 Cr. He further opined that regarding payment of EMIs, the finance department has to be consulted and before going for TBCB projects, viability of the projects had to be ascertained. He stated that EAP projects seemed to be a better option keeping in mind that 90% of the fund received by the State is treated as grant. He assured the members that the matter would be discussed at appropriate levels and decision forwarded to the Commission.

Shri S.N. Kalita, Member, AERC stated that a study was conducted to gauge the total investment requirement for network expansion of AEGCL upto 2030 and this will be implemented in two phases. Phase I consist of 24 substations and associated lines and the funding will be from AIIB and the State Government. Phase II substations have also been approved by CEA and Shri Kalita emphasized that AEGCL should make efforts to arrange funds and implement these projects earnestly.

Chairperson AERC pointed out that although AEGCL was able to complete the ADB projects on time, most of the projects under TDF took several years beyond the estimated time for execution due to Right of Way (RoW) problems and other issues. He stated that although the substations in power starved areas like Barpeta, Karimganj have been completed, the associated lines are yet to be completed even after many years of commencement. He asked MD, AEGCL to take active interest in laying these associated lines so as to give relief to the power-starved districts. He noted that while PERT/CPM would help monitor progress of project works, physical monitoring should be done by the MD of the Companies for expeditious sorting out of the problems faced.

Shri D. Hazarika, MD, AEGCL informed that for immediate relief to the consumers in Karimganj, they are contemplating to draw temporary alternative LILO lines from nearby PGCIL lines to Karimganj Grid Sub-Station.

Shri Champak Barua observed that all employees from the lowest to the highest levels must be interested in execution of the projects, however, such commitment seems to be missing. MD, AEGCL assured that he will personally look into these issues.

- x. In the last meeting, it was pointed out by Shri Subodh Sharma, that APDCL & AEGCL should take RoW for doing underground cabling under Smart City Project, otherwise, in future, RoW may be a problem. It was informed from AEGCL that they have already written to Guwahati Smart City Ltd. regarding EHV Electrical Cable Corridor (Utility duct) for AEGCL in various projects under Guwahati smart city vide a letter dated 04/09/2019. MD, APDCL informed that the Commercial Department of APDCL along with ADB had also written to Guwahati Smart City Ltd on the issue. He stated that he would pursue the matter further.

Shri Anuj Kumar Baruah suggested that since Oil Companies already have underground pipeline for transportation of their products, perhaps those alignments could be utilised for laying fire resistant power cables from Bongaigaon to Guwahati.

Chairperson, AERC remarked that although this option exists, the cost of laying long distant cables would be exorbitant. However, for short distances these have been installed by AEGCL in the past wherever RoW problems were faced in Guwahati City.

Principal Secretary, Power, Government of Assam stated that this issue has been discussed at the highest level as it's not just safer but also looks aesthetically nice. Few lines have already been done like Kamakhya- Paltan Bazaar, Narengi- Bamunimaidam etc.

Chairperson, AERC requested Principal Secretary, Power to take up the issue with GMDA for RoW and for a concrete plan for underground cabling.

**Agenda: Presentation by APGCL on True up for the FY 2018-19, APR for the FY 2019-20 and Revised ARR & Determination of Tariff for FY 2020-21**

There was a brief power point presentation on the Revised ARR & Determination of Tariff for FY 2020-21 along with true up for FY 2018-19 and Annual Performance Review for FY 2019- 20. APGCL has proposed revision of tariff to recover the following cost from expected net generation of 1452.53 MU during FY 2020- 21.

Total Fixed Charges	Rs 244.24 Cr
Fuel Cost	Rs 266.68 Cr
Total ARR for FY 2020-21	Rs 510.91 Cr
Proposed Generation Tariff	Rs 3.52/ Unit

The important suggestions that were offered by the Advisory Committee Members during the course of the presentation are briefly noted as under:

- i. Shri Subodh Sharma suggested that mandatory renovation of the Power Stations must be done in time and also diagnostic preventive maintenance need to be carried out by the Company to avoid breakdown of the units. He emphasized that maintenance of KHLEP should be given due importance to avoid mishap such as that of Kopili HEP of NEEPCO.
- ii. Shri Subodh Sharma pointed out that less generation from APDCL than the target in FY 2018-19 led to an increase in the average rate of power purchase. He emphasized that APGCL must maintain their generation targets in future.
- iii. All members agreed that APGCL must take urgent steps to increase their generation capacity and ensure that the new projects are completed on time.
- iv. Shri Subodh Sharma requested the Commission that the interest on loans and O&M expenses for FY 2018-19 should be considered on actual basis rather than normative as the audited accounts are available for that year.

