ASSAM ELECTRICITY REGULATORY COMMISSION

(AERC)

TARIFF ORDER

March 01, 2019

TRUE-UP for FY 2017-18,

APR for FY 2018-19 and

ARR for FY 2019-20 to FY2021-22

and

Tariff for FY 2019-20

FOR

Assam Power Generation Corporation Limited (APGCL)

Petition No. 14/2018

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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	Karbi Langpi 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

Shri Dipak Chakravarty, Member

Petition No. 14/2018

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

ORDER

(Passed on 01 March, 2019)

(1) APGCL filed Petition for approval of Truing up for FY 2017-18, Annual Performance Review (APR) for FY 2018-19, Capital Investment Plan for FY 2019-20 to FY 2021-22, Aggregate Revenue Requirement (ARR) for FY 2019-20 to FY 2021-22, and determination of Tariff for FY 2019-20 as per MYT Regulations, 2015 and MYT Regulations, 2018 as applicable (Petition No. 14/2018) on November 30, 2018.

(2) The Commission held an Admissibility Hearing on December 10, 2018 and admitted the Petition (Petition No.14/2018) vide Order dated December 10, 2018 with directions to submit additional data and clarifications, as the Commission on preliminary analysis found that the Petition was incomplete in material particulars. Accordingly, additional data and clarifications on the Petitions were sought from APGCL vide letter dated December 10, 2018. Based on preliminary comments of the Commission, APGCL revised the original petition on December 15, 2018. Accordingly, the revised Petition is considered as Petition No. 14/2018.

(3) 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 ensure due public participation. A copy of the Petition and other relevant documents were also 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.

(4) Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from objectors to be submitted on or before January 11, 2019. The notice was published in four (4) leading newspapers of the State on December 18, 2018.

Date	**Name of Newspaper**	**Language**
18.12.2018	The Assam Tribune	English
18.12.2018	Dainik Axom	Assamese
18.12.2018	Purbanchal Prahari	Hindi
18.12.2018	Dainik Jugasankha	Bengali

(5) The replies to first set of queries were submitted by APGCL on December 26, 2018.

(6) The Petitions were discussed in the meeting of the State Advisory Committee (SAC) (constituted under Section 87 of the Electricity Act, 2003) held on February 5, 2019 at Assam Administrative Staff College, Khanapara, Guwahati.

(7) The Commission received written suggestions and objections from three (3) stakeholders on the Petitions 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 News Paper notice was also published inviting participation from the General Public as well as the Respondents. The Hearing was held at Assam Administrative Staff College, Guwahati on February 12, 2019 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 relevant Chapters of this Tariff Order.

(8) The Commission, now in exercise of its powers vested under Sections, 61, 62, 86and 181of 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 objectors and all other relevant materials on record, has carried out the

True-up for FY 2017-18, APR for FY 2018-19, approval of ARR for the Control Period from FY 2019-20 to FY 2021-22, and determination of tariff for FY 2019-20, as detailed in subsequent Chapters of this Order.

(9) The approved Generation Tariff shall be effective from April 1, 2019 and shall continue until replaced by another Order by the Commission.

(10) Accordingly, the Petition 14 of 2018 stands disposed of

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

1 INTRODUCTION

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 the powers and functions conferred under Section 181 of the Electricity Act, 2003 (36 of 2003) and to exercise the functions conferred on it under Sections 61, 62 and 86 of the Act from June 10, 2003.

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 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) That the electricity generation, transmission, distribution and supply are conducted on commercial principles;
c) That factors which 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 their customer category cost of supply;

e) That 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 entries. APGCL is a Company incorporated with the main object of generation of electricity in the State of Assam and is a Generating Company under the various provisions of the Act.

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 AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2015 (herein after 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 ARR for the Control Period from FY 2016-17 to FY 2018-19 and tariff for FY 2017-18 as per MYT Regulations, 2015,along with True-up for FY 2014-15 and FY 2015-16 as per AERC (Terms and Conditions of Tariff) Regulations, 2006 (herein after referred as "Tariff Regulations, 2006").The Commission issued the Order on the said MYT Petition on March 31, 2017 and approved the Tariff for FY 2017-18

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 11including 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:

(i) Before commencement of Control Period, a forecast of the Aggregate Revenue Requirement and expected revenue from existing tariff and charges shall be submitted by the applicant and approved by the Commission;

(ii) A detailed Capital Investment Plan for each year of the Control Period, shall be submitted by the applicant for the Commission's approval;

(iii) The applicant shall submit operating norms and trajectories of performance parameters for each year of the Control Period, for the Commission's approval;

(iv) The applicant shall submit the forecast of Aggregate Revenue Requirement and expected revenue from existing tariff for each year of the Control Period, and the Commission shall approve the tariff for Generating Companies, SLDC, Transmission Licensee, Distribution Wheeling Business and Retail Supply Business, for each year of the Control Period;

(v) In its tariff petition, a generating company shall submit information to support the determination of tariff for each generating station

(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 4.2 of the MYT Regulations, 2018, APGCL is required to file an application for true-up for previous year, i.e., FY 2017-18, APR of current year, i.e., FY 2018-19, ARR for the Control Period from FY 2019-20 to FY 2021-22 and tariff for ensuing year, i.e., FY 2019-20, not less than 120 days before the close of the current year.

1.6.2 APGCL has filed its True-up Petition for FY 2017-18 and APR Petition for FY 2018-19 and MYT Petition for Control Period from FY 2019-20 to FY 2021-22 (Petition No. 14/2018) on November 30, 2018. The Commission sought additional data and clarifications on the MYT Petition vide letter dated December 10, 2018. Based on the preliminary comments of the Commission, APGCL revised the original petition on December 15, 2018. Accordingly, the revised Petition is considered as Petition No. 14/2018. The replies to first set of queries were submitted by APGCL on December 26, 2018.

1.6.3 The Commission held an Admissibility Hearing on December 10, 2018. Thereafter, 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 ensure due public participation. A copy of the Petition and other relevant documents were also 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 (www.aerc.gov.in) and APGCL. (www.apgcl.org)

1.6.4 Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from objectors to be submitted on or before January 11, 2019, which was published in the following newspapers on December 18, 2018.

Date	**Name of Newspaper**	**Language**
18.12.2018	The Assam Tribune	English
18.12.2018	Dainik Axom	Assamese
18.12.2018	Purbanchal Prahari	Hindi
18.12.2018	Dainik Jugasankha	Bengali

1.6.5 The Commission received suggestions and objections from three (3) stakeholder on the Petitions filed by APGCL. The Commission considered the objections received and sent communication to the stakeholders to take part in Hearing process by presenting their views in person before the Commission. The stakeholders were notified about the place, date and time of Hearing, to enable them to take part in the Hearing. The Hearing was held at Assam Administrative Staff College, Guwahati on February 12, 2019 as scheduled. All stakeholders/respondents who participated in the Hearing were given the opportunity to express their views on the Petitions.

1.6.6 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 State Advisory Committee (SAC) (constituted under Section 87 of the Act) was convened on February 5, 2019. During the SAC meeting, AEGCL, APGCL and APDCL made presentations on their respective MYT Petitions filed for FY 2019-20 to FY 2021-22.

1.7.2 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 December 30, 2018 seeking approval for Truing up for FY 2017-18, APR for FY 2018-19,Capital Investment Plan for FY 2019-20 to FY 2021-22, ARR for FY 2019-20 to FY 2021-22, and determination of Tariff for FY 2019-20 (Petition No.14/2018). The Generation Tariff is to be recovered from the Assam Power Distribution Company Limited (APDCL), who is the sole buyer of power from APGCL.

2.2 True-up for FY 2017-18

2.2.1 APGCL submitted the True-up for FY 2017-18 based on the audited accounts. The summary of ARR and Revenue Gap/(Surplus) claimed by APGCL for FY 2017-18 is shown in the following Table:

Table 1: True-up ARR for FY 2017-18 as submitted by APGCL (Rs. Crore)

Sl. No	Particulars	NTPS	LTPS	KLHEP	Total APGCL
I	**POWER GENERATION (MU)**				
	Gross Generation	325.65	663.40	490.06	1479.11
	Net Generation	306.40	609.91	487.61	1403.92
	Auxiliary Consumption Loss %	5.91	8.06	0.50	5.08
I	**Fixed Charges**				
	Operation & Maintenance Expenditure	41.36	46.00	23.14	110.50
	Employee Expenses	34.55	36.53	16.91	87.99
	R&M Expenses	3.87	5.76	2.62	12.25
	A&G Expenses	2.94	3.71	3.62	10.26
	Interest & Finance Charges	0.08	1.43	25.26	26.77
	Interest on working Capital	5.63	8.79	3.20	17.62
	Depreciation	1.54	11.32	21.18	34.04
	Return on Equity	8.53	22.18	10.64	41.35
	Less: Other Income	6.19	10.71	4.32	21.23
	Total Fixed Charges	50.95	79.00	79.09	209.04

Sl. No	Particulars	NTPS	LTPS	KLHEP	Total APGCL
II	**Fuel Cost**	78.52	149.82	0.00	228.34
	Other expenses				
	Income taxes	1.68	3.10	1.29	6.07
	Prior period items	0.30	0.62	0.46	1.38
	Impact of ROP	2.06	2.43	1.14	5.62
	Special R&M	0.00	0.71	0.00	0.71
III	Total Other expenses	4.04	6.86	2.89	13.78
IV	Total Revenue Requirement	133.51	235.68	81.98	451.17
V	Incentive for generation for FY 2017-18	0.00	2.42	3.67	6.09
VI	Add: Incentive for secondary Energy Gene ration			13.36	13.36
VI	Total Cost	133.51	238.10	99.01	470.61
VII	Revenue from Sale of Power	124.91	230.69	96.02	451.62
VIII	Impact due to Review order of Sep 2017				0.16
IX	Revenue Gap (+) / Surplus (-)	8.60	7.40	2.99	19.15

2.2.2 APGCL has claimed revenue gap along with carrying cost of Rs. 19.15 Crore for FY 2017-18 in the true-up.

2.3 Annual Performance Review for FY 2018-19

2.3.1 APGCL has claimed the ARR after APR for FY 2018-19 based on its estimations, as detailed in the table below:

Table 2: ARR after APR for FY 2018-19 as submitted by APGCL (in Rs Crore)

Sl. No	Particulars	NTPS	LTPS	KLHEP	Total APGCL
I	POWER GENERATION (MU)				
	Gross Generation	336.93	443.69	390.52	1171.14
	Net Generation	313.96	395.39	388.57	1097.91
	Auxiliary Consumption, Loss %	6.82	10.89	0.50	6.25
Ii	Fixed Charges				

Sl. No	Particulars	NTPS	LTPS	KLHEP	Total APGCL
	Operation & Maintenance Expenditure	41.87	27.84	24.48	94.19
	Employee Expenses	36.42	21.14	17.80	75.36
	R&M Expenses	1.80	3.36	2.87	8.03
	A&G Expenses	3.64	3.35	3.81	10.80
	Interest & Finance Charges	0.04	0.48	23.25	23.77
	Interest on working Capital	6.64	6.51	2.88	16.03
	Depreciation	1.47	10.25	21.37	33.10
	Return on Equity	8.53	22.18	10.64	41.34
	Less: Other Income	7.13	9.22	5.75	22.09
	Total Fixed Charges	51.41	58.05	76.88	186.34
III	Fuel Cost	106.61	118.81	0.00	225.42
	Other expenses				
	Income taxes	0.00	0.00	0.00	0.00
	Prior period items	0.00	0.00	0.00	0.00
	Impact of ROP	8.35	9.87	4.15	22.38
	Special R&M	0.00	0.00	0.00	0.00
IV	Total Other expenses	8.35	9.87	4.15	22.38
V	Total Revenue Requirement	166.38	186.73	81.04	434.14
VI	Total Cost	166.38	186.73	81.04	434.14
VII	Revenue from Sale of Power	119.37	163.89	60.48	343.74
VIII	Revenue Gap (+) / Surplus (-)	47.01	22.84	20.56	90.40

2.3.2 APGCL submitted that it has not considered the Revenue Gap for FY 2018-19 since the figures for FY 2018-19 are estimated and subjected to True-up. APGCL further submitted that it shall consider the same at the time of True-up Petition for FY 2018-19.

2.4 Capital Investment Plan for FY 2019-20to FY 2021-22

2.4.1 APGCL has proposed the Capital Investment Plan for existing and upcoming projects for the Control Period from FY 2019-20 to FY 2021-22 as detailed in the Table below:

Table 3: Capital Investment Plan for FY 2019-20 to FY 2021-22 as submitted by APGCL (Rs. Crore)

Capex	Capacity (MW)	Energy Source	Expected Commissioning	FY 2019-20	FY 2020-21	FY 2021-22
Existing Projects						
NTPS				5.22	3.14	1.90
LTPS				15.40	15.09	15.44
KLHEP				10.75	7.68	2.60
Ongoing Projects						
MSHEP	13.50	Hydro	15-Dec-18			
NRPP	98.40	Gas	April-2019 (Open Cycle) & Dec-2019 (Combined Cycle)	78.40		
New Projects						
Lower Kopili HEP	120.00	Hydro	Beyond MYT Period	130.05	150.62	447.26
Borpani Middle II SHEP	24.00	Hydro	Beyond MYT Period	1.00	123.50	80.00
Borpani Middle I SHEP	22.50	Hydro	Beyond MYT Period	0.50	0.50	49.61
Namrup Solar PV Project	15.00	Solar	Apr-20	65.88	7.87	
Amguri Solar Park	70.00	Solar		14.41		
Other Projects						
ERP Implementation & Consultancy Services				21.07	4.05	4.05
Asset Valuation				4.28		
TOTAL	**363.40**			**346.96**	**312.45**	**600.86**

2.5 ARR for MYT Control Period and Tariff for FY 2019-20 for NTPS

2.5.1 APGCL has projected the ARR for the MYT Control Period from FY 2019-20 to FY 2020-21 for NTPS as detailed in the Table below:

Table 4: ARR for NTPS for MYT Control Period as projected by APGCL (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Gross Generation (MU)	173.73	173.73	173.73
Net Generation (MU)	165.91	165.91	165.91
Auxiliary Consumption (4.5%)	4.50%	4.50%	4.50%
Fixed Charges			

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
O&M Expenses	17.52	18.62	19.80
Interest & Finance Charges	0.25	0.55	0.63
Interest on working Capital	2.79	2.80	3.04
Depreciation	1.66	1.94	2.18
ROE	8.53	8.53	8.53
Special R&M	4.00	0.00	8.20
Capacity Building	0.27	0.27	0.27
Less: Non-Tariff Income	7.13	7.13	7.13
(A) Total Fixed Cost	**27.89**	**25.58**	**35.52**
(B) Fuel Cost	**51.50**	**51.63**	**51.76**
(C) Total Revenue Requirement (A) + (B)	**79.39**	**77.21**	**87.28**
Fixed Cost per unit cost (Rs/kWh)	**1.68**	**1.54**	**2.14**
Fuel Cost per unit cost (Rs/kWh)	**3.10**	**3.11**	**3.12**
Tariff Cost per unit (Rs/kWh)	**4.79**	**4.65**	**5.26**

Table 5: Tariff of NTPS for FY 2019-20 as proposed by APGCL

Particulars	FY 2019-20
Annual Fixed Charges (Rs. Crore)	27.89
Monthly Fixed Charges (Rs. Crore)	2.32
Energy Charge Rate (Rs. /kWh)	3.10

2.6 ARR for MYT Control Period and Tariff for FY 2019-20 for LTPS

2.6.1 APGCL has projected the ARR for the MYT Control Period from FY 2019-20 to FY 2020-21 for LTPS as detailed in the Table below:

Table 6: ARR for LTPS for MYT Control Period as projected by APGCL (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Gross Generation (MU)	425.74	425.74	425.74
Net Generation (MU)	402.32	402.32	402.32
Auxiliary Consumption (4.5%)	5.50%	5.50%	5.50%
Fixed Charges			
O&M Expenses	37.42	39.78	42.28
Interest & Finance Charges	0.40	0.55	0.61
Interest on working Capital	7.03	7.41	7.49

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Depreciation	11.43	17.42	12.75
ROE	22.18	22.18	22.18
Special R&M	10.00	15.00	15.00
Capacity Building	0.32	0.32	0.32
Less: Non-Tariff Income	9.22	9.22	9.22
(A) Total Fixed Cost	**79.56**	**93.44**	**91.41**
(B) Fuel Cost	**134.24**	**134.45**	**134.68**
(C) Total Revenue Requirement (A) + (B)	**213.80**	**227.88**	**226.08**
Fixed Cost per unit cost (Rs/kWh)	**1.98**	**2.32**	**2.27**
Fuel Cost per unit cost (Rs/kWh)	**3.34**	**3.34**	**3.35**
Tariff Cost per unit (Rs/kWh)	**5.31**	**5.66**	**5.62**

Table 7: Tariff of LTPS for FY 2019-20 as proposed by APGCL

Particulars	FY 2019-20
Annual Fixed Charges (Rs. Crore)	79.56
Monthly Fixed Charges (Rs. Crore)	6.63
Energy Charge Rate (Rs. /kWh)	3.34

2.7 ARR for MYT Control Period and Tariff for FY 2019-20 for KLHEP

2.7.1 APGCL has projected the ARR for the MYT Control Period from FY 2019-20 to FY 2020-21 for KLHEP as detailed in the Table below:

Table 8: ARR for KLHEP for MYT Control Period as projected by APGCL (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22
Gross Generation (MU)	390.00	390.00	390.00
Net Generation (MU)	388.05	388.05	388.05
Auxiliary Consumption (4.5%)	0.50%	0.50%	0.50%
Fixed Charges			
O&M Expenses	29.76	31.64	33.63
Interest & Finance Charges	22.30	20.87	19.05
Interest on working Capital	3.17	3.22	3.07
Depreciation	21.14	22.30	21.99
ROE	10.64	10.64	10.64

Particulars	**FY 2019-20**	**FY 2020-21**	**FY 2021-22**
Special R&M	15.00	12.00	-
Capacity Building	0.42	0.42	0.42
Less: Non-Tariff Income	5.75	5.75	5.75
(A) Total Fixed Cost	**96.68**	**95.34**	**83.05**
(B) Fuel Cost	**-**	**-**	**-**
(C) Total Revenue Requirement (A) + (B)	**96.68**	**95.34**	**83.05**
Fixed Cost per unit cost (Rs/kWh)	**2.49**	**2.46**	**2.14**
Fuel Cost per unit cost (Rs/kWh)	**-**	**-**	**-**
Tariff Cost per unit (Rs/kWh)	**2.49**	**2.46**	**2.14**

Table 9: Tariff of KLHEP for FY 2019-20 as proposed by APGCL

Particulars	**FY 2019-20**
Total Fixed Charges (Rs. Crore)	96.68
Total Capacity charges (Rs. Crores)	48.34
Energy Charge Rate (Rs. /kWh)	1.25

3 Summary of Objections raised, Response of APGCL and Commission's Comments

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

Sl. No.	Name of objector
1	Bidyut Grahak Mancha (BGM)
2.	Federation of Industries and Commerce of North Eastern Region (FINER)
3	Assam Branch of India Tea Association (ABITA)*

*ABITA submitted their comments on APGCL's petitions during the Public Hearing.

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

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

3.1.4 The Commission held Hearing at the Assam Administrative Staff College, Guwahati on February 12th, 2019.

3.1.5 The objectors 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.

3.1.6 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.

3.1.7 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: Principles to be adopted for truing up of FY 2017-18

Objections

FINER requested that while truing up for FY 2017-18, the Commission may keep in mind the principles laid down by the Hon'ble Appellate Tribunal for Electricity from time to time in different cases.

Reply by APGCL

APGCL submitted that it is seeking True-up of FY 2017-18 based on both audited annual accounts and provisions of MYT regulations, 2015.

Commission's views

Noted.

Issue 2: Plant Load Factor (PLF) and Plant Availability Factor (PAF)

Objections

ABITA and FINER submitted that PLF for NTPS for FY 2017-18 is lower than approved 50%, Therefore, NTPS is not eligible for incentive while LTPS may be allowed incentive in accordance with the Regulations. Further, as generation of KLHEP is more than design energy, therefore incentive may be allowed.

ABITA submitted that additional availability of 10.13% claimed by APGCL for NTPS for FY 2017-18 towards availability lost due to uncontrollable factor, may be allowed only after detailed prudence check.

FINER submitted that arrangement of fuel is the responsibility of the procurer i.e. APGCL and thus, no relaxation must be given on account of lower gas availability.

FINER further submitted that higher PAF and PLF has been proposed for NTPS in 2018-19 while the generation has been shown to decrease significantly, which is contradictory and should be checked.

Response of APGCL

APGCL submitted that it has not claimed any incentive for NTPS for FY 2017-18. It submitted that claim of availability lost due to Force Majeure and uncontrollable conditions have been claimed as per AERC MYT Regulations.

Commission's View

Noted. PAF and PLF have been calculated as per provisions in the MYT Regulations.

Issue 3: Gross Station Heat Rate (GSHR)

Objections

FINER and ABITA submitted that APGCL in its petition has submitted higher GSHR for NTPS and lower GSHR for LTPS for FY 2017-18. According to APGCL it achieved GSHR of 4246 kCal/kWh for NTPS as against the approved 3900 kCal/KWh due to part loading of units resulting from low/non-availability of gas. They requested the Commission to consider GSHR as per the approved norms for FY 2017-18 or actual, whichever is lower and not to pass on inefficiencies

FINER requested the Commission that APGCL may be directed to get a survey conducted by a recognized government agency like the Central Electricity Authority before finalizing the GSHR.

Response of APGCL

APGCL submitted that it has claimed high GSHR due to uncontrollable conditions as the MYT Regulations, 2015 do not allow true-up of the controllable items based on actual except on account of Force Majeure events or on account of variations attributable to uncontrollable items.

APGCL submitted that the report for increased GSHR was submitted by IIT Guwahati which is a recognized government agency.

APGCL further submitted that Maharashtra Electricity Regulatory Commission (MERC) in its orders in Case no 122 of 2014 dated 16th March 2015 and in Case no 28 of 2013 dated 3rd September 2013 has clearly stated that low/non-availability of gas is an uncontrollable factor. APGCL also submitted that CERC in case of Assam GPS relaxed SHR norm due to non-availability of gas. In addition, APGCL submitted that CEA in its 10th December

2018 recommendations of Operation norms of thermal generating stations given to CERC, has recommended increase of SHR by 12% for Gas based power stations due to part loading (for loading between 50-60%)

APGCL requested the Commission to consider the actual GHSR of NTPS in FY 2017-18.

Commission's Views

Noted. 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 Power Consumption

Objections

FINER and ABITA submitted that the actual auxiliary consumption of NTPS and LTPS for FY 2017-18 is higher than that approved by the Commission.

Both FINER and ABITA submitted that 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 to solve this problem. Also, APGCL has kept on paying the MDC/MGQ of gas to OIL and AGCL, which could have been avoided. ABITA requested the Commission to take into account the contractual irregularities while considering the auxiliary consumption, higher GSHR and shortage in fuel supply.

FINER submitted that APGCL failed to achieve the targeted auxiliary consumption due to factors like inefficient plant operation, non-optimization of PF, poor performance of auxiliary equipment etc.

FINER and ABITA requested the Commission to disallow any increase in auxiliary consumption and approve auxiliary consumption for the control period as specified in the MYT Regulations, 2018.

Response of APGCL

APGCL submitted that it has claimed high auxiliary consumption due to uncontrollable conditions in accordance with the provisions in AERC MYT Regulations 2015. APGCL further submitted that Maharashtra Electricity Regulatory Commission (MERC) in its orders in Case no 122 of 2014 dated 16th March 2015 and in Case no 28 of 2013 dated

3rd September 2013 has clearly stated that low/non availability of gas is an uncontrollable factor. APGCL also submitted that CEA in its recommendations of Operation norms of thermal generating stations given to CERC dated 10th December, 2018 has recommended additional auxiliary consumption of 1.2% for Gas based power stations due to part loading (for loading between 50-60%). APGCL submitted that the proposal of future tariff is as per MYT regulations and any deviations from the norms due to uncontrollable factors will be claimed during True-up of the respective year

APGCL further submitted that fuel bills and transportation charges are paid as per prevailing agreements with its suppliers and transporter. APGCL submitted that it is continuously pursuing with the concerned authorities at the MOPNG to obtain gas as per contracted quantity.

Commission's View

For the purpose of truing up for FY 2017-18, 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 MYT Regulations, 2015. Thus, the impact of any inefficiency is not passed on to the consumers in full.

The Commission approved normative auxiliary consumption for the MYT period under consideration as specified in the MYT Regulations, 2018. The details are available in the relevant Chapters of this Order.

Issue 5: Gross generation

Objections:

BGM submitted that APGCL has not succeeded in achieving its generation targets for FY 2017-18. As a result, the State Discom had to resort to additional purchase of 642.02 MU incurring a cost of Rs.391.34 Crs. Had APGCL supplied this quantum, the cost involved would have been Rs.187.76 Crs, leading to a saving of Rs.203.58 Crs. BGM further submitted that if APGCL would have stuck to its assigned generation, the additional 143.76 MU energy required to fulfill the demand could have been curtailed from NTPC/BgTPS (which is the costliest power, available within the State). BGM observed that the Company has failed to execute its ongoing projects like NRPP on time.

Response of APGCL

APGCL submitted that the lower generation than the approved figures of APGCL's thermal power stations for the FY 2017-18 was due to gas supply constraints and unfortunate delay in commissioning of NRPP. However, APGCL's Hydro Power Station KLHEP generated 490.06 MU power against the approved generation of 390 MU.

Commission's View

The Commission is of the view that there has been inordinate delay in commissioning of generation projects by APGCL which has reduced the generation available in the State, thereby requiring purchase of costlier power from sources outside the State. APGCL should ensure that the timelines for commissioning of the upcoming projects, in particular, NRPP are adhered to the revised schedule proposed in the MYT Petition.

For the control period from FY 2019-20 to FY 2021-22, the Commission has projected the gross generation based on the latest status of commissioning of NRPP and availability of gas, etc. The details of the projected generation have been discussed in relevant Chapter of this Order.

Issue 6: Operating performance of NTPS and LTPS

Objections:

FINER submitted that in FY 2017-18 due to increase in auxiliary consumption and lower plant availability factor, actual generation of the NTPS and LTPS have declined by 59.22 MU and 62.52 MU, resulting in higher fixed cost. FINER submitted that the increase in auxiliary consumption and lower PAF has occurred due to non-availability of gas which is the responsibility of APGCL and requested that such cost should not be passed on to the consumers.

Response of APGCL

APGCL submitted that it has claimed availability lost, high auxiliary consumption or higher GSHR due to Force Majeure and uncontrollable conditions as per MYT regulations which allows increase in the above performance parameters due to uncontrollable factors as pass through.

Commission's View

The Commission has approved auxiliary consumption, PAF in accordance with the MYT Regulations, 2015 and is discussed in the relevant chapter in this Order.

Issue 7: Fuel Cost

Objections

ABITA requested the Commission to allow fuel costs for FY 2017-18 against NTPS and LTPS considering the normative parameters as approved in Tariff Order and based on MYT Regulations, 2015.

ABITA submitted that the statutory auditors have categorically pointed out that as per the agreement; APGCL has not raised claims to OIL for less supply of gas. NTPS has been paying huge sums of money by way of MDC to AGCL, which could have been avoided.

FINER submitted that in the previous Tariff Order, the Commission had directed APGCL to expedite the amendment of the agreement, executed with OIL, so that the same can be made effective during FY 2018-19. However, APGCL is still in the stage of reviewing the proposal sent by OIL, to extend the agreement. APGCL has not given any details of the proposal sent by OIL, the date on which it received the proposal and/or by when it expects to respond to the said proposal. FINER requested the Commission that APGCL be directed to amend the agreement within a strict timeline and submit the same to the Commission for approval.

ABITA and FINER requested the Commission to carry out prudence check so that liabilities due to contractual arrangement with suppliers –AGCL or OIL, inefficient plant operations are not passed on to the consumers. APGCL in the petition is seeking fuel cost of Rs 78.52 Cr for NTPS and Rs 149.82 Cr for LTPS. This calculation of Fuel Cost is based on GSHR not approved by the Commission.

Response of APGCL

APGCL submitted that the renewal of agreement with OIL for NTPS is in process. The actual GSHR for FY 2017-18 for NTPS is higher than the approved value while the actual GSHR for FY 2017-18 for LTPS is below the approved value. APGCL requested the Commission to approve the GSHR at actuals for NTPS due to uncontrollable factors.

Commission's views

The Commission has trued up the fuel cost based on the approved performance parameters and actual fuel price and GCV for FY 2017-18. The details are discussed in the subsequent Chapters.

The Commission also directed 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.

Issue 8: Revenue Gap/ (Surplus)

Objections

ABITA proposed a revenue surplus of Rs 2.55 Cr to be adjusted in FY 2017-18 against a revenue gap of Rs 19.11 Cr submitted by APGCL. ABITA submitted that Revenue from sale of Power considered by APDCL in its petition differ from the figure in the Audited Accounts. ABITA, therefore, requested the Commission to undertake prudence check of all the tariff components and not to allow any inefficiency to be passed on to the consumers.

FINER requested that revenue gap of Rs 19.15 Crs claimed by APGCL in its true up should not be allowed since this revenue gap has occurred due to high auxiliary consumption and low generation from NTPS and LTPS. Due to this the overall revenue to be realized from sale of power has reduced drastically. FINER submitted that in its true up petition for FY 2016-17, APGCL had claimed revenue gap of Rs 30.55 Crs however, the Commission after analysis discovered revenue surplus of Rs 84.57 Crs. FINER requested that similar prudence check may be done while approving revenue gap/ surplus.

Reply of APGCL

APGCL submits that it has only claimed loss due to problems faced by it because of Force Majeure and uncontrollable conditions as explained in detail in the petition as per the Regulations.

APGCL further submitted that as far as the numbers claimed by APGCL and approved by the Commission for FY 2016-17, they have no bearing on the present petition.

Commission's views

The revenue gap/ (surplus) of APGCL for FY 2017-18 has been allowed to be recovered/ adjusted in FY 2019-20 after due prudence check, as detailed in relevant Chapter of this Order. Expenses have been allowed as per the MYT Regulations, 2015.

Issue 9: Natural Gas

Objections

FINER submitted that a gross anomaly was reported by the auditors, that as per agreement for transportation of gas dated 22/03/2003 between AGCL and erstwhile ASEB, the MGQ of gas was 80% of 0.80 MMSCMD, while as per agreement dated 28/11/2007, between APGCL and OIL the MGQ is 0.528 MMSCMD of gas upliftment. As per the difference in the MGQs in the two agreements, APGCL is unnecessarily paying MDC to the AGCL on transportation of gas of (0.64-0.528 =) 0.112 MMSCMD, which could have been avoided. If the MGQs for both gas off take and transportation would be same, APGCL could have avoided paying unnecessary transportation cost.

As per clause 4.03 of the agreement between OIL and APGCL, If OIL fails to supply Minimum Guaranteed Quantity of gas i.e 80%, then OIL shall pay APGCL for such shortfall at present month's prices, by adjustment in next month's bills. During 2017-18, OIL supplied less gas to the extent of 21.4 MMSCM, but no claim was raised with OIL. FINER requested the Commission to review the matters in detail, so that future losses may be controlled.

FINER further submitted that the loss of power production due to shortage of gas at LTPS and NTPS during 2017-18, need to be examined carefully.

Response of APGCL

APGCL submitted that, for gas transportation to NTPS, MDC is charged by AGCL on 80% of 0.80 MMSCMD gas, which is 0.64 MMSCMD, and no transportation charge is billed for transportation of gas above this quantity. This arrangement helped APGCL in the past when, in the off-tea season, NTPS received more than 0.64 MMSCMD gas at times. Gas supply situation to NTPS started deteriorating from the FY 2016-17. However, APGCL paid MDC bill to AGCL considering MDC quantity as 80% of 0.66 MMSCMD only, which is 0.528 MMSCMD. Negotiation with AGCL is going on to settle for this quantity. Further, at the time of renewal of this Agreement in May 2018, APGCL and AGCL has agreed to keep the MDC quantity as 0.528 MMSCMD.

APGCL further submitted that it has not claimed any power production due to shortage of gas for LTPS as it has achieved the Availability approved by the Commission from the gas available. APGCL has only claimed the fixed charges against availability lost for NTPS when gas was not received.

Commission's views

The issue of gas supply has become a matter of concern as it is adversely affecting generation of NTPS and LTPS. APGCL should earnestly pursue the matter with gas supplier/transporter to ensure guaranteed supply of gas. Directions have been issued to the APGCL in this regard in this Order.

Issue 10: Report of Statutory Auditor

Objections

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

Response of APGCL

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

Commission's views

The Commission has considered the report of the Statutory Auditors.

Issue 11: Capital Expenditure Plan

Objections

ABITA submitted that APGCL has not submitted Detailed Project Report (DPR) for Capital Investments planned for existing projects and therefore, requested the Commission to carry out prudence check and consider the cost benefit analysis of undertaking renovation and modernisation of existing stations.

FINER submitted that APGCL has not provided any payback calculations supporting its various Capital Investment Plans, for the MYT control period. APGCL has also, without any justification, considered auxiliary consumption at 3.35% while currently it is as high as 8%. FINER requested the Commission to review the Capital Investment Plan with all the relevant facts and figures before approving the same.

Response of APGCL

APGCL submitted that it has provided the techno commercial justification with the cost-benefit calculation for the proposed investments at para 28.2 of the petition, as required under the Regulations. APGCL further submitted that auxiliary consumption of 3.35% for FY 2019-20 is a derived figure, as per Regulations for NTPS, LTPS and KLHEP.

Commission's views

The Commission has carried out due prudence check of the capital investment plans. The details are provided in the relevant Chapters.

Issue 12: Generation Plan

Objections

FINER submitted that APGCL in its proposal for power generation for NTPS for the MYT Period assumed SHR of 3900 kCal/kWh and auxiliary consumption of 3.54% while in the capital investment plan the same has been taken as 3403 kCal/ kWh and 3.35%. They requested the Commission to conduct a prudence check before allowing/approving the proposed power generation.

Response of APGCL

APGCL submitted that the SHR of 3900 kCal/kWh for NTPS in the proposed power generation plan has been considered as per MYT Regulations. The SHR of 3403 kCal/kWh considered in the investment plan is the Wt. average SHR of NTPS, LTPS for FY 2019-20 considering the SHR as per the Regulations.

APGCL further submitted that the auxiliary consumption of 3.54% considered in the proposed power generation plan is the computed average for APGCL of all generating stations including NTPS, LTPS, KLHEP, NRPP, LRPP, etc. The auxiliary consumption of 3.35% considered in the investment plan is the Wt. average auxiliary consumption of NTPS, LTPS for FY 2019-20 considering the auxiliary consumption as per the Regulations.

Commission's views

For the control period from FY 2019-20 to FY 2021-22, the Commission has projected the gross generation based on the latest status of commissioning of NRPP and other new projects in the pipeline and the availability of gas projected by APGCL. The details of the projected generation have been discussed in the relevant Chapter of this Order.

Issue 13: Total Other Expenses

Objections

ABITA submitted that while APGCL estimated total Rs 22.37 Cr towards special R&M and capacity building needs for all the three stations for FY 2018-19, the actual expense for FY 2017-18 was only Rs 0.71 CR against the approved amount of Rs 1.25 Cr. ABITA, therefore requested the Commission to allow other expenses based on the performance of APGCL In FY 2017-18 and actual variations may be allowed at the true up of the respective year.

FINER submitted that APGCL projected "other expenses" for LTPS worth Rs 10.32 Cr, Rs 15.32 Cr and Rs 15.32 Cr for FY 2019-20, 2020-21 and 2021-22, respectively and also claimed 'Special R&M' amounting to Rs 10 Cr in FY 2019-20, without submitting any activity plan to justify such an expense. FINER, therefore, requested the Commission to conduct a cost benefit analysis and resultant system improvement before approving any additional expense.

Response of APGCL

APGCL submitted that it has claimed special R&M of Rs 10 Crore, Rs 15 Crore & 15 Crore as special R& M for FY 2019-20, 20-21 & 21-22 respectively and Rs. 0.32 crore per year has been claimed for capacity building of staff of LTPS. Besides, Special R&M has been claimed against overhauling of the units which is compulsorily undertaken after completion of running hours as specified by OEM. Overhauling helps extend life of unit reliability and safety of operation and enhances the operating life of the turbine for another full cycle operation. APGCL further submitted that the procurement of spares takes around a year and then the overhauling take place. Hence, the overhauling amount has been split into two years for each unit.

Commission's views

The Commission noted the views of the respondents as well as replies of the petitioner. The Commission has discussed the same in the relevant Chapter while allowing the special R&M expenses.

Issue 14: Aggregate Revenue Requirement for the MYT Period.

Objections

FINER submitted that the gross generation for KLHEP has declined from 490.06 MU in 2017-18 (actual) to 390.52 MU in FY 2018-19 (estimated) and further to 390.00 MU in FY 2019-20 (projected). APGCL has also projected reduction in PAF from 92.61% in 2017-18 to 85% in 2019-20 and reduced PLF from 55.94% in 2017-18 to 44.50% without giving any explanation for such sharp decline. FINER requested the Commission to consider increased generation from KLHEP which will reduce the need for additional purchase of power from costlier sources and thus reduce the burden on the consumers.

ABITA proposed its own Aggregate Revenue Requirement for the MYT period by considering component wise calculations of all expenses and income and requested the Commission to accept the same.

Response of APGCL

APGCL submitted that the generation of KLHEP has been considered as per design energy of KLHEP and the PLF and PAF has been projected considering the normative numbers as per Regulations.

Commission's views

The details regarding Aggregate Revenue Requirement for the MYT period have been discussed in the relevant Chapter of this Order.

4 Truing up of ARR for FY 2017-18

4.1 Methodology for Truing Up

4.1.1 The Commission approved the ARR for existing Generating Stations for the Control Period from FY 2016-17 to FY 2018-19 and the Tariff of FY 2017-18 vide the MYT Order dated March 31, 2017.

4.1.2 APGCL submitted the Truing-up Petition for FY 2017-18 based on audited annual accounts and provisions of MYT Regulations, 2015 and subsequent amendments thereof. APGCL has sought true-up for FY 2017-18, with the Revenue Gap/(Surplus) to be recovered from APDCL during FY 2019-20.

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 the Truing up for FY 2017-18 for existing Generating Stations, i.e., NTPS, LTPS and KLHEP based on the submissions of APGCL, audited annual accounts for FY 2017-18 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 2017-18 and the same has been considered for Truing up purpose.

4.1.7 In this Chapter, the Commission has analyzed all the elements of actual expenditure and revenue of APGCL for FY 2017-18, 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, 2015and 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 2017-18 as submitted by APGCL are shown in the Table below:

Table 10: Actual PAF/Capacity Index as submitted by APGCL

Station	Actuals
NTPS	43.53%
LTPS	55.75%
KLHEP	92.61%

4.2.2 APGCL submitted that they have considered 43.53% PAF, after accounting availability loss of 10.13% over the actual availability achieved. APGCL submitted the following as reasons for loss of generation impacting the PAF:

a) Between April 2017 to July 2017, APGCL lost 12.46 MU due to evacuation constraints such as regular break down or maintenance of all 3 auto-transformers used for evacuation of power from NTPS.

b) From August 2017, APGCL lost 13.77 MU as one20 MVA 66/132 kV Auto-Transformer, bearing Sl. No. 12255333 at 132 kV switchyard of NTPS was damaged on 20/08/2017. Due to the outage of the said auto-transformer at NTPS, only partial evacuation of power was possible from the power station.

c) APGCL lost the opportunity to generate 62.17 MU due to low availability of gas and Force Majeure conditions faced by gas transporter AGCL, from time to time.

d) Further, APGCL lost 2.10 MU due to breakdown of various transmission lines and other grid disturbance from time to time.

Commission's Analysis

4.2.3 In accordance with Regulation 49.1 and Regulation 51 of MYT Regulations, 2015, the Target PAF / Capacity Index for recovery of full Fixed Charges are 50% for NTPS and LTPS, and 90% for KLHEP. 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 and KLHEP. As regards NTPS, the SLDC has certified PAF of 33.41% only. The difference of 10.13% in PAF between 43.53% claimed by APGCL and 33.41% certified by SLDC has been sought to be justified by APGCL on the basis of "uncontrollable factors" like grid disturbance, grid unavailability and non-supply of gas. APGCL submitted that it has lost around 62.17 MU due to gas un-availability and 28.33 MU due to auto transformer constraint and evacuation constraint.

4.2.4 As regards the justification of lower PAF of NTPS, the Commission raised certain queries and directed APGCL to provide detailed information with supporting documents. APGCL vide its reply dated December 26, 2018, made the following submissions:

a) During the tenure of April 17 to July 17 there were multiple and repetitive transformer breakdowns. Though the 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 12.47 MU due to these random technical breakdowns of transformer during this tenure. On 20.08.2017, the auto transformer permanently broke down pertaining to the damaged bearing.

b) It is also facing huge problem of gas availability, Force Majeure conditions and breakdown of units of NTPS due to old age.

c) APGCL also referred to MERC Orders in Case no 122 of 2014 dated 16th March 2015 and in Case no 28 of 2013 dated 3rd September 2013, where it stated that low/non availability of gas is an uncontrollable factor. MERC due to such uncontrollable factor has allowed recovery of complete AFC on actual availability to MAHAGENCO.

4.2.5 Further, as per directions of the Commission, APGCL submitted SLDC certificate with regard to loss of generation.

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

a) As regards auto-transformer failure, APGCL has submitted SLDC certificate showing that actual period of unavailability of the auto-transformer is from April 2017 to March 2018 (except during Aug 2017). As per the SLDC certificate dated February 19, 2019, APGCL has lost 28.18 MU due to auto transformer constraints.

b) As regards lower gas supply, the Commission notes that during FY 2017-18, 0.42 MMSCMD out of allotted 0.66 MMSCMD gas was received for NTPS as submitted by APGCL. Arrangement of gas is the responsibility of APGCL only, and no relaxation can be allowed on account of lower gas availability.

c) APGCL claimed loss of 2.10MU pertaining to evacuation constraint and SLDC certificate confirms the same.

4.2.7 Based on the above, the Commission considers 28.18 MU loss due to auto transformer constraint and 2.10 MU loss due to evacuation constraint, i.e. a total of 30.28 MU loss, which translates to around 3.11% availability loss. Accordingly, Commission allows actual availability of 36.52% for NTPS.

4.2.8 The Commission has approved the normative and actual PAF/Capacity Index for FY 2017-18 as shown in the following Table:

Table 11: PAF/Capacity Index as approved by the Commission for FY 2017-18

Station	Target Availability/Capacity Index (NAPAF) (%)	Actuals
NTPS	50%	36.52%
LTPS	50%	55.75%
KLHEP	85%	92.61%

4.2.9 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.

4.2.10 Further, actual capacity index of KLHEP is 92.61%, which is higher than the normative capacity index. Hence, KLHEP is eligible for incentive, which is computed in subsequent Sections.

4.3 Plant Load Factor (PLF)

4.3.1 APGCL in its Petition has submitted the actual PLF for NTPS as 33.06%, for LTPS as 54.31%, and for KLHEP as 55.94%, for FY 2017-18.

Commission's Analysis

4.3.2 As per Regulation 49.2 (i) of the MYT Regulations 2015, the target PLF for eligibility of incentive is 50% for NTPS and LTPS. The Commission notes that actual PLF for NTPS for FY 2017-18 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.

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.

4.4 Auxiliary Consumption

4.4.1 APGCL submitted the actual Auxiliary Consumption for FY 2017-18 and Auxiliary

Consumption approved by the Commission in the MYT Order as shown in the following Table:

Table 12: Auxiliary Consumption for FY 2017-18as submitted by APGCL

Sl. No.	Station	MYT Order 31.03.2017	Actual submitted by APGCL
1	NTPS	4.50%	5.91%
2	LTPS	5.50%	8.06%
3	KLHEP	0.50%	0.50%

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 due to partial loading of its Units on account of erratic gas supply position and the ageing of the units, Auxiliary Consumption of NTPS and LTPS is higher than normative. As Auxiliary Consumption is a performance parameter, in this Order, the Commission has approved the Auxiliary Consumption for FY 2017-18at the same level as that approved in the MYT Order, as per norms. The sharing of gains/losses on account of Auxiliary Consumption has been undertaken in subsequent Section in this Chapter.

4.4.3 The Auxiliary Consumption approved by the Commission for the Truing Up of FY 2017-18 is shown in the Table below:

Table 13: Auxiliary Consumption (%) for FY 2017-18as approved by the Commission for truing up

Sl. No.	Station	Approved after Truing up
1	NTPS	4.50%
2	LTPS	5.50%
3	KLHEP	0.50%

4.5 Gross Generation and Net Generation

4.5.1 The actual Gross Generation and Net Generation submitted by APGCL for FY 2017-18 is shown in the following Table:

Table 14: Actual Gross and Net Generation for FY 2017-18 as submitted by APGCL

Sl. No.	Station	Actual Gross Generation (MU)	Actual Net generation (MU)
1	NTPS	325.65	306.40
2	LTPS	663.40	609.91
	Total Thermal	**989.05**	**916.31**
3	KLHEP	490.06	487.61
	Total APGCL	**1479.11**	**1403.92**

Commission's Analysis

4.5.2 The Commission notes that actual Gross Generation and Net Generation submitted by APGCL for FY 2017-18 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 2017-18 is shown in the following Table:

Table 15: Gross and Net Generation for FY 2017-18 as approved by the Commission

Sl. No.	Station	Gross Generation (MU)	Net generation (MU)
1	NTPS	325.65	311.00
2	LTPS	663.40	626.91
	Total Thermal	**989.05**	**937.91**
3	KLHEP	490.06	487.61
	Total APGCL	**1479.11**	**1425.52**

4.6 Station Heat Rate (SHR)

4.6.1 APGCL submitted that the Commission in the MYT Order has approved SHR for NTPS and LTPS as 3900 kcal/kWh and 3200 kcal/kWh, respectively. The actual SHR was 4246 kcal/kWh for NTPS and 3429 kcal/kWh for LTPS.

Commission's Analysis

4.6.2 The Commission notes that actual SHR for NTPS is higher than the approved norms for FY 2017-18, which has been justified by APGCL as erratic gas supply to NTPS in FY 2017-18. Because of this, the Units were running on part load, which increases the specific gas consumption of the Units, resulting in high SHR. 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 In case of LTPS, there was a planned shutdown from 30th June'2017 to 5th Dec'2017 (158 days) of Unit 8. This Overhaul was originally approved in Annual Plan for FY 2014-15. Thus, LTPS operated under Combined Cycle mode of operation for 207 days only and under Open Cycle mode of operation for 158 days, i.e., more than 5 months, which does not appear to be reasonable. The Commission is of the view that the planned shutdown for Major Overhaul should not take more than 25days as per industry practice. APGCL has also considered outage of 25 days for Major Overhaul in its proposal for FY 2019-20. Accordingly, impact of the same is passed through, by revising the normative SHR to 3248 kcal/kwh, by considering 25 days of operation under Open Cycle and 340 days of operation under Closed Cycle.