Chairperson, AERC explained that controllable parameters that are considered on normative as per the Regulations shall be continued to be considered on normative, as the norms have been laid to restrict the expenses of the utilities and encourage efficiency in performance. He stated that any gains/ losses on the normative expenses shall be shared between the consumers and utilities as provided in the Regulations.

- v. It was informed that AGCL has taken shutdown of its gas pipeline for maintenance for a period of 25 days which was extended by another 15 days. All members were of the opinion that compensation must be sought from AGCL by APGCL for the extended period against loss of generation.
- vi. Shri Champak Baruah emphasized that since the machineries of KLHEP have

become old, renovation or perhaps replacement of the turbines etc, may be done. He suggested that perhaps a 25 MW (Digiset) power station may be set up downstream to take care of the water overflow during monsoons.

Chairperson, AERC asked MD, APGCL to examine these issues.

**Agenda: Presentation by AEGCL on True up for the FY 2018-19, APR for the FY 2019-20 and Revised ARR & Determination of Tariff for FY 2020-21**

AEGCL has proposed revision of tariff to recover the following cost from expected sale of 10195.47 MU during FY 2020- 21.

ARR for FY 2020-21	Rs 441.68 Cr
Previous years gap with carrying cost	Rs 95.29 Cr
Total ARR	Rs 536.98 Cr
Transmission charge	Rs 0.527/ Unit

The important suggestions that were offered by the Advisory Committee Members during the course of the presentation are briefly noted as under:

- i. Shri Subodh Sharma suggested that AEGCL must take up the issue of high tariff on account of POC charges with CERC and Government of India.

Chairperson, AERC informed that many States that have been adversely affected by the POC charges have approached the Government of India. The Central Electricity Regulatory Commission (CERC) constituted a task force under Shri A.S. Bakshi to review the framework of POC charges. As per the Report submitted by the Bakshi Committee, CERC has prepared a draft Regulations for sharing of interstate transmission charges and losses which will be notified soon. It was further informed from the Chair that POC charge would decrease to some extent after the new Regulations comes into effect.

- ii. Shri Subodh Sharma suggested that AEGCL should ascertain the transmission loss targets for the ensuing years after considering the new substations and lines

that are likely to come into operation during those years and conducting load flow studies.

- iii. It was suggested from Shri Subodh Sharma that the surplus earned by AEGCL may be converted to equity by the State Government.

Shri S. N. Kalita, Member, AERC informed that AEGCL has already written to the State Government to increase the authorized capital to Rs 3000 Cr.

Shri Rakesh Agarwal, IAS, MD, APDCL informed that the authorized capital of APDCL has been raised to Rs 5000Cr.

**Agenda: Presentation by APDCL on True up for the FY 2018-19, APR for the FY 2019-20 and Revised ARR & Determination of Tariff for FY 2020-21**

Before the presentation was made, MD, APDCL explained that the hike in tariff that was suggested by APDCL for FY 2020-21 is mostly on account of gap in Power Purchase cost and Transmission cost for FY 2018-19 and 2019-20. He informed that the third unit of NTPC Bongaigaon Thermal Power Plant (BgTPP) has been commissioned in FY 2019-20 and the effective tariff of the power from this plant comes to around Rs 6/- per unit. He further informed that the matter has been brought to the notice of the Hon'ble Chief Minister and he has written to the Central Power Minister if the fixed cost of BgTPP could be reduced by the Central Government.

Chairperson AERC remarked that the Government of India may decide to give capital subsidy to BgTPP for reducing the tariff. He further observed that although APDCL has the option to surrender the power from BgTPP, it would be prudent not to do so, given the fact that Assam does not have surplus power. Besides, if the power is surrendered, APDCL has to continue paying the fixed cost to BgTPP unless there is a buyer for the surrendered power.