4.6.4 The Commission approves SHR for NTPS and LTPS as per MYT Regulations, 2015. Being a controllable factor, the sharing of gains/losses has been computed in a subsequent Section of this Chapter. The SHR approved by the Commission for NTPS and LTPS for FY 2017-18 for truing up is shown in the following Table:

Table 16: Station Heat Rate (kcal/kWh) for FY 2017-18 as approved by the Commission

Sl. No.	Station	MYT Order 31.03.2017	Actual submitted by APGCL	Approved after Truing up
1	NTPS	3900	4245.54	3900
2	LTPS with WHRU	3200	3429	3248

4.7 Fuel Cost

4.7.1 APGCL submitted that the Commission in the MYT Order dated March 31, 2017, had approved Fuel Cost of Rs. 40.70 Crore for NTPS and Rs 181.86 Crore for LTPS. As against this, APGCL has incurred actual fuel cost of Rs. 78.52 Crore for NTPS and Rs149.82 Crore for LTPS. APGCL has submitted the month-wise true copies of Fuel Bills raised by APGCL's suppliers for FY 2017-18 in its quarterly FPA reports. APGCL claimed the actual fuel cost of Rs. 78.52 Crore for NTPS and Rs. 149.82 Crore for LTPS.

Commission's Analysis

4.7.2 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 and LTPS.

4.7.3 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 17: Actual GCV and Price for FY 2017-18 considered by the Commission

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs. /1000 SCM)
NTPS	8,959.28	5,088.51
LTPS	9,168.52	6,043.25

4.7.4 The Commission has trued up the Fuel Cost based on the approved performance parameters and actual fuel price and GCV for FY 2017-18. The Commission has approved the Gross Generation for NTPS and LTPS 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. The gain/loss between the normative Fuel Cost and actual Fuel Cost for FY 2017-18 has been computed in a subsequent Section of this Chapter.

4.7.5 On the above basis, normative Fuel Cost and actual Fuel Cost for FY 2017-18 for different thermal stations corresponding to actual gross generation is given in the Table below:

Table 18: Fuel Cost for FY 2017-18 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	78.52	72.13
LTPS	149.82	142.02

4.8 Incentive for Generation

4.8.1 APGCL has claimed the Incentive on generation as per provisions of MYT Regulations, 2015. Since, actual PLF for LTPS is higher than the normative PLF of 50% for FY 2017-18, APGCL has claimed the Incentive of Rs. 2.42 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 2017-18 was 487.61 MU including 99.56 MU of secondary energy. APGCL has billed Rs 13.36 Crore for secondary energy during FY 17-18 at the rate of Rs 1.342/kWh, which was the lowest variable charge of the central sector thermal power generating station in the North-East region during FY 17-18. Accordingly, APGCL claimed the Incentive for secondary energy of Rs 13.36 Crore in the truing up of FY 2017-18.

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 19: 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	561.70	609.91	48.21	2.41

4.8.4 As regards the incentive for secondary energy generation for KLHEP, the Commission notes that the incentive claimed by APGCL is correct. Hence, the Commission approves the incentive for secondary generation of Rs. 13.36 Crore.

4.8.5 Accordingly, the Commission approves the incentive of Rs. 2.41Crore for LTPS and Rs. 13.36 Crore for KLHEP for FY 2017-18.

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 2016-17have been escalated to arrive at the new normative values of O&M expenses for FY 2017-18.

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 2017-18 are as shown in the table below.

Table 20: O&M expenses for FY 2017-18 as claimed by APGCL (Rs. Crore)

Station	Calculated as per Regulation on numbers approved in order of 31.03.2017	Calculated as per Regulation on numbers approved in order of 19.03.2018	As per audited accounts for FY 2017-18	Amount considered for True up Petition for FY 2017-18 (excluding Special R&M and impact of Revision of Pay)
NTPS	42.37	41.45	43.41	41.36
LTPS	45.90	44.90	48.53	46.00
KLHEP	23.64	23.12	24.28	23.14
Total	**111.91**	**109.47**	**116.22**	**110.50**

4.9.3 The Station-wise details of head-wise O&M expenses claimed for FY 2017-18 by APGCL are given in the table below:

Table 21: Details of O&M expenses claimed by APGCL for FY 2017-18 (Rs. Crore)

Station	Employee Cost	R&M	A&G	Total
NTPS	34.55	3.87	2.94	41.36
LTPS	36.53	5.76	3.71	46.00
KLHEP	16.91	2.62	3.62	23.14
Total	**87.99**	**12.25**	**10.26**	**110.50**

4.9.4 APGCL submitted that the Commission had provisionally allowed the impact of Revision of Pay (ROP) for FY 2017-18 in the APR Order dated March 19, 2018. APGCL has claimed the actual impact of ROP for FY 2017-18, including the arrear payment in September 2017 and January 2018. As the actual payment of revised salary commenced from November 2017 onwards, hence, impact of ROP has been considered on actual basis for four months of FY 2017-18. Further, the impact of ROP on MSHEP has not been included. The plant-wise impact of ROP for FY 2017-18 is shown in the Table below:

Table 22: Impact of ROP for FY 2017-18 (Rs. Crore)

Station	Approved in APR Order 19.03.2018	Amount claimed in true-up
NTPS	0.49	2.06
LTPS	0.64	2.43
KLHEP	2.10	1.14
Total	**3.23**	**5.62**

Commission's Analysis

4.9.5 In the MYT Order, 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 2016-17 at an escalation factor of 5.05% equal to average of last three years CPI and WPI considered in the ratio of 60:40. For computation of normative O&M expenses in this Order, the Commission has considered the revised escalation factor of 3.12% over the trued-up O&M expense of FY 2016-17.

4.9.6 The actual expenses on account of ROP have been considered in addition to the normative O&M expenses. The O&M expenses for FY 2017-18 approved by the

Commission is shown in the following Table:

Table 23: O&M Expenses approved by Commission for FY 2017-18 (Rs. Crore)

Station	Employee Cost	R&M	A&G	Total	Revision of Pay for FY 2017-18
NTPS	34.44	4.61	2.39	41.45	2.06
LTPS	38.02	4.74	2.15	44.90	2.43
KLHEP	15.23	3.52	4.37	23.12	1.14
Total	**87.69**	**12.87**	**8.91**	**109.47**	**5.62**

4.10 Depreciation

4.10.1 APGCL submitted that the Commission in the MYT Order dated March 31, 2017 approved Depreciation of Rs. 29.52 Crore for APGCL for FY 2017-18.

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 2017-18:

Table 24: Details of Depreciation claimed by APGCL for FY 2017-18 (Rs. Crore)

Station	Particulars	Approved as per MYT Order 31.03.2017	Approved as per APR Order 19.03.2018	True up Petition
NTPS	Depreciation	1.62	1.67	1.66
	Less: Depreciation on assets funded by Grants	0.11	0.12	0.12
	Net Depreciation	1.51	1.55	1.54
LTPS	Depreciation	18.71	17.51	13.10
	Less: Depreciation on assets funded by Grants	2.51	2.42	1.78
	Net Depreciation	16.20	15.10	11.32
KLHEP	Depreciation	13.19	24.71	23.70
	Less: Depreciation on assets funded by Grants	1.38	2.63	2.52
	Net Depreciation	11.81	22.08	21.18
Total Depreciation claimed		**29.52**	**38.73**	**34.04**

Commission's Analysis

4.10.3 For the purpose of Truing up, the Commission has considered the Station-wise Closing GFA of FY 2016-17 as the opening GFA for FY 2017-18. The Commission has considered the addition of GFA during FY 2017-18 as submitted by APGCL.

4.10.4 The Commission has computed depreciation as per scheduled rates specified in the Tariff Regulations, 2015. 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.

4.10.5 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 2017-18.

4.10.6 The station-wise depreciation approved by the Commission in the True-up for FY 2017-18is shown in the following table:

Table 25: Depreciation for FY 2017-18 as approved by the Commission (Rs. Crore)

Station	Particulars	MYT Order dtd 31.03.17	APGCL Submission	Approved after True Up
NTPS	Depreciation	1.62	1.66	1.54
	Less: Depreciation on assets funded by Grants	0.11	0.12	0.11
	Net Depreciation	**1.51**	**1.54**	**1.43**
LTPS	Depreciation	18.71	13.10	17.39
	Less: Depreciation on assets funded by Grants	2.51	1.78	2.41
	Net Depreciation	**16.20**	**11.32**	**14.98**
KLHEP	Depreciation	13.19	23.70	24.58
	Less: Depreciation on assets funded by Grants	1.38	2.52	2.63
	Net Depreciation	**11.81**	**21.18**	**21.94**
Total Depreciation		**29.52**	**34.04**	**38.35**

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

4.11 Interest and Finance Charges

4.11.1 APGCL submitted that it has computed the Interest on long term Loan for FY 2017-18on normative basis. APGCL has considered the normative loan portfolio and the repayment is considered equal to the depreciation for FY 2017-18. The interest rate has been considered as the weighted average rate of actual interest rate applicable to APGCL at the beginning of FY 2017-18.

4.11.2 Accordingly, APGCL has claimed the Interest and Finance Charges of Rs. 26.77 Crore for FY 2017-18 as shown in the following Table:

Table 26: Interest Charges as submitted by APGCL for FY 2017-18 (Rs. Crore)

Station	Particulars	Approved as per MYT Order 31.03.2017	Approved as per APR Order 19.03.2018	True up Petition
NTPS	Net Normative Opening Loan	9.91	0.73	0.73
	Addition of normative loan during the year	8.4	9.11	1.48
	Normative Repayment during the year	15.46	1.55	1.54
	Net Normative Closing Loan	2.85	8.30	0.67
	Avg. Normative Loan	6.38	4.515	0.70
	Interest Rate	9.88%	10.45%	10.13%
	Interest on Loan Capital	0.63	0.47	0.07
	Add: Bank Charges	-	-	0.01
	Net Interest on Loan Capital	**0.63**	**0.47**	**0.08**
LTPS	Net Normative Opening Loan	19.66	19.49	19.49
	Addition of normative loan during the year	30.01	5.04	0.14
	Normative Repayment during the year	16.20	15.10	11.32
	Net Normative Closing Loan	33.47	9.44	8.31
	Avg. Normative Loan	26.565	14.465	13.90
	Interest Rate	12.04%	10.45%	10.13%

Station	Particulars	Approved as per MYT Order 31.03.2017	Approved as per APR Order 19.03.2018	True up Petition
	Interest on Loan Capital	3.20	1.51	1.41
	Add: Bank Charges	-	-	0.02
	Net Interest on Loan Capital	**3.20**	**1.51**	**1.43**
KLHEP	Net Normative Opening Loan	273.46	259.66	259.66
	Addition of normative loan during the year	19.9	6.49	0.14
	Normative Repayment during the year	11.81	22.08	21.18
	Net Normative Closing Loan	281.55	244.78	238.62
	Avg. Normative Loan	277.505	251.87	249.14
	Interest Rate	9.80%	10.45%	10.13%
	Interest on Loan Capital	27.18	26.33	25.25
	Add: Bank Charges	-	-	0.01
	Net Interest on Loan Capital	**27.18**	**26.33**	**25.26**
	Total Interest	**31.01**	**28.31**	**26.77**

Commission's Analysis

4.11.3 In the MYT Order dated 31st March2017, 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, 2017, shall be worked out by deducting the cumulative repayment as admitted by the Commission up to March 31, 2017, from the gross normative loan. Accordingly, the Commission has computed the normative loan outstanding as on April 1, 2017 as shown in the following Table:

Table 27: Computation of Normative loan outstanding as on April 1, 2017 (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP
Gross Normative Loan	4.20	268.42	390.97
Less: Cumulative repayment (equal to accumulated depreciation)	3.46	248.93	131.30
Net Normative loan	**0.73**	**19.49**	**259.66**

4.11.5 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.

4.11.6 The interest on loan capital as approved by the Commission after true-up for FY 2017-18 is shown in the following Table:

Table 28: Interest on Loan Capital for FY 2017-18 as approved by the Commission (Rs. Crore)

Station	Particulars	Approved after Truing up
NTPS	Net Normative Opening Loan	0.73
	Addition of normative loan during the year	1.48
	Normative Repayment during the year	1.43
	Net Normative Closing Loan	0.79
	Interest Rate	10.13%
	Interest on Loan Capital	0.08
	Add: Bank Charges	-
	Total Interest Expenses	0.08
LTPS	Net Normative Opening Loan	19.49
	Addition of normative loan during the year	0.14
	Normative Repayment during the year	14.98
	Net Normative Closing Loan	4.65
	Interest Rate	10.13%

Station	Particulars	Approved after Truing up
	Interest on Loan Capital	1.22
	Add: Bank Charges	-
	Net Interest on Loan Capital	1.22
KLHEP	Net Normative Opening Loan	259.66
	Addition of normative loan during the year	0.14
	Normative Repayment during the year	21.94
	Net Normative Closing Loan	237.85
	Interest Rate	10.13%
	Interest on Loan Capital	25.21
	Add: Bank Charges	-
	Net Interest on Loan Capital	25.21

4.12 Return on Equity (RoE)

4.12.1 APGCL submitted that the Commission in the MYT Order approved RoE separately for each Generating Station for FY 2017-18. Since, there has been no variation in the Equity; APGCL has claimed the same amount in the True-up for FY 2017-18 as approved in MYT Order. APGCL has claimed ROE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS and Rs. 10.64 Crore for KLHEP.

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 29: Return on Equity as approved by the Commission for FY 2017-18 (Rs. Crore)

Station	Particulars	MYT Order 31.03.2017	Claimed by APGCL	Approved after truing up
NTPS	Opening Equity	55.00	55.00	55.00
	Closing equity	55.00	55.00	55.00

Station	Particulars	MYT Order 31.03.2017	Claimed by APGCL	Approved after truing up
	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

4.13 Interest on Working Capital (IoWC)

4.13.1 APGCL submitted that the Commission in the MYT Order approved IoWC of Rs.15.29 Crore for FY 2017-18. As against this, APGCL has claimed normative IoWC of Rs. 17.62 Crore for FY 2017-18 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. 5.63 Crore for NTPS, Rs. 8.79 Crore for LTPS and Rs. 3.20 Crore for KLHEP.

Commission's Analysis

4.13.3 The Commission has computed IoWC in accordance with Regulation 37.1 of the MYT Regulations, 2015. The rate of Interest has been considered equal to State Bank of India Base Rate as on 1stApril of the respective year plus 350 basis points, i.e., 12.60%. IoWC approved by the Commission after true-up for FY 2017-18 is shown in the following Table:

Table 30: IoWC as approved by the Commission for FY 2017-18 (Rs. Crore)

Station	Particulars	MYT Order 31.03.2017	Claimed by APGCL	Approved after Truing up
NTPS	Fuel Cost for one month	3.31	6.54	8.96
	O&M Expenses for one month	3.53	3.45	3.45
	Maintenance Spares-30% of O&M	12.71	12.41	12.43
	Receivables for two months	15.34	22.25	27.19
	Total Working Capital Requirement	34.90	44.65	52.03
	Rate of Interest (%)	12.80%	12.60%	12.60%
	Interest on Working Capital	4.47	5.63	6.56
LTPS	Fuel Cost for one month	11.54	12.48	10.60
	O&M Expenses for one month	3.82	3.83	3.74
	Maintenance Spares-30% of O&M	13.77	13.80	13.47
	Receivables for two months	38.01	39.68	35.68
	Total Working Capital Requirement	67.14	69.80	63.39
	Rate of Interest (%)	12.80%	12.60%	12.60%
	Interest on Working Capital	8.59	8.79	8.00
KLHEP	O&M Expenses for one month	1.97	1.93	1.93
	Maintenance Spares-30% of O&M	3.55	6.94	3.47
	Receivables for two months	11.93	16.50	13.57
	Total Working Capital Requirement	17.45	25.37	18.97
	Rate of Interest (%)	12.80%	12.60%	12.60%
	Interest on Working Capital	2.23	3.20	2.39

4.14 Prior period Expenses/(Income)

4.14.1 APGCL submitted the Net Prior Period expenses of Rs. 2.74 Crore for FY 2017-18, as per the audited accounts. Against this, APGCL has considered the Net Prior Period expenses of Rs. 1.38 Crore for FY 2017-18 for truing up purpose. APGCL submitted the head-wise details along with justification for its claim towards prior period items for FY 2017-18.

Commission's Analysis

4.14.2 The Commission has analysed the details and justification for Net Prior Period expenses/(income) for FY 2017-18 as submitted by APGCL. The Commission has considered the treatment of prior period items based on the treatment allowed to that particular item in the true-up of the year to which the expenses/(income) pertain.

4.14.3 The Commission has disallowed the prior period expenses/(income) towards depreciation and interest and finance charges, since both the expenses are allowed on normative basis. Further, for controllable expenses such as R&M, A&G, etc, 1/3rd of APGCL claim under prior period is considered as in earlier years, sharing of the gains/losses has been allowed, and for uncontrollable items such as Income Tax/refund of Income Tax, full prior period expense/income is considered. Delayed Payment Surcharge is disallowed.

4.14.4 The Net prior period expenses/(income) submitted by APGCL and allowed by the Commission after true-up for FY 2017-18 are shown in the following Table:

Table 31: Net Prior Period expenses/(income) approved for FY 2017-18 (Rs. Crore)

Particulars	Audited Accounts	Claimed for True Up	Approved after True-up
Prior Period Income			
(i) Withdrawal of excess provision of depreciation of Rs.7,05,978/-.	0.07	0.00	0.00
(ii) Withdrawal of excess Interest & finance charge in prior period of Rs.19,54,429/-.	0.20	0.00	0.00
(iii) Withdrawal of excess booking as R&M expenses of Rs.42,92,548/-.	0.43	0.00	0.14
(iv) Withdrawal of excess booking as R&M expenses of Rs.4,15,52,220/-.	4.16	0.00	1.39
(v) Withdrawal of excess provision of tax audit fee of Rs. 3,000/-	0.0003	0.0003	0.0003
(vi) Refund received from IT Dept. for AY 2014-15 of Rs. 48,76,243/-.	0.49	0.49	0.49
(vii) Refund received from IT Dept. for AY 2015-16 of Rs. 29,86,190/-.	0.30	0.30	0.30
(viii) Delayed Payment Surcharge bill raised by GAIL	0.16	0.00	0.00
Sub-total (A)	**5.8**	**0.79**	**2.32**

Particulars	Audited Accounts	Claimed for True Up	Approved after True-up
Prior Period Expense			
(i) Expenses on Overhauling of GT#3 at LTPS corrected as per comments of Statutory Auditor Rs. 4,87,16,783/-	4.87	0.00	0.00
(ii) Depreciation under provided in prior period adjusted as commented by Statutory Auditor and C&AG for Rs. 1,04,21,933/-	1.04	0.00	0.00
(iii) Excess TDS on Fixed Deposit booked in 2016-17, adjusted for Rs. 48,910/-	0.00	0.00	0.00
(iv) Short Provision for Income-Tax in prior periods adjusted for Rs. 34,72,819/-	0.35	0.35	0.35
(v) Short provision for Audit fee for FY 16-17 adjusted for Rs. 1,18,018/-	0.01	0.00	0.003
(vi)Rebate received from PFCL against NRPP adjusted as per comments of Statutory Auditor for Rs. 1,81,76,449/-)	1.82	1.82	1.82
(vii) Administration expenses relating to prior periods of Rs. 46,18,688/-	0.46	0.00	0.15
(viii) Provision for MAT of APGCL for the FY 2015-16 reversed	0.000007	0.000007	0.000007
Sub-total (B)	**8.55**	**2.17**	**2.33**
Net Prior Period Expenses/(Income) (B-A)	**2.74**	**1.38**	**0.01**

4.14.5 The Commission approves the net Prior Period Expenses/(Income) as shown in the above Table for FY 2017-18 after Truing up. Further, the Commission has allocated the Net Prior Period Expenses/(Income) to the existing Generating Stations with the same philosophy as proposed by APGCL. Accordingly, the Commission approves Station-wise Net Prior Period Expenses of Rs. 0.001 Crore for NTPS, Rs. 0.003 Crore for LTPS and Rs. 0.002 Crore for KLHEP for FY 2017-18 after truing up.

4.15 Income Tax

4.15.1 APGCL has claimed Income Tax of Rs. 6.07 Crore for FY 2017-18 as per the 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. 6.07 Crore for FY 2017-18after 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. 1.68 Crore for NTPS, Rs. 3.10 Crore for LTPS and Rs. 1.29 Crore for KLHEP for FY 2017-18 after Truing up.

4.16 Special R&M Expenses

4.16.1 APGCL submitted that it has incurred the following Special R&M expenses in FY 2017-18:

Table 32: Special R&M Expenses incurred by APGCL in FY 2017-18 (Rs. Crore)

Name of Work	Total Amount Approved	As per Audited Accounts	Claimed in true-up for FY 2017-18	Remarks
Overhauling of Unit 6 of LTPS	12.72	7.83	0.00	No claim since the amount already received from Annual Plan 2014-15
Overhauling of Unit 3 of LTPS	5.85	5.85	0.00	For LTPS, as per Statutory Auditor Report para X(c), there was an accounting error of Rs. 5.85 crore, the same has been subtracted while claiming R&M
Overhauling of Unit 3 of LTPS	0.71	0.71	0.71	
Upgradation of Mark IV GT Control System of GT#5 to Vie control system for LTPS	4.34	4.34	0.00	No claim since the amount already received from Annual Plan
Colling tower of Unit 5 of NTPS	1.25	1.25	0.00	No claim since the amount already received from Annual Plan

Commission's Analysis

4.16.2 The Commission has allowed the actual expenses against Special R&M of Unit 3 of LTPS, as claimed by APGCL. The Special R&M of other Units has been funded from Annual Plan and hence, is not considered in the ARR of APGCL.

4.17 Non-Tariff Income

4.17.1 APGCL submitted that the Commission in the MYT Order approved Non-Tariff Income of Rs. 15.58 Crore. As against this, APGCL has claimed Non-Tariff Income of Rs. 23.13Crore 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 33: Non-Tariff Income as claimed by APCGL for True-up for FY 2017-18

Station	As per audited accounts	APGCL's claim
NTPS	6.19	6.19
LTPS	10.71	10.71
KLHEP	4.32	4.32
Total	**21.23**	**21.23**

Commission's Analysis

4.17.2 For the purpose of Truing up for FY 2017-18, the Commission has considered the actual Non-Tariff Income of Rs. 21.23 Crore as per audited accounts, as submitted by APGCL. Accordingly, the Commission approves Non-Tariff Income of Rs. 6.19 Crore for NTPS, Rs. 10.71 Crore for LTPS and Rs. 4.32 Crore for KLHEP, 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 terminal liabilities from normative as well as actual employee expenses. Accordingly, terminal liabilities 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 34: Sharing of (gains)/losses for O&M Expenses for FY 2017-18 (Rs. Crore)

Particulars	Revised Normative	Actual	(Gain)/Loss	Sharing of (Gains)/losses	Terminal Liabilities*	Net Sharing of (Gains)/losses
	a	b	c=a-b	d=c/3	e	f=d+e
NTPS	41.45	41.36	(0.09)	(0.03)	0.11	0.09
LTPS	44.90	46.00	1.10	0.37	0.14	0.51
KLHEP	23.12	23.15	0.03	0.01	0.26	0.27
Total	**109.47**	**110.51**	**1.04**	**0.35**	**0.52**	**0.86**

Note: - Terminal Liabilities 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 2017-18 is shown in the Table below:

Table 35: Sharing of (Gain)/Loss on account of Fuel Parameters as approved by the Commission in the True-up for FY 2017-18 (Rs. Crore)

Station	Normative Cost	Actual Cost	(Gain)/ Loss	Sharing of (Gains)/ losses
NTPS	72.13	78.52	6.39	2.13
LTPS	142.02	149.82	7.80	2.60

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 2017-18 is shown in table below:

Table 36: Sharing of (Gain)/Loss on account of Auxiliary Energy Consumption as approved by the Commission for True-up for FY 2017-18

Station	Net Normative Generation (MU)	Net Generation (MU) Actual	ECR (Rs. /kWh)	(Gain)/ Loss in MU	(Gain)/ Loss in Rs Cr	Sharing of (Gains)/ Losses in Rs Cr
NTPS	311.00	306.40	2.32	4.60	1.07	0.36
LTPS	626.91	609.91	2.27	17.00	3.85	1.28

4.18.6 The total sharing of Gains and Losses for FY 2017-18 has been summarised in the following Table:

Table 37: Total Sharing of (Gain)/Loss approved by the Commission for True-up for FY 2017-18 (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP
Sharing of (gains)/Losses for O&M Expenses	0.09	0.51	0.27
Sharing of (gains)/Losses for Fuel Cost	2.13	2.60	-
Sharing of (gains)/Losses for Auxiliary Consumption	0.36	1.28	-
Grand Total	**2.58**	**4.39**	**0.27**

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 38: Reduction of fixed costs as approved by the Commission for True-up for FY 2017-18 (Rs. Crore)

Particulars	PAF (%) – Normative	PAF (%) - Actual	AFC (Rs. Crore)	Allowable AFC (Rs. Crore)	Disallowed AFC
NTPS	50%	36.52%	55.58	40.59	14.99
LTPS	50%	55.75%	86.81	86.81	-

4.20 Summary of True-up for FY 2017-18

4.20.1 The Summary of true-up for FY 2017-18 is shown in the following Table:

Table 39: True-up ARR for Existing Generating Stations for FY 2017-18 as approved by the Commission (Rs. Crore)

Sr. No.	Particulars	NTPS			LTPS			KLHEP		
		MYT Order 31.03.2017	APGCL Submission	Approved after Truing up	MYT Order 31.03.2017	APGCL Submission	Approved after Truing up	MYT Order 31.03.2017	APGCL Submission	Approved after Truing up
A	**Capacity Charges (Annual Fixed Charges)**									
1	O&M expenses	42.37	41.36	41.45	45.90	46.00	44.90	23.64	23.14	23.12
a	*Employee Expenses*	*35.21*	34.55	34.44	38.86	36.53	38.02	15.57	16.91	15.23
b	*A&G Expense*	*2.45*	2.94	2.39	2.20	3.71	2.15	4.47	3.62	4.37
c	*R&M Expense*	*4.71*	3.87	4.61	4.84	5.76	4.74	3.60	2.62	3.52
d	Special R&M Expenses	-	0	0.00	0.00	0.71	0.71	0.00	0.00	0.00
e	ROP Arrears & Impact on Salary	-	2.06	2.06	0.00	2.43	2.43	0.00	1.14	1.14
2	Depreciation	1.51	1.54	1.43	16.20	11.32	14.98	11.81	21.18	21.94
3	Interest on Loans	0.63	0.08	0.08	3.20	1.43	1.22	27.18	25.26	25.21
4	Return on Equity	8.53	8.53	8.53	22.18	22.18	22.18	10.64	10.64	10.64
5	Interest on Working Capital	4.47	5.63	6.56	8.59	8.79	8.00	2.23	3.20	2.39
6	Income Tax	-	1.68	1.68	0.00	3.10	3.10	0.00	1.29	1.29
7	Prior Period Expenses	-	0.30	0.001	0.00	0.62	0.003	0.00	0.46	0.002

Sr. No.	Particulars	NTPS			LTPS			KLHEP		
		MYT Order 31.03.2017	APGCL Submission	Approved after Truing up	MYT Order 31.03.2017	APGCL Submission	Approved after Truing up	MYT Order 31.03.2017	APGCL Submission	Approved after Truing up
8	Capacity Building		0.00	-					0.00	
9	*Less:* Non-Tariff Income	5.18	6.19	6.19	6.46	10.71	10.71	3.94	4.32	4.32
10	Fixed Cost	52.32	54.98	55.58	89.61	85.86	86.81	71.57	81.99	81.42
B	Fuel Cost	40.70	78.52	72.13	181.86	149.82	142.02	0.00	0.00	0.00
C	**Total ARR**	**93.02**	**133.51**	**127.71**	**271.46**	**235.68**	**228.84**	**71.57**	**81.99**	**81.42**
D	Incentive for Generation	-				2.42	2.41	0.00	17.03	14.54
E	Sharing of Gains/(Losses)	-	0.00	(12.42)		0.00	4.39	0.00	0.00	0.27
F	**Net ARR**	93.02	133.51	115.29	271.46	238.10	235.64	71.57	99.01	96.23

4.21 Revenue from Sale of Power

4.21.1 APGCL submitted the Station-wise revenue from sale of power for FY 2017-18 as shown in the Table below, as Rs. 451.62 Crore as per Audited Accounts:

Table 40: Revenue from Sale of Power as claimed by APGCL (Rs. Crore)

Sl. No.	Particulars	Amount
1	Variable charges from Normal Bill	244.42
2	Variable charges from FPA	6.70
3	Total Variable charges (Normal plus FPA)	251.12
4	Additional Secondary Energy Charge of KLHEP for FY 2017-18	13.36
5	Fixed Charge	184.73
6	Incentive Bill for LTPS	2.42
7	Total Revenue from sale of power	451.62
8	**Total Revenue from sale of power claimed in the True-up of FY 2017-18**	**451.62**

Commission's Analysis

4.21.2 The Commission has considered the actual revenue billed of Rs. 451.62 Crore for FY 2017-18for truing up, based on the audited accounts.

4.22 Revenue Gap/(Surplus) for FY 2017-18

4.22.1 APGCL has claimed the Revenue Gap of Rs. 19.15 Crore in the Truing up for FY 2017-18, including the Carrying Cost on account of Review Order of September 7, 2017. APGCL submitted that as per the MYT Order, APGCL was required to refund Rs. 62.15 crore annually amounting to Rs. 5.18 crore on a monthly basis to APDCL, which was reduced to Rs. 25.90 crore annually amounting to monthly amount of Rs. 2.09 crore, vide the Review Order dated 7th September 2017. However, by September 2017, APGCL had already refunded Rs. 25.90 crore at the rate of Rs. 5.18 crore per month, thereby paying Rs. 3.09 crore (Rs. 5.18 crore – Rs. 2.09 crore) extra for 5 months. APGCL requested the Commission to allow Carrying Cost of Rs. 0.16 crore on the extra amount paid monthly for 5 months. Further, APGCL has claimed carrying cost of Rs. 2.41 Crore on the Revenue Gap of FY 2017-18. Accordingly, APGCL has claimed Revenue Gap of Rs. 21.56 Crore including carrying cost in the Truing up for FY 2017-18.

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 also allowed carrying cost on the extra amount refunded monthly for 5 months by APGCL to APDCL, as claimed by APGCL amounting to Rs. 0.16 Crore.

4.22.4 The Commission has computed the Revenue Gap/(Surplus) for FY 2017-18 as shown in the following Table:

Table 41: Revenue Gap/(Surplus) for FY 2017-18 as approved by the Commission (Rs. Crore)

Particulars	Submitted by APGCL	Approved after Truing up
Truing up for FY 2017-18		
ARR for NTPS (considering effective capacity)	133.50	111.27
ARR for LTPS (considering effective capacity)	238.10	231.67
ARR for KLHEP	99.01	96.23
Combined ARR	**470.61**	**439.17**
Revenue from Sale of Power	451.62	451.62
Revenue Gap/(Surplus)	**18.99**	**(12.46)**
Impact of carrying cost of review Order of September 2017	0.16	0.16
Net Revenue Gap/(Surplus)	19.15	(12.30)

Particulars	Submitted by APGCL	Approved after Truing up
Computation of carrying /(holding) cost on Revenue Gap/(Surplus) in FY 2017-18 Order		
Carrying / (holding) cost for FY 2017-18 (half Year)	1.21	(0.77)
Carrying / (holding) cost for FY 2018-19 (full Year)	1.21	(1.55)
Carrying / (holding) cost for FY 2019-20 (half Year)	0.00	(0.71)
Total	**2.41**	**(3.03)**
Cumulative Revenue Gap/(Surplus) along with Carrying / (Holding) Cost	**21.56**	**(15.33)**

4.22.5 The Commission approves the Revenue Surplus of **Rs.15.33 Crore** arising out of Truing up for FY 2017-18, including the holding cost, allowing equal monthly adjustments to spread out over FY 2019-20. This Revenue Surplus is considered for adjustment in FY 2019-20.

5 Annual Performance Review for FY 2018-19

5.1 Methodology for Annual Performance Review

5.1.1 The Commission had approved the revised ARR for FY 2018-19 for existing Generating Stations in the Tariff Order dated March 19, 2018.

5.1.2 Regulation 10.3 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*:

…

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." (emphasis added)

5.1.3 APGCL submitted the Annual Performance Review (APR) Petition for FY 2018-19, supported by actual information available till September 2018and estimated the values for the next six months.

5.1.4 From the above said Regulation, as amended in November 2017, it is clear that the main objective of the APR is to compare the performance targets for FY 2018-19 vis-à-vis forecast approved in the Tariff Order for FY 2018-19. The Revenue Gap/(Surplus) arising out of APR for FY 2018-19 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 2018-19. The Commission has computed the Revenue Gap/(Surplus) as an indication of the performance in FY 2018-19. 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 2018-19.

5.2 Plant Availability Factor (PAF)/Capacity Index

5.2.1 APGCL submitted that as per Regulation 49.1 of the MYT Regulations, 2015, the NAPAF for recovery of full fixed charges is 50% for both NTPS and LTPS. APGCL submitted that it expects to achieve the NAPAF for LTPS, however, for NTPS, due to erratic gas supply and frequent forced shutdown of the aged Units/auxiliaries, NAPAF may not be achieved. APGCL submitted that it expected to achieve the NAPAF of 85% for KLHEP for FY 2018-19.

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

Table 42: Availability as submitted by APGCL for FY 2018-19

Sl. No.	Station	MYT Order 31.03.2017	APR Order 19.03.2018	Apr-Sep (actual)	Oct-March (estimated)	Estimated total
1	NTPS	50.00%	50.00%	33.47%	40.32%	36.89%
2	LTPS	50.00%	50.00%	52.91%	50.86%	51.88%
3	KLHEP	85.00%	85.00%	87.17%	82.83%	85.00%

Commission's Analysis

5.2.3 The Commission notes that APGCL has projected the availability for NTPS as lower than the normative PAF due to the problem of erratic gas supply and frequent forced shutdown of the aged Units/auxiliaries. The Commission also notes that APGCL has projected higher than the normative PAF for LTPS and equal to normative for KLHEP.

5.2.4 In accordance with the MYT Regulations, 2015, APGCL shall be eligible to recover full fixed charges if actual availability is higher than the normative PAF specified in MYT Regulations, 2015.

Table 43: Target PAF/Capacity Index for recovery of full fixed Charges

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

5.3 Plant Load Factor (PLF)

5.3.1 APGCL submitted that as per Regulation 49.2 of the MYT Regulations, 2015, the NAPLF is 50% for both NTPS and LTPS. APGCL submitted that it expects to achieve the NAPLF for LTPS, however, for NTPS, due to erratic gas supply and frequent forced shutdown of the aged Units/auxiliaries, NAPLF may not be achieved. APGCL submitted that it expected to achieve the NAPLF of 44.5% for KLHEP for FY 2018-19.

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

Table 44: Plant Load Factor as submitted by APGCL for FY 2018-19

Sl. No.	Station	MYT Order 31.03.2017	APR Order 19.03.2018	Apr-Sep (actual)	Oct-March (estimated)	Estimated total
1	NTPS	50.00%	50.00%	33.12%	40.32%	36.72%
2	LTPS	50.00%	50.00%	49.14%	50.86%	50.00%
3	KLHEP	44.50%	44.50%	58.39%	30.61%	44.50%

Commission's Analysis

5.3.3 The Commission notes that APGCL has projected the PLF for NTPS as lower than the normative PLF due to the problem of erratic gas supply and frequent forced shutdown of the aged Units/auxiliaries. The Commission also notes that APGCL has projected same as the normative PLF for LTPS and KLHEP.

5.3.4 However, APGCL shall be eligible for incentive only if actual PLF is higher than the normative PLF specified in MYT Regulations, 2015.

Table 45: Normative PLF for Incentive

Station	Normative PLF (%)
NTPS	50.00%
LTPS	50.00%
KLHEP	44.50%

5.4 Auxiliary Consumption

5.4.1 APGCL submitted that the Auxiliary Consumption of NTPS is estimated to be 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 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 6.82% for NTPS, 10.89% for LTPS and 0.50% for KLHEP 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 2018-19 vis-à-vis Auxiliary Consumption approved in the Tariff Order dated March 19, 2018 for FY 2018-19. 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 approves the Auxiliary Consumption for existing Generating Stations as per MYT Regulations, 2015 as amended, for the purpose of APR, as shown in the following Table:

Table 46: Auxiliary Consumption as approved by the Commission for FY 2018-19

Sl. No.	Station	Tariff Order dated March 19, 2018	Estimated by APGCL	Approved for APR
1	NTPS	4.50%	6.82%	4.50%
2	LTPS	5.50%	10.89%	5.50%
3	KLHEP	0.50%	0.50%	0.50%

5.5 Gross Generation and Net Generation

5.5.1 The actual Gross Generation and Net Generation estimated by APGCL for 2018-19 is shown in the following Table:

Table 47: Gross and Net Generation as submitted by APGCL for FY 2018-19

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	336.93	313.96
2	LTPS	443.69	395.39
	Total Thermal	**780.62**	**709.35**
3	KLHEP	390.52	388.57
4	MSHEP	-	-
	Total APGCL	**1171.14**	**1097.92**

Commission's Analysis

5.5.2 The Commission had approved gross and net generation of 1431.68 MU and 1376.00 MU respectively for FY 2018-19 in the Tariff Order dated 19.03.2018. The Commission observed that during the 1st half of FY 2018-19 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 of NTPS and LTPS as submitted by APGCL.

5.5.3 As regards KLHEP, it is observed that APGCL has estimated generation from KLHEP higher than value approved in the Tariff Order dated 19.03.2018. In this regard, APGCL submitted that the actual generation from KLHEP in H1 of FY 2018-19 is 256.44 MU. For H2 of FY 2018-19, generation has been projected based on design energy and PLF as per MYT Regulations, 2015 and amendment thereof. Since, the actual generation for H1 is higher than the design energy for the period, the total projected generation is higher 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 2018-19. The Gross Generation and Net Generation approved by the Commission in the APR for FY 2018-19 is shown in the following Table:

Table 48: Gross Generation and Net Generation considered by the Commission in the APR for FY 2018-19

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	336.93	321.77
2	LTPS	443.69	419.29
	Total Thermal	**780.62**	**741.06**
3	KLHEP	390.52	388.57
	Total APGCL	**1171.14**	**1,129.62**

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, however, the SHR is estimated to be higher than the approved SHR in FY 2018-19 due to part loading of Units resulting from low/non-availability of gas. Further, Unit 6 cooling tower overhauling was done, hence, the Unit was under shut down from 14thJune 2018 to 1stSeptember 2018. This resulted in open cycle mode of operation for which SHR norms are 4300 kcal/kWh.

5.6.2 The SHR approved by the Commission in MYT Order and as submitted by APGCL for

FY 2018-19 is shown in the following Table:

Table 49: Gross Station Heat Rate (kcal/kWh) as projected by APGCL for FY 2018-19

Sl. No.	Station	Tariff Order dated 19.03.2018	APGCL's submission
1	NTPS	3900	4465
2	LTPS	3200	2993

Commission's Analysis

5.6.3 For the purpose of APR, the Commission approves SHR for NTPS and LTPS as per MYT Regulations, 2015, as amended. Accordingly, the Commission considers SHR of 3900 kcal/kWh for NTPS and 3200 kcal/kWh for LTPS for FY 2018-19.

5.7 Fuel Cost

5.7.1 APGCL submitted that as per Regulation 11 of the MYT Regulations, 2015, '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 50: Actual Plant-wise GCV and Price as submitted by APGCL for FY 2018-19

Sl. No.	Station	Wtd. Avg. GCV of gas (kcal/SCM)	Wtd. Avg. Price of gas (Rs./1000 SCM) [Apr-Sep actual]	Wtd. Avg. Price of gas (Rs./1000 SCM) [Oct-Mar est.]	Wtd. Avg. Price of gas (Rs./1000 SCM)
1	NTPS	8869	5724	6726	6225
2	LTPS	9095	7279	8948	8114

5.7.2 APGCL submitted that the actual fuel price for October 2018 has been considered to project the price from Oct-March 2019.

5.7.3 APGCL estimated the fuel cost of Rs. 106.61 Crore for NTPS for FY 2018-19 as shown in the following Table:

Table 51: Total Fuel Cost for NTPS for FY 2018-19 as submitted by APGCL (Rs. Crore)

Sl. No.	Particulars	Unit	Tariff Order dated March 19, 2018	APGCL's Submission		
				April to - September (Actual)	October to March (Estimated)	Total
1	Gross Generation	MU	539.42	148.36	188.57	336.93
2	Heat Rate	kcal/kWh	3900.00	4465.00	4465.00	4465.00
3	GCV of gas	kcal/SCM	9056.79	8,869.42	8,869.42	8,869.42
4	Overall Heat	G. cal.	2103738.00	6,62,447.72	8,42,001.02	15,04,449.73
5	Gas consumption	M. SCM	232.28	74.69	94.93	169.62
6	Price of Gas	Rs. /1000 SCM	5365.24	5724.38	6726.15	6225.26
7	Total cost of Gas	Rs. Crore	124.63	42.75	63.85	106.61

5.7.4 APGCL estimated the fuel cost of Rs. 118.47 Crore for LTPS for FY 2018-19 as shown in the following Table:

Table 52: Total Fuel Cost for LTPS for FY 2018-19 as submitted by APGCL (Rs. Crore)

Sl. No.	Particular	Unit	Tariff Order dated March 19, 2018	APGCL's Submission		
				April to - September (Actual)	October to March (Estimated)	Total
1	Gross Generation	MU	538.75	227.17	216.52	443.69
2	Heat Rate	kcal/kWh	3200.00	2785.81	3200.00	2993.00
3	GCV of gas	kcal/SCM	9490.58	9095	9095	9095
4	Overall Heat	G. cal.	172400.00	632861.13	692864.29	1327964.17
5	Gas consumption	M. SCM	181.65	69.58	76.18	146.01
6	Price of Gas	Rs./1000 SCM	6849.83	7278.99	8948.11	8114.10
7	Total cost of Gas	Rs. Crore	124.43	50.65	68.17	118.47

Commission's Analysis

5.7.5 The Commission in Tariff Order dated March 19, 2018 had approved the Fuel Cost for

NTPS and LTPS for FY 2018-19 based on approved performance parameters and latest GCV and price of Fuels available at that time. 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 latest fuel bills submitted by APGCL in its FPA submissions. In case of NTPS and LTPS, the Commission has considered the actual weighted average GCV of gas received for the period from April 2018 to December 2018.

5.7.7 For price of gas for FY 2018-19, the Commission has considered the actual weighted average landed price of gas for the period from April, 2018 to December, 2018.

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

Table 53: GCV and Landed Price of Gas for FY 2018-19 as approved by the Commission

Station	Particulars	Approved for APR
NTPS	GCV of Gas (kcal/SCM)	8893.61
	Price of Gas (Rs./1000SCM)	6076.99
LTPS	GCV of Gas (kcal/SCM)	9126.42
	Price of Gas (Rs./1000SCM)	7758.11

5.7.9 The Commission has estimated the fuel cost for NTPS and LTPS based on approved performance parameters, GCV of gas and landed price of gas. The fuel cost provisionally approved by the Commission for NTPS and LTPS for FY 2018-19 for APR purposes is shown in the following Table:

Table 54: Fuel Cost approved by the Commission in APR for FY 2018-19

S. No.	Particulars	Derivation	Unit	NTPS	LTPS
1	Gross Generation	A	MU	336.93	443.69
2	Heat Rate	B	kcal/kWh	3900.00	3200.00
3	GCV of gas	C	kcal/SCM	8893.61	9126.42
4	Overall Heat	D=AxB	G. cal.	1314027.00	1419808.00

S. No.	Particulars	Derivation	Unit	NTPS	LTPS
5	Gas consumption	E=D/C	M. SCM	147.75	155.57
6	Price of Gas	F	Rs./1000 SCM	6076.99	7758.11
7	Total Cost of Gas	G=ExF/10000	Rs. Crore	89.79	120.69
8	Total Fuel Cost		Rs. Crore	210.48	

5.8 O&M Expenses

5.8.1 APGCL submitted that the Commission in the Tariff Order dated March 19, 2018 had approved O&M expenses of Rs. 42.74 Crore for NTPS, Rs 46.30 Crore for LTPS, and Rs. 23.85 Crore for KLHEP for FY 2018-19, which works out to total of Rs. 112.89 Crore.

5.8.2 APGCL claimed the O&M Expenses for Rs. 41.87 Crore for NTPS, Rs. 27.84 Crore for LTPS and Rs. 24.48 Crore for KLHEP, which works out to total of Rs. 94.19 Crore. APGCL submitted that Special R&M expenses and increase in Terminal liabilities would be claimed separately as per the MYT Regulations, 2015 during True-up.

Commission's Analysis

5.8.3 The Commission in the Tariff Order dated March 19, 2018 has approved O&M Expenses on normative basis as per MYT Regulations, 2015 for FY 2018-19. 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, 2015.

5.8.4 The Commission has computed normative O&M expenses by applying escalation factor of 2.70%, derived based on average of CPI and WPI for FY 2015-16 to FY 2017-18 in ratio of 60:40, on revised normative O&M Expenses for FY 2017-18 approved in this Order.

5.8.5 APGCL submitted that the Commission vide its Order dated 19thMarch 2018 has provisionally approved impact of ROP for FY 2018-19. APGCL while claiming the impact of ROP for FY 2018-19 has considered arrear payments made in April 2018, July 2018 and October 2018. The impact of ROP has been considered for NTPS, LTPS and KLHEP, while the impact of ROP on MSHEP has not been considered.

5.8.6 The Station-wise provisionally approved and actual impact of ROP for FY 2018-19 has been submitted by APGCL as shown below:

Table 55: Impact of ROP for FY 2018-19 (Rs. Crore)

Station	Approved in MYT Order dated 21.03.2018	Approved in Order dated 19.03.2018	Amount claimed in APR
NTPS	0.00	1.62	8.35
LTPS	0.00	1.89	9.87
KLHEP	0.00	2.71	4.15
Total	**0.00**	**6.22**	**22.38**

5.8.7 The O&M expenses provisionally approved by the Commission for FY 2018-19 are shown in the following Table:

Table 56: O&M expenses approved in APR for FY 2018-19(Rs. Crore)

Station	Tariff Order dated 19.03.2018	APGCL's Submission	Provisionally considered for APR
NTPS	42.74	41.87	42.57
LTPS	46.30	27.84	46.11
KLHEP	23.85	24.48	23.75

5.8.8 The Commission accepts the submission of APGCL regarding ROP impact for the purpose of APR. The Commission directs APGCL to submit actual impact on account of revision of pay, along with detailed justification and documentary evidences on the basis of Audited Accounts for FY 2018-19 at time of Truing up.

5.8.9 In view of the above, Station-wise O&M Expenses provisionally approved by the Commission for FY 2018-19 are summarised in the following Table:

Table 57: O&M expenses for FY 2018-19 as approved by the Commission (Rs. Crore)

Particulars	**NTPS**	**LTPS**	**KLHEP**
Normative O&M Expenses	42.57	46.11	23.75
Impact of ROP	8.35	9.87	4.15
Total O&M Expenses	**50.92**	**55.98**	**27.90**

5.9 Capital Expenditure and Capitalisation

5.9.1 APGCL has claimed the following Capital Expenditure and Capitalisation in the APR for FY 2018-19:

Table 58: Capital Expenditure and Capitalisation as submitted by APGCL for FY 2018-19 (Rs. Crore)

Particulars	**NTPS**	**LTPS**	**KLHEP**
Capital Expenditure	0.88	3.14	3.71
Capitalisation	0.88	3.14	3.71

Commission's Analysis

5.9.2 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 59: Capital Expenditure and Capitalisation as considered by the Commission (Rs. Crore)

Particulars	**NTPS**	**LTPS**	**KLHEP**
Capital Expenditure	0.88	3.14	3.71
Capitalisation	0.88	3.14	3.71

5.9.3 As regards the funding of Capitalisation, the Commission has considered 100% debt funding as proposed by APGCL.

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. 1.47 Crore for NTPS, Rs. 10.25 Crore for LTPS and Rs. 21.37 Crore for KLHEP for FY 2018-19.