A brief presentation was then made by APDCL on the salient features of the tariff proposed. APDCL has proposed revision of tariff to recover the following cost from expected sale of 7815 MU during FY 2020- 21.

Standalone ARR for FY 2020-21	Rs .6071.96 Cr	Rs 7.77/ Unit
Revenue Gap on Truing Up for FY 2018-	Rs 1097.24 Cr	Rs 1.40/ Unit

19 (including carrying cost of Rs 218.92 Cr)		
Grand Total (A+B)	Rs 7169.20 Cr	Rs 9.14/Unit

APDCL has not claimed Rs 230.97 Cr pertaining to APR 2019-20.

The important suggestions that were offered by the Advisory Committee Members during the course of the presentation are briefly noted as under:

- i. Shri Saurav Agarwal FINER observed that the targeted subsidy received from Government of Assam should be considered while determining tariff.
- ii. Shri Subodh Sharma suggested that APDCL should try to increase their Agricultural load to flatten their load curve.

Shri M.P Agarwal, AIMO stated that industrialization of the State is a more viable option as the agricultural consumption in the State is not high.

- iii. It was also suggested by Shri Subodh Sharma that APDCL should impress upon the State Government to pursue with the Government of India to get more allocation from the CSGS located in the eastern sector as the cost of power from these stations is less.

It was informed from APDCL that the 110 MW Pare Hydro Electric Project of NEEPCO in Arunachal Pradesh has come into operation and Assam has an allocation of 37 MW from this project. The tariff determined by CERC for this project is Rs 7.50/ unit. However, when long term PPA was signed in 2012, the price of power from this project was estimated at Rs 2/ unit. Now if APDCL surrenders this power, the Company shall have to pay the fixed charges until another buyer is found and nobody will be willing to buy at such a high price. This is another factor leading to increase in power purchase cost. Moreover, the cheap power from Kopili HEP will also not be available for the next two years.

Representative from AIMO, Shri G.L. Pareek expressed concern that power purchase would increase even more after Lower Subansiri HEP comes into operation. He suggested that perhaps APDCL may revisit their long term PPAs and buy from exchanges if the cost of power is less even after paying fixed charge.

APDCL informed that if they revisited all their PPAs, the demand in the exchanges would increase substantially leading to exchange price rise. Moreover, there will be transmission constraints in the Chicken Neck area which would create adverse implications for the other North Eastern States too. Besides the constraints, the transmission charges would also rise due to use of PGCIL lines.

#### **Agenda: Discussion Points from AIMO**

Chairperson AERC suggested that AIMO may raise their points in the Public Hearing on 19th February, as it was related to tariff proposal. The written submissions were already circulated among the members.

#### **Agenda: Comment and suggestion of the Members**

- i. Shri Abhijit Sarma, Secretary, ABITA stated that in the last meeting it was informed from APDCL that 11 dedicated tea feeders were being constructed and a fund of Rs 20 Crs has been earmarked for the purpose. He enquired regarding the current status. APDCL informed that presently 36 dedicated feeders were being constructed in different parts of the State.

Chairperson, AERC asked APDCL to submit the list of dedicated feeders with details to ABITA for their information.

- ii. Shri G.L Pareek from AIMO suggested that Bank Guarantee may be taken as load security deposit. If bank guarantee cannot be accepted, then the provision of submitting an amount of two and half months of advance bill against security deposit may be reduced to one month only. He stated that this would be a great relief to the Small-Scale Industries in the State.

Chairperson AERC observed that since these issues are notified in the Regulations, any change in the provisions would necessitate amendment of the Regulations. He informed that the Commission will have to follow the process of previous publication to gather the opinion of all stakeholders before notifying the amended Regulations. Therefore, he suggested that AIMO may submit a detailed proposal to the Commission seeking change in the relevant provision.

- iii. Regarding payment of load security interest to the domestic consumers, it was



informed from APDCL that although the amount was paid by APDCL, it was not reflected in the bills with a separate head. From next time the head for interest payment will be shown separately in the bills.

- iv. AIMO representative suggested that APDCL can improve collection efficiency by using software available for the purpose.