Commission's Analysis

5.10.2 The Commission has considered the opening GFA for FY 2018-19 equivalent to the closing GFA for FY 2017-18 as approved in this Order. The Commission has computed depreciation as per scheduled rates specified in the MYT Regulations, 2015.

5.10.3 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.

5.10.4 Further, in line with the approach adopted in the MYT Order and as specified in Regulation 33 of the MYT Regulations, 2015, the Commission has not considered the depreciation on assets funded through grants, consumer contribution or capital subsidy, for FY 2018-19.

5.10.5 The depreciation provisionally approved in the APR for FY 2018-19is given in the Table below:

Table 60: Station-wise depreciation approved for APR for FY 2018-19(Rs. Crore)

Station	Particulars	Tariff Order dated 19.03.2018	APGCL's Submission	Approved after APR
NTPS	Depreciation	1.86	1.59	1.53
	Less: Depreciation Funded by Grants	0.13	0.11	0.11
	Net Depreciation	**1.74**	**1.47**	**1.42**
LTPS	Depreciation	17.83	12.64	17.47
	Less: Depreciation Funded by Grants	2.42	2.40	2.41

Station	Particulars	Tariff Order dated 19.03.2018	APGCL's Submission	Approved after APR
	Net Depreciation	**15.41**	**10.25**	**15.05**
KLHEP	Depreciation	24.92	24.48	24.48
	Less: Depreciation Funded by Grants	2.61	3.11	2.61
	Net Depreciation	**22.30**	**21.37**	**21.87**

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

5.11 Interest and Finance Charges

5.11.1 APGCL submitted that it has computed the Interest on long-term Loan on normative basis for FY 2018-19. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2018-19. The interest rate has been considered as the expected weighted average rate of interest for FY 2018-19. APGCL has claimed the Interest on Loan of Rs. 0.04 Crore for NTPS, Rs. 0.48 Crore for LTPS and Rs. 23.25 Crore for KLHEP for FY 2017-18.

Commission's Analysis

5.11.2 In the Tariff Order dated March 19, 2018, the Commission has approved Interest and finance charges on normative basis for FY 2018-19 as per MYT Regulations, 2015. 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 2017-18 as approved in this Order has been considered as opening net normative loan for FY 2018-19. 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, 2015, weighted average rate of interest shall be computed based on actual outstanding loan as on April 1, 2018. The Commission has computed the weighted average interest rate of 10.12% for FY 2018-19.

5.11.4 The Interest on loan capital provisionally approved by the Commission for FY 2018-19 is shown in the following Table:

Table 61: Interest and Finance Charge as approved for APR for FY 2018-19 (Rs. Crore)

Station	Particulars	Tariff Order dated 19.03.2018	APGCL's Submission	Approved for APR
NTPS	Net Normative Opening Loan	8.30	0.67	4.25
	Addition of Normative Loan during the Year	4.71	0.88	0.88
	Normative Repayment during the year	1.74	1.47	1.42
	Net Normative Closing Loan	11.27	0.08	3.72
	Interest Rate	8.13%	10.12%	10.12%
	Interest on Loan capital	**0.80**	**0.04**	**0.40**
LTPS	Net Normative Opening Loan	9.44	8.31	4.65
	Addition of Normative Loan during the Year	10.19	3.14	3.14
	Normative Repayment during the year	15.41	10.25	15.05
	Net Normative Closing Loan	4.22	1.20	-
	Interest Rate	8.13%	10.12%	10.12%
	Interest on Loan capital	0.55	**0.48**	**0.24**
KLHEP	Net Normative Opening Loan	244.08	238.62	237.85
	Addition of Normative Loan during the Year	10.33	3.71	3.71
	Normative Repayment during the year	22.30	21.37	21.87
	Net Normative Closing Loan	232.10	220.96	219.70
	Interest Rate	8.13%	10.12%	10.12%
	Interest on Loan capital	**19.36**	**23.25**	**23.15**

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, 2015. APGCL submitted that there has been no addition in Equity in FY 2018-19. Further, it submitted that the actual tax paid is being claimed separately. APGCL has estimated the ROE for FY 2018-19 same as approved in Tariff Order March 19, 2018. APGCL claimed ROE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS and Rs. 10.64 Crore for KLHEP for FY 2018-19 for the purpose of APR.

Commission's Analysis

5.12.2 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 62: Return on Equity as approved by the Commission for FY 2018-19 (Rs. Crore)

Station	Particulars	Tariff Order dated 19.03.2018	APGCL's submission	Approved for APR
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**

5.13 Interest on Working Capital (IoWC)

5.13.1 APGCL submitted that the Commission in Tariff Order dated March 19, 2018 had approved IoWC of Rs.16.75 Crore for FY 2018-19. As against this, APGCL has estimated IoWC of Rs. 15.00 Crore for FY 2018-19based on the revised parameters. APGCL has considered the Rate of Interest of 12.60% as approved by the Commission in the Tariff Order dated March 19, 2018.

Commission's Analysis

5.13.2 The Commission has computed IoWC in accordance with Regulation 37.1 of the MYT Regulations, 2015. The rate of Interest has been considered equal to State Bank of

India Base Rate as on 1st April of FY 2018-19 plus 350 basis points, i.e., 12.60%.

5.13.3 For the purpose of APR, IoWC provisionally approved by the Commission for FY 2018-19 is shown in the following Table:

Table 63: Interest on Working Capital approved for APR for FY 2018-19 (Rs. Crore)

Station	Particulars	Tariff Order dated 19.03.2018	APGCL's Estimations	Approved for APR
NTPS	Fuel Cost for one Month	8.39	8.88	9.68
	O&M Expense for one month	3.70	3.49	3.55
	Maintenance Spares – 30% of O&M	13.31	12.56	12.77
	Receivables for two months	26.13	27.73	29.54
	Total Working Capital Requirement	51.52	52.66	55.54
	Interest on Working Capital	**6.49**	**6.64**	**7.00**
LTPS	Fuel Cost for one Month	8.41	9.90	9.85
	O&M Expense for one month	4.02	2.32	3.84
	Maintenance Spares – 30% of O&M	14.46	8.35	13.83
	Receivables for two months	31.12	31.12	35.06
	Total Working Capital Requirement	58.00	51.69	62.60
	Interest on Working Capital	**7.31**	**6.51**	**7.89**
KLHEP	O&M Expense for one month	2.21	2.04	1.98
	Maintenance Spares – 30% of O&M	3.98	7.34	3.56
	Receivables for two months	17.21	13.51	13.37
	Total Working Capital Requirement	23.40	22.89	18.91
	Interest on Working Capital	**2.95**	**2.88**	**2.38**

5.14 Non-Tariff Income

5.14.1 APGCL submitted that the Commission had approved Non-Tariff Income of Rs. 18.14 Crore for FY 2018-19 in the Tariff Order dated March 19, 2018. 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 2018-19as submitted by APGCL, as shown in the following Table:

Table 64: Non-Tariff Income approved for APR for FY 2018-19 (Rs. Crore)

Station	Tariff Order dated 19.03.2018	APGCL's Estimation	Approved for APR
NTPS	5.83	7.13	7.13
LTPS	7.84	9.22	9.22
KLHEP	4.46	5.75	5.75
Total	**18.14**	**22.09**	**22.09**

5.15 Special R&M Expenses

5.15.1 APGCL submitted that it plans to undertake Special R&M for one Unit of KLHEP, cost of which shall be claimed during true-up.

Commission's Analysis

5.15.2 For the purpose of APR, the Commission has not considered any Special R&M for FY 2018-19.

5.16 Summary of APR for FY 2018-19

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

Table 65: ARR for Existing Generation Stations for FY 2018-19 as approved by the Commission in APR (Rs. Crore)

Sr. No.	Particulars	NTPS			LTPS			KLHEP		
		Tariff Order dated 19.03.2018	APGCL's Submission	Approved for APR	Tariff Order dated 19.03.2018	APGCL's Submission	Approved for APR	Tariff Order dated 19.03.2018	APGCL's Submission	Approved for APR
A	**Annual Fixed Charges**									
1	O&M Expenses	42.74	41.87	42.57	46.30	27.84	46.11	23.85	24.48	23.75
2	Impact of ROP	1.62	-	8.35	1.89	-	9.87	2.71	-	4.15
3	Special R&M	-	-	-	-	-	-	25.90	-	-
4	Depreciation	1.74	1.47	1.42	15.41	10.25	15.05	22.30	21.37	21.87
5	Interest on Loans	0.80	0.04	0.40	0.55	0.48	0.24	19.36	23.25	23.15
6	Return on Equity	8.53	8.53	8.53	22.18	22.18	22.18	10.64	10.64	10.64
7	Interest on Working Capital	6.49	6.64	7.00	7.31	6.51	7.89	2.95	2.88	2.38
8	Less: Other Income	5.83	7.13	7.13	7.84	9.22	9.22	**4.46**	5.75	5.75
9	**Annual Fixed Charges**	**56.08**	**51.41**	**61.13**	**85.80**	**58.05**	**92.12**	**103.24**	**76.88**	**80.19**
B	**Fuel Cost**	**124.63**	**106.61**	**89.79**	**124.43**	**118.47**	**120.69**	-	-	-
F	**Total Aggregate Revenue Requirement**	**180.70**	**158.02**	**150.92**	**210.23**	**176.52**	**212.82**	**103.24**	**76.88**	**80.19**

5.17 Revenue from Sale of Power

5.17.1 APGCL has estimated total Revenue from Sale of Power for APR as Rs. 343.74 Crore for FY 2018-19.

Commission's Analysis

5.17.2 For the purpose of APR for FY 2018-19, the Commission has considered the revenue from Fixed Charges equal to Fixed Charges approved by the Commission for FY 2018-19 in the Tariff Order dated March 19, 2108. Accordingly, the Commission has considered the revenue from Fixed charges of Rs. 46.69 Crore for NTPS, Rs. 54.44 Crore for LTPS and Rs. 51.62 Crore for KLHEP, which works out to total revenue of Rs. 152.75 Crore for FY 2018-19.

5.17.3 As regards the revenue from Energy Charges, the Commission has considered the normative fuel cost approved in this Order for NTPS and LTPS. Any variation in actual fuel cost billed shall be considered at time of Truing up for FY 2018-19, subject to prudence check. Accordingly, revenue from Energy Charges works out to Rs. 262.16Crore for FY 2018-19.

5.17.4 Thus, the Commission has worked out revenue of Rs. 414.91Crore for FY 2018-19 for the purpose of APR.

5.18 Revenue Gap/(Surplus) for FY 2018-19

5.18.1 APGCL has estimated Revenue Gap of Rs. 8.88 Crore for FY 2018-19. APGCL submitted that since the figures for FY 2018-19 are estimated and are subject to True-up, it has not considered the Revenue Gap in the Tariff for FY 2019-20, as the same shall be considered at the time of True-up of FY 2018-19.

Commission's Analysis

5.18.2 For computation of Revenue Gap/(Surplus), the Commission has considered the revenue of Rs.414.91 Crore and ARR of Rs. 443.93 Crore for FY 2018-19 for the purpose of APR. Accordingly, the Commission has computed the Revenue Gap arising out of APR for FY 2018-19 as Rs. 29.02 Crore.

5.18.3 The APR reveals a Revenue Gap of Rs. 29.02 Crore for FY 2018-19. It is only indicative in the absence of Audited Annual Accounts for FY 2018-19. Hence, this is not carried forward. It will be considered only after Truing up process for FY 2018-19, after the Audited Annual Accounts are made available.

6 CAPITAL INVESTMENT PLAN FOR THE MYT CONTROL PERIOD FROMFY 2019-20 to 2021-22

6.1 Upcoming Projects

6.1.1 APGCL has submitted the Capital Investment Plan (CIP) for the Control Period from FY 2019-20 to FY 2021-22 for Upcoming Projects under three major heads, viz.,(a)Ongoing Projects;(b) New Projects; and (c) Projects in Pipeline.

6.1.2 APGCL submitted that with the objective of increasing its generation capacity, APGCL is planning to implement several power projects, out of which two are ongoing projects, and others are new projects and projects in pipeline, as summarised in the Table below:

Table 66: Upcoming Projects as submitted by APGCL (Rs. Crore)

Capex	Capacity (MW)	Energy Source	Expected Date of Commissioning
Ongoing Projects			
MSHEP	13.50	Hydro	15-Dec-18
NRPP	98.40	Gas	Dec-2019 (Combined Cycle) & April-2019 (Open Cycle)
New Projects			
Lower Kopili HEP	120.00	Hydro	Beyond MYT Period
Borpani Middle II SHEP	24.00	Hydro	Beyond MYT Period
Borpani Middle I SHEP	22.50	Hydro	Beyond MYT Period
Namrup Solar PV Project	15.00	Solar	Apr-20
Amguri Solar Park	70.00	Solar	
Projects in Pipeline			
Borpani Upper Stage SHEP	60.00	Hydro	Beyond MYT Period
Margherita Thermal Power Project (Proposed to be in JV Mode)	660.00	Thermal	Beyond MYT Period
Depending on availability of Gas*			
30 MW Namrup Thermal Gas Engine based Project	30.00	Gas	Beyond MYT Period
100 MW NRPP Ph-II	100.00	Gas	Beyond MYT Period
Depending on availability of Gas Grid*			
Gas Engine based power project at Chandrapur in Kamrup District	250.00	Gas	Beyond MYT Period
Gas Turbine Combined Cycle Power project at Lower Assam	2 x 725	Gas	Beyond MYT Period

Capex	Capacity (MW)	Energy Source	Expected Date of Commissioning
Gas Turbine Combined Cycle Power project at Amguri in Sivsagar District	725	Gas	Beyond MYT Period

** Projects are under consideration depending on various factors*

6.1.3 APGCL submitted that it has considered the ongoing and new projects from the above Table in the CIP for FY 2019-20 to 2021-22 based on the present status of the projects. APGCL added that the projects in the pipeline are in line with APGCL's capacity addition plan, however, the same has not been considered in this CIP for investment based on their present status.

6.1.4 APGCL submitted that the ongoing projects NRPP and MSHEP have been facing severe constraints in the form of slow progress of work. NRPP is facing delay due to problems with the EPC contractor, while construction work of MSHEP is continuously getting hampered due to bandhs. Capital investment for NRPP has been considered in FY 2019-20 of the new MYT Control Period for the balance project works. APGCL stated that the final Petition of NRPP will be submitted post COD of the project.

6.1.5 APGCL submitted that the main concern for APGCL's thermal projects in the pipeline is fuel linkage. APGCL is continuously pressing hard to obtain the required gas linkages for these projects.

6.1.6 APGCL submitted that hydro projects in Assam face significant delay due to land acquisition issues, delay in various statutory clearances and local problems like bandhs, etc. These issues may also hamper the project schedule of the upcoming hydro projects. APGCL stated that the final Petition of MSHEP will be submitted post COD of the project.

6.1.7 The summary of CIP submitted by APGCL for Upcoming Projects is given in the following Table:

Table 67: Capital Investment Plan from FY 2019-20 to FY 2021-22 (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
Lower Kopili Hydro Electric Project	130.05	150.62	447.27
Borpani Middle-II SHEP	1.00	123.50	80.00
Borpani Middle-I SHEP	0.05	0.50	49.61

Station	FY 2019-20	FY 2020-21	FY 2021-22
Namrup Solar PV Project	65.88	7.88	-
Amguri Solar Park	14.41	-	-

6.1.8 The Funding Pattern of the upcoming projects for the proposed CIP for the Control Period from FY 2019-20 to FY 2021-22 is given in the Table below:

Table 68: Funding Pattern for CIP for FY 2019-20 to FY 2021-22 (Rs. Crore)

Name of the Scheme	FY 2019-20			FY 2020-21			FY 2021-22		
	Loan	Equity	Grant	Loan	Equity	Grant	Loan	Equity	Grant
Lower Kopili Hydro Electric Project	125.06	4.99	-	142.78	7.84	-	430.58	16.68	-
Borpani Middle-II SHEP	1.00	-	-	86.45	37.05	-	56.00	24.00	
Borpani Middle-I SHEP	0.50	-	-	0.50	-		34.73	14.88	
Namrup Solar PV Project	45.57	20.31	-	5.51	2.36	-	-	-	
Amguri Solar Park	-	-	-	-	-	-	-	-	

Commission's Analysis

6.1.9 Most of the new Projects are expected to be commissioned beyond the MYT Control Period from FY 2019-20 to FY 2021-22. Generally, Investment decision related to Generation Projects lies with the Generating Company. For all future Generation Projects, APGCL is required to approach the Commission at the appropriate time, for obtaining approval for the Capital Cost and Tariff, in accordance with the applicable MYT Regulations, for sale of power within the state.

6.2 Renovation &Modernisation (R&M) Plan for Existing Stations

6.2.1 APGCL submitted that in continuation of successful execution of earlier R&M schemes, it proposes implementation of comprehensive R&M schemes for LTPS, NTPS and KLHEP covering the period from FY 2019-20 to FY 2021-22. These R&M schemes have been necessitated to ensure maximum reliability and availability of the existing old Units of both LTPS, NTPS and KLHEP to maximize generation. The R&M of power stations has been considered to be the most attractive economic option for the Company. R&M schemes are aimed at reducing auxiliary power consumption, and improving generation and availability of generating units, resulting in fuel cost reduction by sustaining an efficient and smooth operation of plants.

6.3 R&M Plan for NTPS

6.3.1 APGCL submitted a detailed scheme-wise list of R&M activities proposed to be undertaken at NTPS, under the following heads:

a) Electro-mechanical Works
b) Laboratory Equipment
c) Electro-mechanical Works of NRPP, NTPS
d) Civil Works

6.3.2 APGCL projected total expenditure against R&M at NTPS as Rs. 5.22 crore, Rs. 3.14 crore, and Rs. 1.90 crore in FY 2019-20, FY 2020-21, and FY 2021-22, respectively.

6.3.3 Further, APGCL has proposed Overhauling of Unit 6 of NTPS in FY 2019-20 and Overhauling of Unit 2 of NTPS in FY 2021-22, based on the OEM recommendations after completion of the prescribed running hours. APGCL submitted that the major overhauling of the whole Unit including turbine, boilers and generator will help extend its life, reliability and safety of operation and will enhance the operating life of the turbine for another full cycle operation. The financial cost considered for overhauling in shown as part of Overhauling in the Petition, amounting to Rs. 4.00 crore and Rs. 8.20 crore in FY 2019-20 and FY 2021-22, respectively.

Commission's Analysis

6.3.4 The Commission notes that APGCL has proposed R&M under the following nature of schemes:

a) Procurement of equipment to replace obsolete equipment;
b) Procurement of maintenance spares;
c) Improvement of the colony associated with the Generating Station

6.3.5 The Commission has analysed the individual schemes in detail and has approved the R&M proposed by APGCL at NTPS, as detailed in **Annexure 3.** The Schemes proposed against NRPP have not been allowed, as the same would have to be considered at the time of approval of Capital Cost of NRPP. Further, the Commission has allowed R&M only for Units that are proposed to continue, and disallowed R&M against Units that have been proposed to be retired.

6.3.6 As regards the proposed Major Overhauling of Unit 2 and Unit 6 of NTPS, the Commission has verified the period of last Major Overhauling for these Units, and allows the same, as the running hours prescribed by the OEM before next Major Overhaul are being completed as per the schedule of R&M proposed by APGCL. This component will accordingly be considered as revenue expenditure in the ARR, in the relevant year in which it is planned for overhauling. Therefore, APGCL should ensure that the planned Overhauling is undertaken as per the schedule and as approved. Failing which the present approval shall stand lapsed, unless ordered otherwise by the Commission.

6.4 R&M Plan for LTPS

6.4.1 APGCL submitted a detailed scheme-wise list of R&M activities proposed to be undertaken at LTPS, under the following heads:

a) Electro-mechanical Works
b) Waste Heat Recovery
c) Civil Works

6.4.2 APGCL projected total expenditure against R&M at LTPS as Rs. 15.40 crore, Rs. 15.09 crore, and Rs. 15.44 crore in FY 2019-20, FY 2020-21, and FY 2021-22, respectively.

6.4.3 Further, APGCL has proposed Overhauling of Unit 5 of LTPS in FY 2019-20, Overhauling of Unit 7 of LTPS in FY 2020-21, and Overhauling of Unit 6 of LTPS in FY 2021-22, based on the OEM recommendations after completion of the prescribed running hours. APGCL submitted that the major overhauling of the whole Unit including turbine, boilers and generator will help extend its life, reliability and safety of operation and will enhance the operating life of the turbine for another full cycle operation. The financial cost considered for overhauling is shown as Rs. 10 crore, Rs. 15 crore, and Rs. 15 crore in FY 2019-20, FY 2020-21, and FY 2021-22, respectively, after factoring in the time required to procure the necessary spares.

Commission's Analysis

6.4.4 The Commission notes that APGCL has proposed R&M under the following nature of schemes:

a) Procurement of equipment to replace obsolete equipment;
b) Procurement of maintenance spares;
c) Civil Works

6.4.5 The Commission has analysed the individual schemes in detail and has approved the R&M proposed by APGCL at LTPS, as detailed in **Annexure 3.** The Commission has allowed R&M only for Units that are proposed to continue, and disallowed R&M against Units that have been proposed to be retired.

6.4.6 As regards the proposed Overhauling of Unit 5, Unit 6, and Unit 7 of LTPS, the Commission has verified the period of last Overhauling for these Units, and allows the same, as the running hours prescribed by the OEM before next Overhaul are being completed as per the schedule of R&M proposed by APGCL. This component will accordingly be considered as revenue expenditure in the ARR, in the relevant year in which it is planned for overhauling. Therefore, APGCL should ensure that the planned Overhauling is undertaken as per the schedule and as approved. Failing which the present approval shall stand lapsed, unless ordered otherwise by the Commission.

6.5 R&M Plan for KLHEP

6.5.1 APGCL submitted a detailed scheme-wise list of R&M activities proposed to be undertaken at KLHEP, under the following heads:

a) Electro-mechanical Works
b) Electro-mechanical Works at 3 x 1.50 MW MSHEP II
c) Civil Works

6.5.2 APGCL projected total expenditure against R&M at KLHEP as Rs. 10.75crore, Rs. 7.68 crore, and Rs. 2.60 crore in FY 2019-20, FY 2020-21, and FY 2021-22, respectively.

6.5.3 Further, APGCL has proposed Overhauling of Unit 1 of KLHEP in FY 2019-20, based on the OEM recommendations after completion of the prescribed running hours. APGCL submitted that the major overhauling of the whole Unit including turbine and generator will help extend its life, reliability and safety of operation and will enhance the operating life of the turbine for another full cycle operation. The financial cost considered for overhauling in shown as part of R&M in the Petition, amounting to Rs. 15 crore and Rs. 12 crore in FY 2019-20 and FY 2020-21, respectively, after factoring in the time required to procure the necessary spares.

Commission's Analysis

6.5.4 The Commission notes that APGCL has proposed R&M under the following nature of schemes:

a) Procurement of equipment to replace obsolete equipment;
b) Procurement of maintenance spares;
c) Improvement of the colony associated with the Generating Station

6.5.5 The Commission has analysed the individual schemes in detail and has approved the R&M proposed by APGCL at KLHEP, as detailed in **Annexure 3.** The Schemes proposed against MSHEP have not been allowed, as the generic tariff of MSHEP is approved under a separate Regulation.

6.5.6 As regards the proposed Overhauling of Unit 1of KLHEP, the Commission has verified the period of last Overhauling for these Units, and allows the same, as the running hours prescribed by the OEM before next Overhaul are being completed as per the schedule as proposed by APGCL. This component will accordingly be considered as revenue expenditure in the ARR, in the relevant year in which it is planned for overhauling. Therefore, APGCL should ensure that the planned Overhauling is undertaken as per the schedule and as approved. Failing which the present approval shall stand lapsed, unless ordered otherwise by the Commission.

6.6 Asset Valuation and ERP Implementation

6.6.1 APGCL submitted that it plans to appoint a consultant for asset valuation services. The

Consultant shall study all the running and decommissioned power stations including corporate offices and other establishments and physically take into account all the inventory of materials, fixed assets like land and buildings and other accessories within APGCL.

6.6.2 APGCL submitted that the Consultant shall also classify the inventories and assets in the most efficient manner in line with relevant Indian Accounting standards (Ind AS) for accounting and record keeping with their assigned value including depreciation, etc., incorporating indexing for ease of physical record keeping. The Consultant shall be required to prepare the Fixed Assets Register (FAR) and Price Store Ledger/Material Inventory Register. APGCL estimated a cost of Rs. 4.28 crore for the above exercise, to be incurred in FY 2019-20.

6.6.3 Implementation of the ERP Project is expected to be started by the end of FY 2018-19. APGCL estimated the expenses against ERP implementation as Rs. 21.07 crore, Rs. 4.05 crore, and Rs. 4.05 crore in FY 2019-20, FY 2020-21, and FY 2021-22, respectively, totalling Rs. 29.17 crore.

Commission's Analysis

6.6.4 The Commission is of the view that the expenses proposed by APGCL against Asset Valuation and ERP Implementation are necessary and long overdue. The Commission hence, approves these expenses as proposed by APGCL. However, APGCL should ensure that both these activities are completed as per schedule, so that the results of the exercise are available for use by APGCL and the Commission. The Commission has allocated the expenditure to the existing Generating Plants of APGCL i.e. NTPS, LTPS & KLHEP.

6.7 Capacity Building

6.7.1 APGCL submitted that it is endeavouring to develop its human resources to meet the growing challenges of continuous technological development and future need of the power sector as well as of the society. APGCL is aiming at betterment of job performance of individuals as well as the group. In order to develop the skills, knowledge and job performance of different personnel working in different departments of APGCL, a tentative Training Calendar considering all disciplines / branches has been prepared for FY 2019-20 comprising different relevant subjects related to power generation, maintenance and corporate office activities. It is planned that 15 nos. of training programmes for 230 nos. employees (Officer and Staff) with a financial involvement of Rs. 1 Cr will be undertaken in FY 2019-20. It is also planned that a similar capacity building exercise will be taken for the remaining employees in FY 2020-21 and FY 2021-22. The annual Capacity Building expenses have been allocated as Rs. 0.27 crore, Rs. 0.32 crore, and Rs. 0.42 crore for NTPS, LTPS, and KLHEP, respectively.

Commission's Analysis

6.7.2 The Commission is of the view that the expenses proposed by APGCL against Capacity Building are essential to ensure continuous upgradation of skills and knowledge of the employees. The Commission has approved expenses on this account to the extent of Rs. 0.30 crore, Rs. 0.30 crore, and Rs. 0.40 crore in FY 2019-20, FY 2020-21, and FY 2021-22, respectively, totalling Rs. 1.00 crore over the Control Period. The above expenses are allocated equally to NTPS, LTPS, and KLHEP as Rs. 0.10 crore each in FY 2019-20 and FY 2020-21, and Rs. 0.133 crore each in FY 2021-22.

6.8 Summary of Capital Investment Plan

6.8.1 The Summary of the Capital Investment Plan proposed by APGCL for the Control Period from FY 2019-20 to FY 2021-22 is given in the Tables below:

Table 69: Capital Investment for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	11.95	4.22	2.98
LTPS	23.44	16.38	16.73
KLHEP	21.32	9.37	4.29

Commission's Analysis

6.8.2 Based on the scheme-wise analysis of Capital Investment proposed by APGCL for the Control Period, as elaborated above, the summary of Station-wise Capital Investment approved by the Commission for the Control Period is given in the Table below:

Table 70: Capitalisation approved by the Commission for Control Period (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	9.77	3.97	2.66
LTPS	23.44	16.38	16.73
KLHEP	20.47	9.37	3.39

7 ARR for MYT Control Period from FY 2019-20 to FY 2021-22

7.1 Introduction

7.1.1 This Chapter deals with the determination of ARR for the MYT Control Period from FY 2019-20 to FY 2021-22 in accordance with the provisions of MYT Regulations, 2018 based on analysis of submissions made by APGCL.

7.1.2 APGCL has filed separate 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.

7.2 Year-Wise Capacity for the Control Period

7.2.1 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 following generation capacity from existing Stations for the Control Period.

7.2.2 APGCL submitted that the expected commissioning date of NRPP is 1stApril 2019. 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.

7.2.3 APGCL submitted that post commissioning of LRPP on 26th 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 19 March, 2018.

Commission's Analysis

7.2.4 The Commission has considered the commissioning of NRPP as projected by APGCL, i.e., Open cycle mode of operations to commence in April 2019, and closed cycle operations to commence in December 2019. APGCL is directed to ensure that the stated deadline is not missed, as NRPP has already been inordinately delayed.

7.2.5 The Commission has considered that after commissioning of NRPP, only Unit 2 (21 MW) and Unit 6 (22.50 MW) of NTPS would remain operational based on availability of gas.

7.2.6 After the commissioning of LRPP on April 26, 2018, Units 5, 6, 7 and 8 of LTPS are operational based on gas availability.

7.3 Gas Supply Position

7.3.1 As regards the gas supply position of NTPS and NRPP, APGCL submitted that out of the total present allocation of 0.66 MMSCMD gas, NRPP (1 x 100 MW) will require 0.492 MMSCMD. With the left-over quantity of 0.168 MMSCMD, one 21 MW GT Unit along with connected waste heat recovery Unit no. 6 will be in operation. Power generation will be as per availability of gas after commissioning of NRPP.

7.3.2 As regards the gas supply position of LTPS and LRPP, APGCL submitted that the gas supply to LTPS is made available from M/s Oil India Ltd. (OIL) through transporter M/s AGCL and from M/s GAIL (ONGCL gas) @ 0.5 MMSCMD and 0.4 MMSCMD, respectively. LTPS received 0.67 MMSCMD of gas on average against agreement of 0.9 MMSCMD for FY 2017-18.

7.3.3 The projected required quantity of 0.9 MMSCMD of gas will be utilized after commissioning of 70 MW LRPP as under:

LRPP (70 MW) = 0.34 MMSCMD;

LTPS (5, 6, 7) Phase-II (3x20MW) =0.56 MMSCMD, including WHR Unit 8 of 37.2 MW; total generation=167.2MW

Commission's Analysis

7.3.4 The Commission during the TVS sought the details of gas availability and gas allocation to each Station post commissioning of NRPP and LRPP. The availability of gas would be as given below based on allocation of gas and average availability of Gas from FY 2019-20 to FY 2021-22.

Table 71: Gas Availability and Gas Allocation post-commissioning of NRPP and LRPP

<table>
<tr><th>Station</th><th>Installed capacity in MW</th><th>Contracted capacity of Gas</th><th>Gas Allocation (MMSCMD)</th></tr>
<tr><td>NTPS</td><td>43.5</td><td rowspan="2">0.66</td><td>0.21</td></tr>
<tr><td>NRPP</td><td>62.25 up to Nov'2019
98.40 from Dec' 2019</td><td>0.49</td></tr>
<tr><td>LTPS</td><td>97.20 MW</td><td rowspan="2">0.90</td><td>0.56</td></tr>
<tr><td>LRPP</td><td>69.75 MW</td><td>0.34</td></tr>
</table>

7.3.5 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 lower availability of gas would affect the generation from NTPS. The lower generation of NTPS on account of non-availability of gas will reflect in the recovery of Fixed Charges for NTPS, as the same is linked to Availability.

7.3.6 As regards the gas supply position of LTPS, the Commission notes that average gas availability of 0.67 MMSCMD for LTPS is lower than the allocation of 0.90 MMSCMD. This would affect the generation and performance parameters of LTPS.

7.3.7 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 the Control Period, the Commission has considered the present gas availability as submitted by APGCL in its Petition.

7.4 Projection of ARR for Existing Stations

7.4.1 **Plant Availability Factor (PAF) (%)**

APGCL, in its Petition, has submitted the Availability for existing Stations for the Control Period as shown in the following Table:

Table 72: Plant Availability Factor for Control Period as submitted by APGCL

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	45.59%	45.59%	45.59%
NTPS after commissioning of NRPP	45.59%	45.59%	45.59%
LTPS + WHRU	50%	50%	50%
LTPS after commissioning of LRPP	50%	50%	50%
KLHEP	85%	85%	85%

Commission's Analysis

Regulation 49.1 of MYT Regulations, 2018 specifies the NAPAF for recovery of full fixed charges, as 50% for both NTPS and LTPS. The Commission notes that APGCL has projected the Availability for NTPS lower than the NAPAF.

Further, APGCL has projected the Availability of KLHEP as 85%, in accordance with the NAPAF specified in Regulation 49.1 of the MYT Regulations, 2018.

In accordance with the MYT Regulations, 2018, APGCL shall be eligible to recover full fixed charges if actual availability is higher or equal to the NAPAF specified in MYT Regulations, 2018.

7.4.2 Plant Load Factor (%)

APGCL submitted the PLF for existing Stations for the Control Period as shown in the following Table:

Table 73: Plant Load Factor for Control Period as submitted by APGCL

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	45.59%	45.59%	45.59%
NTPS after commissioning of NRPP	45.59%	45.59%	45.59%
LTPS + WHRU	50%	50%	50%
LTPS after commissioning of LRPP	50%	50%	50%
KLHEP	44.5%	44.5%	44.5%

Commission's Analysis

Regulation 47.2 (i) of MYT Regulations, 2018 specifies the Normative Plant Load factor as 50% for NTPS and 66% for LTPS for incentive. Also, Regulation 49.1 of MYT Regulations, 2018 specifies the PLF of 44.5% for KLHEP for incentive. Hence, the Commission approves PLF for Incentive for NTPS,LTPS and KLHEP as specified in MYT Regulations, 2018.

7.4.3 Auxiliary Consumption

APGCL submitted the Auxiliary Consumption for existing Stations for the Control Period as shown in the following Table:

Table 74: Auxiliary Consumption for Control Period as submitted by APGCL

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	4.5%	4.5%	4.5%
NTPS after commissioning of NRPP	4.5%	4.5%	4.5%
LTPS + WHRU	5.5%	5.5%	5.5%
LTPS after commissioning of LRPP	5.5%	5.5%	5.5%
KLHEP	0.5%	0.5%	0.5%

Commission's Analysis

Regulation 47.3 (i) of the MYT Regulations, 2018 specifies the Auxiliary Consumption of 4.50% for NTPS and 5.50% for LTPS. The Commission has not considered different norms for the period before and after commissioning of NRPP and LRPP.

Further, Regulation 49.1 of MYT Regulations, 2018 specifies the Auxiliary Consumption of 0.50% for KLHEP for the Control Period. The Commission notes that APGCL has also projected the Auxiliary Consumption of 0.50% for KLHEP.

The Commission approves the Auxiliary Consumption for the Control Period as specified in the MYT Regulations, 2018 as shown in the following Table:

Table 75: Auxiliary Consumption for Control Period as approved by the Commission

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	4.5%	4.5%	4.5%
NTPS after commissioning of NRPP	4.5%	4.5%	4.5%
LTPS + WHRU	5.5%	5.5%	5.5%
LTPS after commissioning of LRPP	5.5%	5.5%	5.5%
KLHEP	0.5%	0.5%	0.5%

7.4.4 Gross Generation and Net Generation

APGCL submitted the Gross Generation and Net Generation for existing Stations for the Control Period as shown in the following Table:

Table 76: Gross Generation and Net Generation for Control Period as submitted by APGCL (MU)

Station	Gross Generation			Net Generation		
	FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	173.73	173.73	173.73	165.91	165.91	165.91
LTPS	425.74	425.74	425.74	402.32	402.32	402.32
KLHEP	390.00	390.00	390.00	388.05	388.05	388.05

Commission's Analysis

It is observed that, APGCL has considered Gross Generation based on the effective capacity of the plants. On scrutiny, the same are found to be justifiable. Accordingly, Gross Generation as proposed by APGCL is considered. The Commission has considered the Net Generation after considering the normative Auxiliary Consumption, as shown in the Table below:

Table 77: Gross Generation and Net Generation for the Control Period as approved by Commission (MU)

Station	Gross Generation			Net Generation		
	FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	173.73	173.73	173.73	165.91	165.91	165.91
LTPS	425.74	425.74	425.74	402.32	402.32	402.32
KLHEP	390.00	390.00	390.00	388.05	388.05	388.05

7.4.5 Gross Station Heat Rate

APGCL, in its Petition, has submitted GSHR for existing Stations for the Control Period as shown in the following Table:

Table 78: Gross Station Heat Rate for the Control Period as submitted by APGCL (kcal/kWh)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	3900	3900	3900
NTPS after commissioning of NRPP	3900	3900	3900
LTPS + WHRU	3200	3200	3200
LTPS after commissioning of LRPP	3200	3200	3200

Commission's Analysis

Regulation 47.4 (i) of the MYT Regulations, 2018 specifies the GSHR of 4300 kcal/kWh for Open Cycle and3900kcal/kWh for Closed Cycle of NTPS and 3900 kcal/kWh for Open Cycle and3200 kcal/kWh for Closed Cycle of LTPS. The Commission approves GSHR for NTPS and LTPS for Open Cycle and Closed Cycle operations as specified in the MYT Regulations, 2018 as shown in the following Table:

Table 79: Gross Station Heat Rate for the Control Period as approved by the Commission (kcal/kWh)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS (Open Cycle)	4300	4300	4300
NTPS (Closed Cycle)	3900	3900	3900
LTPS (Open Cycle)	3900	3900	3900
LTPS (Closed Cycle)	3200	3200	3200

7.4.6 Fuel Cost

APGCL in its Petition has submitted that it has considered the FY 2018-19 price level for projecting the fuel cost for the Control Period. The FY 2018-19 price level is arrived by APGCL based on the following actual values of 'Fuel Price' and 'Calorific Value of Fuel' as shown in the Table below:

Table 80: Actual Plant wise GCV and Price for FY 2018-19

Station	Wt. avg. GCV of (kcal/SCM)	Wt. Avg. Price (Rs. /1000 SCM)		Wt. Avg. Price (Rs. /1000 SCM)
		April'18/ to Sept'18	Oct'18 to Mar'19	
NTPS	8869	5724	6726	6225
LTPS	9095	7279	8948	8114

APGCL submitted that the month-wise actual Fuel Bills raised by Gas suppliers for FY 2018-19 up to September 2018 have been considered for calculation of gas price and GCV. Further, the actual Price for October 2018 has been considered to project the price from Oct 2018 – March 2019. The price of Gas and GCV for NTPS and LTPS for FY 2018-19 as submitted by APGCL is shown in the table below.

Table 81: Landed Price of Gas (Rs. /1000 SCM) and GCV as submitted by APGCL

Station	Parameter	UoM	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	GCV	kcal/SCM	8,869.42	8,869.42	8,869.42
	Price	Rs./1000 SCM	6,741.94	6,758.20	6,774.95
LTPS	GCV	kcal/SCM	9,095.31	9,095.31	9,095.31
	Price	Rs./1000 SCM	8,961.76	8,975.83	8,991.25

The fuel cost projected by APGCL for the Control Period is shown in the following Table:

Table 82: Fuel Cost for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	51.50	51.63	51.75
LTPS	134.24	134.45	134.68

Commission's Analysis

For the purpose of projecting the fuel price of NTPS and LTPS for the Control Period, the Commission has adopted the same principle as followed in the previous Tariff Orders. Accordingly, the price level arrived at in this Order for FY 2018-19 is considered to remain same during the Control Period as shown below:

Table 83: GCV and Landed Price of Gas for Control Period as approved by the Commission

Station	Parameter	UoM	FY 2018-19 (Base Figure as per APR)	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	GCV	kcal/SCM	8893.61	8893.61	8893.61	8893.61
	Price	Rs./1000 SCM	6076.99	6076.99	6076.99	6076.99
LTPS	GCV	kcal/SCM	9126.42	9126.42	9126.42	9126.42
	Price	Rs./1000 SCM	7758.11	7758.11	7758.11	7758.11

Accordingly, the Commission has approved the fuel cost for NTPS and LTPS for the Control Period as shown in the Tables below:

Table 84: Fuel Cost for NTPS for Control Period as approved by the Commission (Rs. Crore)

S. No.	Particulars	Derivation	Unit	FY 2019-20	FY 2020-21	FY 2021-22
1	Gross Generation	A	MU	173.73	173.73	173.73
2	Heat Rate	B	kcal/kWh	3900.00	3900.00	3900.00
3	GCV of gas	C	kcal/SCM	8893.61	8893.61	8893.61
4	Overall Heat	D=AxB	G. cal.	677547.00	677547.00	677547.00
5	Gas consumption	E=D/C	M. SCM	76.18	76.18	76.18
6	Price of Gas	F	Rs./1000 SCM	6076.99	6076.99	6076.99
7	Total cost of Gas	G=ExF/100	Rs. Crore	46.30	46.30	46.30

Table 85: Fuel Cost for LTPS for Control Period as approved by the Commission (Rs. Crore)

S. No.	Particulars	Derivation	Unit	FY 2019-20	FY 2020-21	FY 2021-22
1	Gross Generation	A	MU	425.74	425.74	425.74
2	Heat Rate	B	kcal/kWh	3200.00	3200.00	3200.00
3	GCV of gas	C	kcal/SCM	9126.42	9126.42	9126.42
4	Overall Heat	D=AxB	G. cal.	1362355.20	1362355.20	1362355.20
5	Gas consumption	E=D/C	M. SCM	149.28	149.28	149.28
6	Price of Gas	F	Rs./1000 SCM	7758.11	7758.11	7758.11
7	Total cost of Gas	G=ExF/100	Rs. Crore	115.81	115.81	115.81

7.4.7 O&M Expenses

APGCL submitted that as per the MYT Regulations, 2018, the normative O&M expenses obtained for FY 2018-19, is to be escalated at 6.30% to arrive at permissible O&M expenses for each year of the Control Period. APGCL submitted that it has also proportionally reduced O&M expenses from FY 2019-20 for NTPS due to consideration of commissioning of NRPP in FY 2019-20. Further, the impact of ROP has been added to project the O&M expenses for FY 2018-19. The projected O&M expenses for FY 2019-20 to FY 2021-22 is shown in the table below:

Table 86: O&M Expenses for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	17.52	18.62	19.80
LTPS	37.42	39.78	42.28
KLHEP	29.76	31.64	33.63

Commission's Analysis

The Commission has computed the normative O&M Expenses for the Control Period in accordance with Regulation 50.1 of the MYT Regulations, 2018, based on the following steps:

a) Step 1: The average O&M expenses including insurancefor the 3 years (FY 2015-16, FY 2016-17 and FY 2017-18) has been considered as O&M expenses for FY 2016-17.
b) Step 2: The above derived O&M expenses for FY 2016-17 have been escalated by inflation rate of 3.12% and 2.70%for FY 2017-18 and 2018-19, respectively, to derive the base O&M expenses for FY 2018-19.Further, as the pay structure of APGCL has been revised vide ROP, 2017 for the entire FY 2018-19, the salary has been paid based on revised structure. Therefore, the Commission while arriving at the base figure of Employee Expenses for FY 2018-19 has considered the impact of ROP as per data submitted by APGCL.
c) Step 3:The derived base figure of FY 2018-19 has been escalated by 6.30% to compute the normative O&M expenses for the Control Period as shown in the table below:

Table 87: Normative O&M Expenses for FY 2019-20 to FY 2021-22 (Rs. Crore)

Particulars	**FY 2018-19 (Base Year)**	**FY 2019-20**	**FY 2020-21**	**FY 2021-22**
NTPS	**48.65**	**51.72**	**54.98**	**58.44**
Employee Expenses	41.37	43.98	46.75	49.69
A&G Expenses	3.18	3.38	3.60	3.82
R&M Expenses	4.10	4.36	4.64	4.93
LTPS	**53.14**	**56.49**	**60.05**	**63.83**
Employee Expenses	44.54	47.35	50.33	53.5
A&G Expenses	3.11	3.31	3.52	3.74
R&M Expenses	5.49	5.83	6.2	6.59
KLHEP	**26.76**	**28.44**	**30.24**	**32.14**
Employee Expenses	19.06	20.26	21.54	22.9
A&G Expenses	3.66	3.89	4.14	4.4
R&M Expenses	4.04	4.29	4.56	4.85
TOTAL	**128.56**	**136.66**	**145.27**	**154.42**

d) Step 4: Based on the submission of APGCL, it is observed that LTPS capacity has been reduced after commissioning of LRPP, due to the de-commissioning of certain units of LTPS. Further, NTPS capacity will also get reduced after commissioning of NRPP. The installed capacity vis-a-vis effective capacity is shown in the table below:

Table 88: Installed and Effective Capacity for Control Period (MW)

Station	**Installed Capacity**	**No of Units**	**Units Decommis sioned**	**Units Available for Generation & Capacity in MW**	**Effective Capacity**
NTPS	119.50	6	1,3,4,5	2 (21MW), 6(22.50 MW- WHRU)	**43.50**
LTPS	157.20	8	1,2,3,4	5,6,7(20 MW Each),8(37.20 MW-WHRU)	**97.20**
KLHEP	100.00				**100.00**

e) 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 approved for the Control Period:

Table 89: O&M Expenses approved by the Commission for Control Period (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	18.83	20.01	21.27
LTPS	38.62	41.05	43.63
KLHEP	28.44	30.24	32.14
TOTAL	**85.89**	**91.30**	**97.05**

7.4.8 Capital Investment and its Funding

The Capital Investment and its funding as proposed by APGCL for the Control Period have been discussed in detail in the previous Chapter. The summary of Station-wise Capital Investment proposed by APGCL for the Control Period is given in the Table below:

Table 90: Capital Investment for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	11.95	4.22	2.98
LTPS	23.44	16.38	16.73
KLHEP	21.32	9.37	4.29

Commission's Analysis

The scheme-wise analyses of Capital Investment proposed by APGCL for the Control Period and their approval have been discussed in detail in the previous Chapter. The summary of Station-wise Capital Investment approved by the Commission for the Control Period is given in the Table below:

Table 91: Capitalisation approved by the Commission for Control Period (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	9.77	3.97	2.66
LTPS	23.44	16.38	16.73
KLHEP	20.47	9.37	3.39

As regards the funding of these works, the Commission has considered the same in the same proportion as proposed by APGCL, as shown in the Table below:

Table 92: Funding of Capitalisation approved by the Commission for Control Period (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	**9.77**	**3.97**	**2.66**
Grant	5.02	0.93	0.89
Equity	-	-	-
Debt	4.75	3.04	1.78
LTPS	**23.44**	**16.38**	**16.73**
Grant	7.34	1.18	1.18
Equity	-	-	-
Debt	16.10	15.20	15.55
KLHEP	**20.47**	**9.37**	**3.39**
Grant	9.27	1.55	1.22
Equity	-	-	-
Debt	11.20	7.82	2.17

7.4.9 Depreciation

APGCL has projected the depreciation based on the depreciation rates specified in the MYT Regulations, 2018. APGCL has not considered the depreciation on assets funded through grants/subsidies as per Regulation 32 of MYT Regulations, 2018.

The depreciation projected by APGCL for existing generating Stations for the Control Period is shown in the following Table:

Table 93: Depreciation for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	1.66	1.94	2.18
LTPS	11.43	17.42	12.75
KLHEP	21.14	22.30	21.99

Commission's Analysis

For computation of depreciation, the Commission has considered the Station-wise closing GFA for FY 2018-19 as approved in this Order, as the Opening GFA for FY 2019-20. The capitalisation approved for the respective years of the Control Period has been considered as asset addition during the year. The Commission has considered the scheduled depreciation rates as specified in MYT Regulations, 2018.