APDCL informed that although software has been installed in different areas, network communication is not good and therefore, it has not been that successful.

- v. MD, APDCL informed that high AT&C losses are a matter of concern for the Company. One of the reasons for these high losses is the HT: LT ratio which is about 1:3 in Assam, leading to greater technical loss. The Company has been focusing in reducing the commercial losses and although R-APDRP schemes led to it enablement in billing in town areas, rural areas remained uncovered. He informed that the IT team of APDCL has developed a software that would enable billing across the State by end of December 2020.

He informed that there is a mandate from the Government of India that all static meters be replaced with smart meters within the next three years. APDCL had earlier procured 14000 smart meters. Now, as a second phase, they procured 70,000 meters for installation in Jalukbari and Dibrugarh and there is a scope of expanding the number to 2 lakhs. It was further informed that APDCL is contemplating the idea of implementing the scheme through OPEX model in few Electrical Circles instead of the prevalent CAPEX model. He also informed that different technologies are being tested in meter reading so that the reading can be captured and immediately transferred to the billing office.

Chairperson AERC stated that installing smart meters cannot be a panacea for increasing billing or collection efficiency unless there is proper monitoring from the Discom for service of bills to consumers and collection of the demand. He opined that franchisee in distribution has to be encouraged to play a bigger and effective role. Disconnections have to be resorted to discourage non-payment of bills. Effective police stations and special courts have to be developed to try and resolve theft cases expeditiously.

- vi. Shri Subodh Sharma suggested that APDCL should ensure that the investments made to convert LT to HT lines reaped the desired benefits and the projects were

viable.

MD, APDCL informed that they were presently concentrating on separating the industrial feeders for better supply to the industries which will in turn generate greater revenue for APDCL.

- vii. Shri Champak Barua emphasized that accountability should be fixed on the field officers for better billing and collection of revenue. A number of transformers, equipments were purchased from the savings in ADB funded schemes and many of these are lying idle in stores, while these could have been better utilized. The involvement and motivation of the junior level engineers is very important.
- viii. Shri Kumud Medhi, NESSIA suggested that since the HT:LT ratio in the Assam was not appropriate from the point of commercial sustenance of APDCL, the Discom may approach the Industry Department, Government of Assam for facilitating connections to encourage new industrial set-ups and expansion.

MD, APDCL replied that they had visited industries and tried to find out if they were facing any problem related to electricity supply and tried to resolve those issues. He mentioned that they were trying to supply uninterrupted, good quality power to the industries as the revenue earned from industries is important for APDCL. They were also trying to inform the industries in case of load shedding.

- ix. The members also opined that the time and documents required for conversion from single phase to three phase need to be reduced for improving revenue for the Discom.

Chairperson, AERC assured the members that the tariffs proposed by the utilities for FY 2020-21 would be prudently scrutinized and suggestions offered by every stakeholder would be taken into account while revising the ARR and determining tariffs.

The meeting ended with vote of thanks from the Chair.

**Sd/-**

**Secretary,**

**Assam Electricity Regulatory Commission**

**LIST OF MEMBERS, SPECIAL INVITEES & OFFICERS PRESENT**

**MEMBERS**

1. Shri Subhash Chandra Das, IAS (Retd), Chairperson, AERC.
2. Smt. Bulbuli Borthakur, Member (Law), AERC
3. Shri Satyendra Nath Kalita, Member (Technical), AERC
4. Shri Neeraj Verma (IAS), Principal Secretary, Power, Government of Assam
5. Shri Udayan Hazarika (IAS), Secretary, Finance, Government of Assam
6. Shri M.P. Agarwal, Chairman, AIMO
7. Shri G.L Pareek, General Secretary, AIMO
8. Shri Subodh Sharma, Consumer Activist
9. Shri Abhijit Sharma, Secretary. ABITA
10. Shri Anuj Kumar. Baruah, Advisor, AASSIA
11. Shri Sailen Baruah, President, NESSIA
12. Shri Kumud Medhi, Secretary, NESSIA
13. Shri Surender Chowkhani, FINER
14. Shri Saurav Agarwal, FINER
15. Shri Champak Baruah, Ex- Member (Technical), APDCL.
16. Shri P.K. Goswami, Retd. V.C, Science and technology University, Guwahati
17. Dr. Birendra Kumar Das, Secretary, Grahak Suraksha Sanstha