The depreciation has been limited to 90% of the asset value. The Commission has not considered depreciation on assets funded through grants in accordance with Regulation 32 of MYT Regulations, 2018.

In view of the above, the Commission has approved depreciation for the period from FY 2019-20 to FY 2021-22 as per MYT Regulations, 2018, as given in the Table below:

Table 94: Depreciation for Control Period as approved by the Commission (Rs. Crore)

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	Depreciation	1.90	2.37	2.50
	Less: Depreciation on assets funded by Grants	0.16	0.23	0.25
	Net Depreciation	1.74	2.14	2.25
LTPS	Depreciation	17.83	18.52	19.33
	Less: Depreciation on assets funded by Grants	2.53	2.68	2.75
	Net Depreciation	15.30	15.84	16.58
KLHEP	Depreciation	24.39	25.26	25.62
	Less: Depreciation on assets funded by Grants	2.76	3.03	3.10
	Net Depreciation	21.63	22.23	22.52

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

7.4.10 **Interest on loan capital**

APGCL has computed the Interest on loan capital on normative basis as per MYT Regulations, 2018, as shown in the Table below:

Table 95: Interest on Loan Capital for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	0.25	0.55	0.62
LTPS	0.40	0.55	0.61
KLHEP	22.30	20.86	19.05

Commission's Analysis

7.4.11 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 10.30%, 10.18%, and 10.10% for FY 2019-20, FY 2020-21, and FY 2021-22, respectively.

7.4.12 The Interest on loan capital approved by the Commission for the Control Period is shown in the following Table:

Table 96: Interest and Finance Charge as approved for the Control Period (Rs. Crore)

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	Net Normative Opening Loan	5.14	9.58	12.22
	Addition of Normative Loan during the Year	4.75	3.04	1.78
	Normative Repayment during the year	1.74	2.14	2.25
	Net Normative Closing Loan	8.16	10.48	11.75
	Interest Rate (%)	10.30	10.18	10.10

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
	Interest on Loan capital	**0.68**	**1.02**	**1.21**
LTPS	Net Normative Opening Loan	-	-	-
	Addition of Normative Loan during the Year	16.10	15.20	15.55
	Normative Repayment during the year	15.30	15.84	16.58
	Net Normative Closing Loan	0.80	-	-
	Interest Rate (%)	10.30	10.18	10.10
	Interest on Loan capital	**0.04**	**-**	**-**
KLHEP	Net Normative Opening Loan	219.70	209.28	194.87
	Addition of Normative Loan during the Year	11.20	7.82	2.17
	Normative Repayment during the year	21.63	22.23	22.52
	Net Normative Closing Loan	209.28	194.87	174.51
	Interest Rate (%)	10.30	10.18	10.10
	Interest on Loan capital	**22.09**	**20.58**	**18.66**

7.4.13 **Return on Equity**

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, as shown in the Table below:

Table 97: Return on Equity for Control Period as submitted by APGCL (Rs. Crore)

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
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%

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
	(%)			
	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

Commission's Analysis

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. Accordingly, the approved Return on Equity at 15.50% same as proposed by APGCL, as shown in the Table below:

Table 98: Return on Equity approved for the Control Period (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	8.53	8.53	8.53
LTPS	22.18	22.18	22.18
KLHEP	10.64	10.64	10.64

7.4.14 Interest on Working Capital (IoWC)

APGCL has computed the IoWC as per provisions of the MYT Regulations, 2018 for existing generating stations for the Control Period as shown in the following Table:

Table 99: Interest on Working Capital for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	2.79	2.80	3.04
LTPS	7.03	7.41	7.49
KLHEP	3.17	3.22	3.07

Commission's Analysis

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 points above the average State Bank of India MCLR (One Year Tenor) prevalent during the last available six months for the determination of tariff, which works out to be 11.50%.

Interest on working capital approved by the Commission for the Control Period is shown in the following Table:

Table 100: Interest on Working Capital approved for the Control Period (Rs. Crore)

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	Fuel Cost for one month	4.23	4.23	4.23
	O&M Expenses for one month	1.57	1.67	1.77
	Maintenance Spares-30% of O&M	5.65	6.00	6.38
	Receivables for two months	12.21	11.79	13.43
	Total Working Capital Requirement	23.66	23.69	25.82
	Rate of Interest (%)	11.50	11.50	11.50
	IoWC	2.72	2.72	2.97
LTPS	Fuel Cost for one month	9.65	9.65	9.65
	O&M Expenses for one	3.22	3.42	3.64

Station	Particulars	FY 2019-20	FY 2020-21	FY 2021-22
	month			
	Maintenance Spares-30% of O&M	11.58	12.31	13.09
	Receivables for two months	31.23	32.57	33.12
	Total Working Capital Requirement	55.68	57.95	59.49
	Rate of Interest (%)	11.50	11.50	11.50
	IoWC	6.40	6.66	6.84
KLHEP	O&M Expenses for one month	2.37	2.52	2.68
	Maintenance Spares-30% of O&M	4.27	4.54	4.82
	Receivables for two months	15.79	15.44	13.46
	Total Working Capital Requirement	22.43	22.49	20.96
	Rate of Interest (%)	11.50	11.50	11.50
	IoWC	2.58	2.59	2.41

7.4.15 Non-Tariff Income

APGCL has projected the Non-Tariff Income for existing Generating Stations for the Control Period, at the same level as estimated for FY 2018-19, as shown in the following Table:

Table 101: Non-Tariff Income for Control Period as submitted by APGCL (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	7.13	7.13	7.13
LTPS	9.22	9.22	9.22
KLHEP	5.75	5.75	5.75
Total	**22.09**	**22.09**	**22.09**

Commission's Analysis

The Commission has considered the Non-Tariff Income as projected by APGCL for existing Stations, as shown in the following Table:

Table 102: Non-Tariff Income for Control Period as approved by the Commission (Rs. Crore)

Station	FY 2019-20	FY 2020-21	FY 2021-22
NTPS	7.13	7.13	7.13
LTPS	9.22	9.22	9.22
KLHEP	5.75	5.75	5.75
Total	**22.09**	**22.09**	**22.09**

7.4.16 **Summary of ARR for Control Period**

Based on the above analysis, the station-wise ARR approved for the Control Period for existing Stations is summarised in the Tables below:

Table 103: Summary of ARR for NTPS for Control Period approved by the Commission (Rs. Crore)

Sr. No.	Particulars	APGCL's Submission			Approved by Commission		
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22
A	Capacity Charges (Annual Fixed Charges)						
1	O&M expenses	17.52	18.62	19.80	18.83	20.01	21.27
2	Special R&M Expenses	4.00		8.20	4.00	-	8.20
3	Depreciation	1.66	1.94	2.18	0.63	0.78	0.82
4	Interest on Loans	0.25	0.55	0.63	0.25	0.37	0.44
5	Return on Equity	8.53	8.53	8.53	3.10	3.10	3.10
6	Interest on Working Capital	2.79	2.80	3.04	2.72	2.72	2.97
7	Capacity Building	0.27	0.27	0.27	0.10	0.10	0.13
8	Less: Non-Tariff Income	7.13	7.13	7.13	7.13	7.13	7.13
9	Fixed Cost	27.88	25.57	35.51	22.50	19.96	29.81
B	Fuel Cost	51.50	51.63	51.75	46.30	46.30	46.30
C	Total ARR	79.38	77.20	87.26	68.80	66.26	76.10

Table 104: Summary of ARR for LTPS for Control Period as approved by the Commission (Rs. Crore)

Sr. No.	Particulars	APGCL's Submission			Approved by Commission		
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22
A	Capacity Charges (Annual Fixed Charges)						
1	O&M expenses	37.42	39.78	42.28	38.62	41.05	43.63
2	Special R&M Expenses	10.00	15.00	15.00	10.00	15.00	15.00
3	Depreciation	11.43	17.42	12.75	10.46	10.82	11.33
4	Interest on Loans	0.40	0.55	0.61	0.03	-	-
5	Return on Equity	22.18	22.18	22.18	15.16	15.16	15.16
6	Interest on Working Capital	7.03	7.41	7.49	6.40	6.66	6.84
7	Capacity Building	0.32	0.32	0.32	0.10	0.10	0.13
8	Less: Non-Tariff Income	9.22	9.22	9.22	9.22	9.22	9.22
9	Fixed Cost	79.56	93.43	91.40	71.55	79.58	82.88
B	Fuel Cost	134.24	134.45	134.68	115.81	115.81	115.81
C	Total ARR	213.80	227.88	226.08	187.36	195.39	198.69

Table 105: Summary of ARR for KLHEP for Control Period as approved by the Commission (Rs. Crore)

Sr. No.	Particulars	APGCL's Submission			Approved by Commission		
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22
A	Capacity Charges (Annual Fixed Charges)						
1	O&M expenses	29.76	31.64	33.63	28.44	30.24	32.14
2	Special R&M	15.00	12.00	0.00	15.00	12.00	0.00
3	Depreciation	21.14	22.30	21.99	21.63	22.23	22.52
4	Interest on Loans	22.30	20.86	19.05	22.09	20.58	18.66
5	Return on Equity	10.64	10.64	10.64	10.64	10.64	10.64
6	Interest on Working Capital	3.17	3.22	3.07	2.58	2.59	2.41
7	Capacity Building	0.42	0.42	0.42	0.10	0.10	0.13
8	Less: Non-Tariff Income	5.75	5.75	5.75	5.75	5.75	5.75
9	Fixed Cost	96.68	95.35	83.06	94.73	92.63	80.76
B	Fuel Cost	0.00	0.00	0.00	0.00	0.00	0.00
C	Total ARR	96.68	95.35	83.06	94.73	92.63	80.76

8 Tariff for FY 2019-20

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

8.1.1 APGCL has computed the cumulative Revenue Gap/(Surplus) for True-up of FY 2017-18 as shown in the following Table:

Table 106: Revenue Gap/(Surplus) as submitted by APGCL (Rs. Crore)

Sr. No.	Particulars	Rs. Crore
1	Stand-alone Revenue Gap/(Surplus) for FY 2017-18	19.15
2	Carrying Cost for FY 2017-18 at SBI Base Rate + 3.5%	2.41
3	**Total**	**21.56**

Commission's Analysis

8.1.2 For computation of cumulative past Revenue Gap/(Surplus) for recovery, the Commission has considered the Revenue Gap/(Surplus) after truing up 2017-18 approved in this Order along with carrying cost. No Revenue Gap/(Surplus) has been proposed to be recovered through tariff in FY 2019-20 arising out of APR of FY 2018-19, in accordance with the MYT Regulations, 2015.

8.1.3 The Commission has computed the cumulative past Revenue Gap/ (Surplus) to be recovered/adjusted by APGCL, adjusted through bills raised to APDCL, as shown in the following Table:

Table 107: Cumulative Revenue Gap/(Surplus) approved by the Commission (Rs. Crore)

Sr. No.	Particulars	ROI (%)	Approved in this Order
1	**Truing up for FY 2017-18**		
	ARR for NTPS (considering effective capacity)		111.27
	ARR for LTPS (considering effective capacity)		231.67
	ARR for KLHEP		96.23
	Combined ARR		439.17
	Revenue from Sale of Power		451.62
	Revenue Gap/(surplus)		(12.46)

Sr. No.	Particulars	ROI (%)	Approved in this Order
	Impact of carrying cost of review Order of September 2017		0.16
	Net Revenue Gap/(Surplus)		**(12.30)**
2	Computation of carrying cost on Revenue Gap/(surplus) in FY 2017-18 Order		
	Carrying/ (Holding) cost for FY 2017-18 (half Year)	12.60%	(0.77)
	Carrying/ (Holding)cost for FY 2018-19 (full Year)	12.60%	(1.55)
	Carrying/ (Holding)cost for FY 2019-20 (half Year)	11.50%	(0.71)
	Total		**(3.03)**
3	**Cumulative Revenue Gap/(Surplus) along with carrying cost**		**(15.33)**
4	**Monthly amount recoverable/(refundable) from/to APDCL towards True-up for FY 2017-18**		**(1.28)**

8.1.4 The Commission approves the cumulative Revenue Surplus of Rs. 15.33 Crore for APGCL. This Surplus is to be passed on to APDCL in twelve monthly equal instalments of Rs. 1.28 Crore in FY 2019-20, as adjustments to the monthly bill.

8.2 Fixed Charges and Energy Charges for FY 2019-20 for NTPS and LTPS

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

Table 108: Proposed Generation tariff as submitted by APGCL (Rs. Crore)

Station	Particulars	FY 2019-20
NTPS	Annual Capacity Charges (Rs. Crore)	27.88
	Monthly Fixed Charges (Rs. Crore)	2.32
	Energy Charges (Rs. /kWh)	3.10
LTPS	Annual Capacity Charges (Rs. Crore)	79.56
	Monthly Fixed Charges (Rs. Crore)	6.63
	Energy Charges (Rs. /kWh)	3.34

Commission's Analysis

8.2.2 The Commission has determined the Tariff for FY 2019-20 for NTPS and LTPS as under:

Annual Fixed Charges

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

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

8.2.5 The Fixed Charges for NTPS and LTPS as approved by the Commission for FY 2019-20 is shown in the following Table:

Table 109: Fixed Charges as approved for FY 2019-20 by the Commission (Rs. Crore)

Generating Station	Annual Fixed Charges	Monthly Fixed Charges
NTPS	22.50	1.875
LTPS	71.55	5.963

8.2.6 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

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

Table 110: Energy Charges for FY 2019-20 approved by the Commission (Rs. Crore)

Station	Particulars	FY 2019-20
NTPS	Fuel Cost (Rs. Crore)	46.30
	Net Generation (MU)	165.91
	Energy Charges (Rs. /kWh)	**2.79**
LTPS	Fuel Cost (Rs. Crore)	115.81
	Net Generation (MU)	402.32
	Energy Charges (Rs. /kWh)	**2.88**

8.3 Capacity Charges and Energy Charge Rate for KLHEP

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

Table 111: Proposed Generation tariff for KLHEP as submitted by APGCL

Station	Particulars	FY 2019-20
KLHEP	Capacity Charges (Rs. Crore)	48.34
	Energy Charges (Rs. /kWh)	1.25

Commission's Analysis

8.3.2 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 2019-20 based on the applicable AFC and projected Availability as under:

Table 112: Capacity Charges and Energy Charges approved by the Commission for KLHEP for FY 2019-20

Particulars	FY 2019-20
Annual Fixed Charge (Rs. Crore)	94.73
Capacity Charges (Rs. Crore)	**47.37**
Design Energy (MU)	390.00
Auxiliary Consumption (%)	0.50%
Net Design Energy (MU)	388.05
Energy Charge Rate (Rs. /kWh)	**1.22**

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

8.4 Generation Tariff for FY 2019-20

8.4.1 The Commission approves the Generation Tariff for FY 2019-20 including past Revenue Gap/(Surplus) as shown in the following Table:

Table 113: Generation Tariff for FY 2019-20 approved by the Commission

Particulars	Particulars	FY 2019-20
NTPS	Annual Fixed Charges (Rs. Crore)	22.50

Particulars	Particulars	FY 2019-20
	Monthly Fixed Charges (Rs. Crore)	1.875
	Energy Charges (Rs./kWh)	2.79
LTPS	Annual Fixed Charges (Rs. Crore)	71.55
	Monthly Fixed Charges (Rs. Crore)	5.963
	Energy Charges (Rs./kWh)	2.88
KLHEP	Capacity Charges (Rs. Crore)	47.37
	Energy Charge Rate (Rs./kWh)	1.22
Past Revenue Gap/(Surplus)	Cumulative past Revenue Gap/(Surplus) (Rs. Crore)	(15.33)
	Monthly amount to be paid to APDCL (Rs. Crore)	1.277

8.4.2 Since, the Commission has determined Station-wise Generation Tariff for FY 2019-20, the billing shall be done for each station separately on monthly basis in accordance with the provisions of MYT Regulations, 2018.

8.5 Applicability of Tariff

8.5.1 The approved Generation tariff for FY 2019-20 shall be effective from April 1, 2019 and shall continue until replaced/modified by an Order of the Commission.

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

9 Directives

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 the Tariff Order dated 18th March, 2018. 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 18th March, 2018.

Directive1: Employee's Provident Fund

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

Status:

In the Review Meeting held by the Commission on 08-08-2018 regarding Compliance of Directives, the Commission directed to constitute a common Trust for Employees' Provident Fund for all the three companies APDCL, AEGCL and APGCL.

Directive-2: Procurement of Gas

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

The Commission directs APGCL to expedite the amendment of Agreement with M/s OIL India Ltd. regarding the revision in modalities of MGQ formula, so that it can be made effective during FY 2018-19 and submit the same to the Commission along with the next Tariff Petition. The Commission further directs APGCL to take necessary actions in the next Agreement with AGCL, which is due by March 2018. Further, APGCL is directed to submit the copy of the revised Agreement to the Commission along with the next Tariff Petition.

Status:

APGCL informed that the Gas supplied to NTPS did not improve. LTPS also continued to receive less than the contracted quantity of gas.

Regarding the gas supply Agreement for NTPS, it was informed that OIL has proposed to extend the old gas supply agreement for another 5 years and APGCL is reviewing the proposal.

Directive-3: Monitoring of Progress of New Power Projects and Need for augmentation of own generating capacity

The Commission directs APGCL to expedite the completion of LRPP as per the schedule committed. The Commission directs APGCL to submit the revised anticipated COD for NRPP at the earliest, in consultation with BHEL. APGCL is also directed to expedite the completion of other ongoing Projects including Solar PV projects.

Status:

LRPP was commissioned as per schedule. The revised schedule for commissioning of Gas Turbine (Open Cycle) unit of NRPP is April, 2019 and for Combined Cycle unit is December, 2019.

APGCL has commissioned the 9 MW Stage-I Myntriang Small Hydro Electric Project (MSHEP) during the month of February, 2019.

The solar projects under APGCL are on the different stages of implementation

Directive-4: Revision of Pay

The Commission directs APGCL to submit actual impact on account of ROP, including detailed calculation and justification along with documentary evidences on basis of Audited Accounts for FY 2017-18 and revised projections for FY 2018-19. APGCL should maintain details of expenses incurred on ROP in FY 2017-18 and FY 2018-19 and also for the arrears paid separately.

Status: Complied

The impact of ROP 2017 for FY 2017-18 and for FY 2018-19 was submitted to the

Commission based on the Audited Accounts and the actual payout made, respectively.

Directive-5: Gross Station Heat Rate for LRPP

The Commission will take a view regarding Gross Station Heat Rate for LRPP based on the performance guarantee test reports. The Commission directs APGCL to submit the performance guarantee test reports after completion of the same.

Status: Complied

Performance Guarantee Test completed, and report submitted to the Commission.

Directive 6: Petition for determination of Final Tariff for NRPP and LRPP

The Commission directs APGCL to file a fresh Petition for determination of final tariff for NRPP and LRPP based on actual capital expenditure incurred up to the date of commercial operation of the Generating Station duly certified by the statutory auditors, in accordance with Regulation 41.5 of MYT Regulations, 2015.

Status:

A separate Tariff Order for LRPP in Petition No 18 of 2018 has been issued on March 01, 2019. Regarding NRPP, it is yet to be commissioned.

Directive 7: Fixed Asset Register

The Commission is of the view that Fixed Asset Register should be prepared and updated every year by APGCL, 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: Complied

It was reported that APGCL updates the Fixed Asset Register every year. The Fixed Asset Register is also produced before the Statutory Auditor and C&AG respectively for purpose of audit and can be produced to the Commission as and when asked. However, the revaluation and physical verification of assets under Loan IND 3140 of ADB, is under process.

Directive 8: Compliance of Audit Observations

The Commission noted that Statutory Auditors and CAG have made several comments on the Audited Accounts. APGCL is directed to take corrective actions on the same expeditiously.

Status: Complied.

New Directives:

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

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.

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.

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.

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.

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.

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

Annexures 1 Minutes of the 24th Meeting of the State Advisory Committee

24th Meeting of the State Advisory Committee

VENUE : ASSAM ADMINISTRATIVE STAFF COLLEGE, GUWAHATI – 22.

DAY / DATE : TUESDAY, 5th February, 2019.

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

The 24th Meeting of State Advisory Committee (SAC) was chaired by the Hon'ble Chairperson, AERC, Shri S.C. Das IAS, (Retd.). At the onset, the Chairperson welcomed all members and invitees to the meeting. He briefed the participants that the meeting was convened, primarily, to discuss the Multi Year Tariff (MYT) Petitions for FY 2019-20 to FY2021-22, which were filed by the State Power Utilities in December 2018. The Chairperson informed that the utilities would make short PowerPoint presentations on the important features of their respective petitions during the meeting. He further informed the participants that a Public Hearing is also scheduled to be held on 12th February 2019 on these petitions.

The Chairperson stated that as stipulated by Section 87 of the Electricity Act 2003, the Commission has made it a point to approach the SAC for advice in all important matters of policy, including Regulations and Tariff making. He requested the members to offer their valuable advice on the petitions and in particular, on the following aspects:

a) The Discom has claimed increase in fixed charges stating that these charges accounted for only 14% of the electricity tariff as on date, while fixed cost constituted 60% of the total cost. The Commission increased fixed charges last year by Rs 5 and Rs 10 across different categories of consumers.

b) The High Tension (HT) consumers have been claiming that cross subsidy surcharge be reduced further and tariff be based on voltage wise cost of supply.

c) APDCL have signed the UDAY scheme and as per the MoU, the Company has to restrict the distribution loss to 15% or below in 2019-20. The distribution loss achieved by APDCL in FY 2018-19 is 17.64 %.Whether the Distribution loss trajectory for the MYT period is to be determined keeping in view the MOU under the UDAY scheme.

The Chairperson observed that the State Power Companies have been making huge capital investments and most of these are funded under different schemes of the State & Central Governments and loans from ADB and the World Bank. With capitalization of these projects, electricity tariff is likely to be affected over the next couple of years. The Chairperson further observed that there is a possibility of decrease in POC charges with increase in State generation in the coming years and concern displayed by the Central Government regarding high POC charges for few states and constitution of a Committee to study the matter afresh.

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 raised by the Hon'ble Members during the course of discussions are briefly recorded below.

Agenda: Confirm the Minutes of the 23rd meeting of SAC held on 15.06.2018

The Minutes of the 23rd Meeting of the Committee were circulated among the Members and Special Invitees. The following comments were received on the above:

a) Shri A.K. Baruah, Adviser AASIA brought to the notice of the Commission that point No.VI of Agenda No. 5 regarding the status of reconstitution of the Consumer Grievance Redressal Forums was raised by him and not by the member mentioned in the minutes.

b) Shri Baruah stated that one of his observations regarding non-payment of load security interest to LT consumers by APDCL was also not recorded in the minutes.

The Chairperson, AERC directed that necessary modifications be made to the minutes.

It is regretted that there was an inadvertent mistake in the name of the member. As directed by the Commission, rectification has been made and point No.VI of Agenda

No. 5 of the minutes of the 23rd meeting of SAC held on 15.06.2018 shall henceforth be read as under:

"*Shri A. K. Baruah, Adviser, AASSIA enquired regarding the status of the re-constituted Consumer Grievance Redressal Forums. Chairperson AERC remarked that the Commission had written to the Discom to reconstitute 3 CGRFs in Jorhat, Guwahati and Silchar as per the AERC Regulations and the process is underway*."

Chairperson AERC remarked that at present there are eight (8) CGRFs across the State and the Commission has directed only three to be reconstituted with independent members according to the AERC Regulations, 2016. This was because the total number of cases recorded in the 8 CGRFs annually was not more than 20-25. He observed that most of the grievances, more than 95%, were sorted out at the sub-divisional level. The Chairperson further observed that APDCL should improve record keeping of the grievances attended at sub-divisional and divisional levels.