**SPECIAL INVITEES**

1. Shri Rakesh Agarwal, IAS, Managing Director, APDCL
2. Ms. Kalyani Baruah, Managing Director, APGCL
3. Shri Dhruvajyoti Hazarika, Managing Director, AEGCL

**OFFICERS FROM APDCL. AEGCL & APGCL**

**APDCL**

1. Shri M. Dasgupta, CGM (F), APDCL

2. Shri Binoy M Saikia, CGM (Com &EE), APDCL
3. Shri Nirmaljeet Das, CGM (PP&D), APDCL
4. Shri Deepak Kumar Sarmah, CGM (D&S), LAR, APDCL
5. Shri Manoranjan Kalita, GM (TRC)), APDCL
6. Shri Bibhu Medhi, DGM (TRC), APDCL
7. Shri Pradip Goswami, DGM, NRE, APDCL
8. Shri Nilmadhav Deb, AGM (F&A), APDCL

#### **AEGCL**

1. Shri Ajay Kumar Nath, GM (HQ), AEGCL
2. Shri G.K. Bhuyan, DGM, AEGCL
3. Shri Suresh Kaimal, DGM (F&A), AEGCL
4. Shri Debashish Paul, AGM (F&A), AEGCL
5. Shri Anjanjyoti Choudhury, AGM (HQ), AEGCL
6. Shri Bidyut Bikash Das, Consultant, AEGCL

#### **APGCL**

7. Shri Adit Khiroria, Consultant, APGCL
8. Shri A.K Das, GM (HQ), APGCL
9. Shri Ranjit Das, AGM, APGCL
10. Shri A.K. Safiqur Zana, AGM (F&A), APGCL

#### **AERC**

1. Shri S.K Roy, Secretary, AERC
  2. Shri A.N. Devchoudhury, Joint Director (Tariff), AERC
  3. Shri A. Purkayastha, Deputy Director (Finance), AERC
  4. Shri N.K. Deka, Deputy Director (Gen, PPA, P&P), AERC
  5. Mrs R. Baruah, Deputy Director (Engg.), AERC
  6. Shri S. Tamuli, Assistant Director (Tariff), AERC
  7. Shri J. Bezbaruah, Assistant Director (Engg.), AERC
- Ms. P. Sharma, Sr. Consultant, AERC

## Annexure 2- Station Wise Depreciation

Depreciation for NTPS (Rs. Crore)

Sr. No.	Particulars	FY 2018-19			FY 2019-20			FY 2020-21		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	9.57	-	-	9.57	-	-	9.57	-	-
2	Building	11.18	-	0.37	11.18	-	0.37	11.18	-	0.37
3	Hydraulic works	0.04	-	0.00	0.04	-	0.00	0.04	-	0.00
4	Other civil works	25.64	1.18	0.88	26.82	0.80	0.91	27.62	0.39	0.93
5	Plant & machinery- Gas	96.17	0.21	0.10	96.37	0.09	0.10	96.47	-	0.11
6	Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-
7	Lines & cables	1.95	-	0.10	1.95	0.40	0.11	2.35	-	0.12
8	Vehicle	0.68	-	-	0.68	-	-	0.68	-	-
9	Furniture	1.09	0.04	0.01	1.13	-	0.01	1.13	-	0.01
10	Other office equipment	1.23	0.06	0.08	1.29	3.51	0.19	4.80	7.33	0.54
11	Roads on land belonging to others	-	-	-	-	-	-	-	-	-
12	Capital spares at Generating Stations	41.46	-	-	41.46	-	-	41.46	-	-
13	<b>Total</b>	<b>189.01</b>	<b>1.48</b>	<b>1.54</b>	<b>190.50</b>	<b>4.80</b>	<b>1.70</b>	<b>195.30</b>	<b>7.72</b>	<b>2.08</b>

Depreciation for LTPS (Rs. Crore)

Sr. No.	Particulars	FY 2018-19			FY 2019-20			FY 2020-21		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	4.75	-	-	4.75	-	-	4.75	-	-
2	Building	32.21	-	1.08	32.21	0.20	1.08	32.41	1.90	1.09
3	Hydraulic works	-	-	-	-	-	-	-	0.25	0.05
4	Other civil works	42.75	-	1.43	42.75	-	1.43	42.75	-	1.43
5	Plant & machinery- Gas	272.19	0.37	14.38	272.55	6.42	14.56	278.97	9.17	14.73
6	Plant & machinery- Hydel	-	-	-	-	-	-	-	-	0.24
7	Lines & cables	9.29	-	0.49	9.29	0.33	0.51	9.62	2.00	0.52
8	Vehicle	0.24	-	-	0.24	-	-	0.24	-	0.10
9	Furniture	0.46	-	0.00	0.46	-	0.00	0.46	-	0.00
10	Other office equipment	0.33	-	0.02	0.33	4.15	0.09	4.48	8.68	0.16
11	Roads on land belonging to others	-	-	-	-	-	-	-	-	0.14
12	Capital spares at Generating Stations	114.93	-	-	114.93	-	-	114.93	0.44	-
13	<b>Total</b>	<b>477.14</b>	<b>0.37</b>	<b>17.40</b>	<b>477.51</b>	<b>11.10</b>	<b>17.67</b>	<b>488.61</b>	<b>22.44</b>	<b>18.46</b>

Depreciation for KLHEP (Rs. Crore)

Sr. No.	Particulars	FY 2018-19			FY 2019-20			FY 2020-21		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	4.40	-	-	4.40	-	-	4.40	-	-
2	Building	17.32	0.03	0.58	17.35	-	0.58	17.35	-	0.58
3	Hydraulic works	162.38	0.04	8.57	162.42	-	8.58	162.42	-	8.58
4	Other civil works	102.72	0.02	3.43	102.75	0.80	3.45	103.55	0.38	3.46
5	Plant & machinery- Gas	-	-	-	-	-	-	-	-	-
6	Plant & machinery- Hydel	175.54	0.06	9.27	175.60	2.85	9.35	178.45	1.65	9.47
7	Lines & cables	32.57	-	1.72	32.57	-	1.72	32.57	10.72	2.00
8	Vehicle	0.29	-	-	0.29	-	-	0.29	-	-
9	Furniture	0.05	0.00	0.00	0.05	-	0.00	0.05	-	0.00
10	Other office equipment	0.10	0.00	0.01	0.10	5.28	0.17	5.38	10.17	0.66
11	Roads on land belonging to others	0.28	-	0.01	0.28	-	0.01	0.28	-	0.01
12	Capital spares at Generating Stations	18.76	-	0.80	18.76	1.22	0.03	19.98	-	0.06
13	<b>Total</b>	<b>514.41</b>	<b>0.16</b>	<b>24.39</b>	<b>514.58</b>	<b>10.15</b>	<b>23.89</b>	<b>524.72</b>	<b>22.92</b>	<b>24.83</b>

Depreciation for LRPP (Rs. Crore)

Sr. No.	Particulars	FY 2018-19			FY 2019-20			FY 2020-21		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	-	-	-	-	-	-	-	-	-
2	Building	-	-	-	-	-	-	-	-	-
3	Hydraulic works	-	-	-	-	-	-	-	-	-
4	Other civil works	23.21	1.15	0.17	24.36	0.85	0.14	25.21	-	0.12
5	Plant & machinery- Gas	222.59	11.06	2.60	233.65	8.10	2.16	241.75	-	1.80
6	Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-
7	Lines & cables	-	-	-	-	-	-	-	-	-
8	Vehicle	-	-	-	-	-	-	-	-	-
9	Furniture	-	-	-	-	-	-	-	-	-
10	Other office equipment	-	-	-	-	-	-	-	-	-
11	Roads on land belonging to others	-	-	-	-	-	-	-	-	-
12	Capital spares at Generating Stations	-	-	-	-	-	-	-	-	-
13	<b>Total</b>	<b>245.80</b>	<b>12.21</b>	<b>2.77</b>	<b>258.01</b>	<b>8.95</b>	<b>2.30</b>	<b>266.96</b>	<b>-</b>	<b>1.91</b>