Regarding the point of non-payment of load security interest to LT consumers, an addition has been made to the minutes in Agenda No 5 as Point No. viii as under:

"*Shri A.K. Baruah, Adviser AASSIA stated that although, APDCL is paying load security interests to HT consumers, no payment is being made to the LT consumers. He observed that this is a contravention to the provisions of the Electricity Act 2003 as the Act advocates interest payment to all consumers irrespective of the category to which the consumers belong*".

The Commission directed APDCL to devise a means to pay interest on load security to the LT consumers as well, as has been specified in the AERC Regulations & the Electricity Act, and furnish an action taken report in the next SAC meeting.

Shri Champak Baruah, Member stated that he mentioned about the introduction of merit cum seniority in promotion of Engineers of the three Companies but there are no records of the same in the minutes.

The Chairperson clarified that as the matter relates to internal administration of the utilities over which the Commission has no jurisdiction, it was not recorded.

Agenda: Action Taken on the minutes of the 23rd 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. The Chairperson AERC asked the respective utilities to respond to any query from the SAC Members. The important points of discussion are noted below:

i. Shri Subodh Sharma, President, Bidyut Grahak Manch stated that solid steps need to be taken by the State Generating Sector to improve own generation capacity. He observed that more State generation would help reduce the POC charges. He further observed that performance of the state generation sector has a direct bearing on the health of the State Transmission and Distribution utilities.

ii. Shri Dilip Kumar Sarma, Sr. Consultant, NETC stressed that all efforts should be made to establish large sized generation plant inside the State of Assam either in State or Central sector which will contribute towards moderating the existing POC charges and in turn the domestic tariff.

iii. Regarding action taken by the Generation Company following decision of construction of the National Gas Grid in the State, MD APGCL, Ms Kalyani Baruah informed that APGCL has submitted a proposal to both MOPNG and GAIL for 9.75 MMSCMD of gas to set up power plants at various locations of Assam. Out of the 9.75 MMSCMD of gas, 6.60 MMSCMD is for the proposed 250 MW Chandrapur Thermal Power Project and 1450 MW (2X725 MW) Thermal Power Project at Lower Assam. The balance 3.15 MMSCMD gas is proposed to be utilized by the 725 MW Amguri Thermal Power Project and 100 MW Ph-II Namrup Replacement Power Project. MD, APGCL further informed that the price of gas available would be high and APDCL is considering appointing consultants to conduct a feasibility study for the proposed projects.

    Chairperson AERC observed that APGCL should accept the gas available even if price may be high, keeping in mind the future energy security of the State.

Shri V.K. Pipersenia, IAS (Retd), Chairman APDCL/AEGCL /APGCL informed that they would soon initiate the process to appoint consultants to conduct a feasibility study regarding the viability of the proposed gas projects vis-à-vis the cost of gas available.

Shri D. Chakravarty, Member AERC, suggested that gas available should be a mixture of both domestic and RLNG to reduce cost. MD, APGCL informed that MOPNG has given assurance that the gas made available would be a mixture of both domestic and RLNG and likely to be priced between $8- $12 per MMBTU.

Shri Subodh Sharma suggested that since the National Gas Grid is likely to be completed by 2020, therefore, the viability study needs to be completed at an early date so that these projects come into existence before gas becomes available. He informed the house that M/s GAIL had proposed uniform pricing of gas throughout the country; however, the outcome of the proposal is unknown.

Shri Dilip Kumar Sarma stressed that APGCL through the Govt. of Assam should vigorously pursue the proposal of M/s GAIL to the Ministry of Petroleum for uniform pricing of gas through out the country irrespective of distance or direction. At the same time, commitment from GAIL should also be obtained for minimum quantum of gas required for economic operation of gas based plants to be established by APGCL

Shri Dilip Kumar Sarma also observed that, given the present energy scenario, the gas that would be available in the country for the next 50 years would meet only 15-20% of the total requirement. Therefore, gas that would be supplied to Assam would be imported gas and likely to be priced at $8-$9 per MMBTU.

iv. Shri K. Medhi, Secretary, NESSIA opined that there have been discussions regarding setting up of power projects in Chandrapur since a long time, however, nothing concrete has been achieved so far.

MD, APGCL replied that different kinds of projects were proposed in the past. She stated that as suggested by Advisory Committee Members, a pumped storage project was proposed to be set up at Chandrapur. It was informed that although some investors had shown interest in the project initially, they failed to bid when tenders were floated for the same, even after repeated extensions.

v. Shri A.K Baruah, Adviser, AASSIA suggested that APGCL should ensure adherence to the timelines for completing their projects.

vi. Shri Subodh Sharma enquired regarding the new timelines for completion of the NRPP project.

MD, APGCL informed that gas turbine (Open Cycle) project of NRPP is likely to be commissioned in April, 2019 and the combined cycle project by December, 2019.

vii. He further enquired as to why same generation output was shown throughout the MYT period for NRPP. It was informed that APDCL has committed gas of 0.66 mmscmd from M/s GAIL of which 0.49 will be utilized in NRPP and with the remaining gas, APGCL proposes to run few units of NTPS.

Shri Sharma observed that APGCL should make efforts to actually achieve the proposed generation or else power procurement planning of APDCL gets affected and the consumers may end up paying higher electricity price. He suggested that the quantum of generation shown by APDCL and APGCL should match.

viii. Shri Champak Baruah enquired as to the status of the 70 MW Amguri Solar Power Project. He emphasized the fact that while the last date for bidding of the project was shown as 29.05.2019 in the last meeting, now the same is shown as 06.02.2019.

It was informed by the MD, APGCL that as suggested by SAC Members in the last meeting, APGCL decided to implement the project on its own through EPC contractors as project implementation through SECI was getting delayed. Therefore new tenders were floated and it is expected to receive a number of bids by 06.02.2019.

It was emphasized from the Chair that APGCL should take steps for timely completion of their projects such as NRPP, 120 MW Lower Kopili Hydel project, 24 MW Borpani Middle-II SHEP , etc

ix. Shri K. Medhi, General Secretary, NESSIA suggested that since APGCL has not succeeded in adding sizeable new generation capacity, perhaps, APGCL may not undertake any new project and instead, APDCL may be asked to procure power from outside sources through different modes.

Chairperson, AERC agreed that APGCL had not achieved much success with new projects in recent years except for 70 MW Lakwa Replacement Power Project (LRPP), which was commissioned in time, and reiterated that the Company must make ardent efforts to increase generation. He observed that the power generated by APGCL is one of the cheapest powers available to the Discom. The Chairperson further observed that emphasis must also be laid for fast completion of the Central Sector Generation projects in Assam as the State receives 50% allocated power from these projects.

x. Regarding (2x800) MW Coal based Margherita Project, it was informed by MD, APGCL that although the matter has been pursued with the Central Government several times, no progress has been made in getting coal linkage for the project, so far.

xi. There was a suggestion in the last meeting that newly recruited engineers of the State distribution company may be trained on the technical aspects of electricity by their deputation to generation/ transmission Company and similar measure may be adopted for engineers of the generation / transmission sector so that these new recruits get a good idea of the overall power sector. Shri V.K. Pipersenia, Chairman, APGCL/AEGCL/APDCL commented that although it's a good suggestion, the three power Companies must devise their own HR policies. Shri Pipersenia informed that at present, the Discom has a shortage of manpower and therefore, they are not in a position to depute any Engineer to other utilities. The three companies have to together decide on the matter.

Regarding the Development of 100 MW (25x4) Solar Power Plant within the State by APDCL it was informed by Shri R. Agarwal, IAS, MD, APDCL that Azure Power India Pvt. Ltd, New Delhi and Maheshwari Mining and Energy Pvt. Ltd, Telengana were the successful bidders for 90 MW and 10 MW respectively. It was informed that the timeline for implementation of the projects will be 18 months from the date of signing the PPA. It was further informed that the bidders have identified the land for the projects. The land in Udalguri area which was identified for one project has already been transferred to the developer by the BTC administration while land acquisition is under process for the rest of the projects.

Shri Subodh Sharma suggested that as agricultural land cannot be used for power projects, the low lying lands of Brahmaputra river valley may be used for the purpose.

MD, APDCL informed that the land identified for the projects were lying vacant and as such, there was some relaxation in norms and conversion of the land allowed for the purpose of setting solar plants.

xii. It was further informed by MD, APDCL that as suggested in the last meeting, APDCL is carrying out energy audit of the 33/11 KV Jalukbari sub-station under PAT scheme. Based on its output, it was informed that, similar audit may also be carried out in near future for other sub-stations.

Chairperson AERC stated that as was informed in the last meeting, energy audit study has been taken up by the Commission in three circles of APDCL namely Guwahati Circle II, Jorhat and Cachar. Two Consultants were engaged through open bidding but the work was delayed due to absence of transformer meters and 33 KV & 11 KV line meters. He informed that meetings with concerned APDCL officers was held from time to time and metering works are likely to be completed shortly. The audit works will start immediately when the necessary infrastructure is in place.

Shri Subodh Sharma observed that the meters installed should have provisions for IT connectivity in future.

MD, APDCL responded positively stating that the meters installed have the provision for IT connectivity.

xiii. On safety related aspects, MD, APDCL informed that the Company have taken a slew of measures to ensure safety of the consumers. APDCL have started replacing the bare conductors for LT consumers with AB conductors, all transformers under Saubhagya scheme are fenced and whenever cases of unfenced transformers are reported, the Company immediately takes necessary action for fencing.

Shri Subodh Sharma suggested that many electrical accidents can be avoided if emphasis is laid on proper earthing of the conductors.

MD, APDCL agreed to the suggestion and assured that action would be taken in this regard. He requested the members to offer suggestions to APDCL regarding these issues so that appropriate action can be initiated. He stated that there is shortage of manpower to maintain the lines and recently a number of recruitments have taken place in this regard which is expected to help the Company considerably.

Shri Champak Baruah commented that accidents also take place due to non adherence to safety procedures by the linemen and officers of APDCL. Instances have come to his notice where linemen are taking shutdown instead of JEs, which is not as per safety protocol. He observed that prior information of shutdown to the local people while working on the electric lines /poles/ transformers is essential.

Chairperson AERC observed that APDCL must ensure that the safety protocols are being followed and continue with their safety initiatives for the consumers.

xiv. Shri Saurav Agarwal, FINER informed that as requested in the last meeting, APDCL circulated an advisory to the field offices regarding the new provision that the requirement for declaring minimum 65% of the contracted demand no longer exist. However, APDCL is not allowing a consumer to reduce the contract demand after the month of September.

It was clarified by APDCL that it is sticking to the month of September as tariff petitions, showing the load, is to be submitted by the month of November each year.

Chairperson AERC informed that as per the Supply Code Regulations, a consumer can reduce the contract demand only once in a year, but as this was the first year of the new Supply Code Regulations, he asked APDCL to look into the matter to consider some relaxation, if feasible.

Agenda: Presentation on MYT Petitions for FY 2019-20 to FY 2021-22 by AEGCL

There was a brief power point presentation on the MYT petitions for FY 2019-20 to FY 2021-22 along with true up for FY 2017-18 and Annual Performance Review for FY 2018-19. The presentation of AEGCL is enclosed as Annexure I. The following discussions took place during the course of the presentation.

i. It was informed that from FY 2019-20, the transmission charges on account of PGCIL shall be reflected in the tariff of APDCL.

ii. Shri Subodh Sharma commented that APDCL must correctly ascertain the PGCIL charges and may seek help of AEGCL in this regard.

   Chairperson AERC observed that PGCIL charges are basically the POC charges and the actual amount can be ascertained through SLDC. He opined that APDCL shall acquire the expertise in calculating these charges over a period of time and until then, may seek assistance from AEGCL.

iii. Shri Subodh Sharma pointed out that while the cost of AEGCL should have been around 30-40 paise/unit for the MYT period of FY 2019-20 to FY 20121-22, AEGCL was asking a tariff of 51- 62 paise/unit.

   MD, AEGCL explained that the tariff included the BST charges of 20 paise per unit.
   .

iv. Shri Subodh Sharma stated that Generators like Kathalguri Power Station, being a central sector generator, despite having the AEGCL network at their bays, have to evacuate their power through PGCIL network. Therefore, the consumers of Assam have to bear high POC charges. These issues need to be taken up by the Assam Government with the Central Government and Shri Sharma requested AERC to bring the matter to the notice of the State Government.

Chairperson AERC observed that many States are facing similar issues and these matters are being examined in the Central Government. However, he noted the suggestion of Shri Sharma.

v. Shri Subodh Sharma opined that AEGCL is the best performing company among the three power utilities of the State and it is important that policy decisions should not cause any harm to the Company.

vi. Shri Sharma again pointed out the issue regarding Tariff Based Competitive Bidding (TBCB) which has been made compulsory for setting up new intrastate transmission projects as per the Tariff Policy, 2016. He expressed concern that the State Transmission Company may suffer if TBCB is accepted.

Chairperson, AERC stated that it is a policy decision of the Government of India that any intra state transmission project, which cost above a threshold limit, shall be developed by the State Government through competitive bidding process and the limit is to be decided by the State Electricity Regulatory Commissions. The Chairperson informed that AERC, in consultation with the State Government and AEGCL, has specified a threshold limit through a draft notification in January 2019. He further informed that comments on the draft notification may be submitted within 31st March, 2019.

vii. Shri S.N. Kalita MD, AEGCL informed that as directed by the Commission, the Company has taken initiative to restructure and strengthen SLDC.

Agenda: Presentation on MYT Petitions for FY 2019-20 to FY 2021-22 by APGCL

APGCL made a brief power point presentation on MYT petitions for FY 2019-20 to FY 2021-22 along with true up for FY 2017-18 and Annual Performance Review for FY 2018-19. The presentation of AEGCL is enclosed as Annexure II. The important points raised by the participants during the course of the presentation are summarized below:

i) MD APGCL, Ms K. Baruah informed that the tariff proposed for Lakwa Thermal Power Station (LTPS) for the MYT period starting with FY 2019-20 are Rs 5.31/unit, Rs 5.66/unit and Rs 5.62/unit respectively. The proposed tariffs are the highest among the APGCL power stations as special R&M has been proposed for the

Station which will require major overhauling.

ii) It was further informed by MD, APGCL that the new projects are being financed from ADB as 90 % Grant and 10% loan while R&M of old plants are being financed with State Government assistance. On a query from Shri Subodh Sharma, it was further informed by Ms Baruah that APGCL may restructure the Company and convert the capital grants to equity.

iii) The members expressed concern that the thermal stations of APGCL were unable to generate to their installed capacity due to inadequate availability of gas and important projects like Margherita Coal based project is yet to receive coal linkage. Besides, commissioning of most of the ongoing projects of APGCL has been delayed due to various reasons. They observed that if APGCL did not improve its performance, the performance of AEGCL will suffer too. And the consumers also have to bear greater cost of power through POC charges for power purchased from outside the State.

Given the above scenario, all members agreed that the State Government has to play a pivotal role in ensuring adequate gas availability and coal linkage for the projects of APGCL, at the earliest.

Agenda: Presentation on MYT Petitions for FY 2019-20 to FY 2021-22 by APDCL

There was a short Power Point presentation from APDCL on the MYT petitions for FY 2019-20 to FY 2021-22 along with true up for FY 2017-18 and Annual Performance Review for FY 2018-19. The presentation of AEGCL is enclosed as Annexure III. The following discussions took place during the course of the presentation:

i. APDCL informed that due to repeated persuasions against the POC charges by six States including Assam, the Ministry of Power called a meeting to hear their grievances. It was further informed that APDCL submitted their viewpoints on the matter and requested that 80% of the fixed cost may be socialized instead of 20% as is done now.

MD, AEGCL observed that only 26% of the PGCIL transmission capacity is being utilsed and the rest 74% stands for reliability of the system and future use. He therefore, suggested that 74% may be proposed as reliability cost of the network to be equally shared by all users.

Chairperson AERC observed that if 50% of the charges are socialized and 50% charged through POC, even then there will be some considerable reduction in the transmission charges. .

ii. It was informed that for the first time Assam is receiving 50 MW RTC Wind Power from projects in Tamil Nadu. APDCL has signed agreement with SECI and PTC and Assam is receiving the power from 4th February, 2019. It was further informed that APDCL would receive another 50 MW of wind power within this year. It was also informed that the 3rd unit of NTPC Bongaigaon Thermal Power Station will be commissioned shortly. Although, the price of this thermal power is high, APDCL will procure the power as per PPA. APDCL informed that Assam will soon also receive around 200 MW power from Mangdechu Hydro Electric project in Bhutan.

iii. The Discom informed that APDCL has been chosen the ADB Best Performing Utility award for timely implementation of its projects under 2017 ADB loan 3200 IND. The award would be given in October this year

Agenda: Comment and suggestion of the Members

i. Shri Subodh Sharma offered the following suggestions –

a) Due to SAUBHAGYA, DDUGJY and other such schemes of the Government of India, the domestic consumers are increasing at a faster pace than any other consumer category. As such, increased sale to such consumers also increases the distribution losses of the Company and affecting its revenue. APDCL is expected to function as a commercial entity; however, the peculiar consumer mix is preventing it from doing so. As such, adequate subsidy from the State Government is essential.

b) Although, first financial restructuring of the distribution Company was carried out years back and with signing of the UDAY scheme, another restructuring is underway, APDCL is yet to draw up a master plan to bring a commercial turnaround. The loss making utility must try to chalk out a master plan as to what should be the tariff at which it can achieve a financial turnaround, considering all the regulatory provisions and subsidies of the State Government that is likely to be available. They must also consider the investments required to bring the losses to the required level.

c) The three State Power Companies are symbiotically interconnected and in the long run, success of one would depend not only on its own performance but on the performance of the other two as well. Therefore, each Company must try to build itself as a robust commercial organization.

Chairperson AERC stated that in every Tariff Order, the Commission sets some parameters for achievement by the Companies. APDCL should make all efforts to achieve the targets set in tariff orders like distribution loss, collection efficiency, etc; so as to achieve a financial turnaround. The Chairperson observed that technical loss in the system may be higher than what is envisaged, in addition to commercial losses. A lot of investment in distribution infrastructure is required to reduce technical loss and to have an idea of these losses, the Commission is conducting the energy audit in three Electrical Circles. The final report of this audit is likely to be submitted by the end of this year and then the Commission would be in a better position to issue directions.

ii. Shri K. Medhi, General Secretary, NESSIA offered the following suggestions –

a) The proposed increase in fixed charges is very high while improved power scenario is a matter of opinion and usually differs from place to place. Instead of enhancing fixed charges, APDCL may conduct actual load survey sub-division wise. This would help increase the connected load and increase in fixed charges may not be necessary.

   He requested the Commission to look into the above aspects before allowing any enhancement.

b) Due to programmes such as SAUBHAGYA and DDUGJY, the performance of APDCL is dwindling. He stated that AT&C looses have increased substantially, collection efficiency has gone down even when the number of connections have increased; and arrears increased compared to earlier years. In view of the above scenario Shri Medhi suggested that

   1. APDCL should try to enhance alternate and effective time tested methods for revenue realization.
   2. Adopt energy efficient technologies & equipments and encourage consumers to do the same.

c) APDCL should encourage use of solar rooftops in the State and try to draw the benefits of Central Government sponsored schemes for solar rooftops.

d) There are many ghost (non-existent) electricity consumers and if the arrear of these ghost consumers are taken out, the balance sheet will be cleaner. Shri Medhi opined that there is a presumption that 40% of the total arrear is due to non-existent consumers.

   Chairperson AERC assured that the suggestions would be considered while taking any decision.

iii. Shri Abhijit Sharma, Secreetary, ABITA made the following submissions –

a) He enquired regarding the status of providing dedicated feeders to the tea gardens.

   Shri Rakesh Agarwal, MD APDCL stated that an amount of Rs 20 Crores were earmarked in the budget for installation of 11 numbers of dedicated feeders. However, tendering for the purpose is in process.

   He informed that from FY 2018-19, the process of financing of the State government has undergone a massive change. Initially, whenever, funds were allocated by the State Government, the entire fund was released to APDCL and the money could be utilized. However, now, the State Government gives an allocation in the budget, a DPR/ proposal has to be submitted from APDCL, then administrative approval is received, then tendering/ allotment of works have to be done, then it has to be uploaded for financial sanction, and once the work is partially executed, only then the finance is released just like a State Government Department. He observed that due to this change in the process of release of funds, works are getting delayed.

   MD, APDCL informed that during the last year 14,000 smart meters were installed in Guwahati as a pilot project and in January this year the Company was able to generate bills for 11000 meters without any kind of human intervention. He stated that technological interventions would make services convenient for the consumers; however, this would not only require the support of consumers but also massive investments. He informed that APDCL is trying to bring investments through IPDS, ADB Financing and the State Government.

b) While appreciating the endeavors of APDCL, Secretary, ABITA stated that the tea sector contributed around 8% of the total revenue of the Company amounting to approximately Rs 800 Cr. He explained that unless the supply to rural consumers and the tea gardens are separated, power position in the tea estates is unlikely to improve as the quality of power available may not be good enough for use in the tea gardens. As a result, the tea gardens have to utilize their generators and power produced is costlier than the power. from APDCL. While APDCL loses revenue, the tea gardens have to pay greater cost of production.

c) Secretary, ABITA also observed that as directed by the Commission in the last meeting, the Company can introduce Voluntary Disclosure of load program from time to time where consumers can be asked to disclose their loads. The Company may allow consumer to enhance their loads in a hassle free way with very few documentation requirements.

   MD APDCL informed that this is being done and about Rs 25 Cr additional fixed charges are collected after the VDL scheme in October last year.

   Chairman APDCL suggested that online facility for enhancement of load should be made available.

d) Secretary, ABITA stated that with the ongoing works of SAUBHAGYA, all the development works of APDCL has taken a backseat.

   MD APDCL informed that some of the contractors involved in the development schemes like ADB, IPDS were also chosen for implementing the SAUBHAGYA scheme and since it is a time bound program, the development works were somewhat delayed. However, he assured that he and Chairman APDCL are personally reviewing the progress of every work under the schemes, and lots of advancement in the works is expected in the next couple of weeks.

   It was informed from APDCL that online facilities were launched for new LT connections, however, applications received through online facility are very few. Therefore, as directed by Chairman, APDCL, the Company is planning to facilitate only online applications for new connection for LT consumers so that they get acquainted with the new systems. It was further informed that online facility for new HT connections will be launched too, shortly.

Shri Subodh Sharma observed that the electronic meters are equipped with facilities to capture the maximum demand during the month and APDCL can check if the contracted demand has been exceeded by any consumer.

Chairperson, AERC agreed to the suggestion and observed that the meter readers are not taking such readings and may be asked to do so by the concerned authorities. He noted that for HT consumers, it is being done because if these consumers exceeded contract demand they were penalized but for LT consumers, the same was not practiced. He further observed that this practice will do away with the necessity for conducting internal load survey by the Company, as has been proposed.

iv. Shri Saurav Agarwal, Chairperson, Power, FINER made the following observations:

a) As load enhancement is to be allowed online, load reduction should also be allowed online once a year.

Chairperson AERC directed APDCL to look into the matter.

b) Cost of power is one of the highest. One of the factors contributing to this is costly power from NTPC Bongaigaon Station. APDCL and the consumers must raise their voice against such tariffs when the petitions are filed for tariff determination in the Central Electricity Regulatory Commission. APDCL may consider opening a separate Cell or assign competent officers with the responsibility to voice these concerns in CERC. Recently, the draft MYT Regulations has been notified and there was no representation from Assam. APDCL can have a dedicated Cell to voice the concerns of the people of Assam in appropriate Forums like CERC, whenever necessary.

It was clarified from APDCL that the Company has been submitting response petitions before the CERC against NTPC tariff petitions and also contesting these in the Appellate Tribunal. APDCL cited an example where the Kathalguri station of NEEPCO had filed a petition before CERC requesting for reduction in PLF stating non availability of fuel. NEEPCO stated the example of APGCL gas stations whose PLF were low due to non availability of gas. This is a recent case where APDCL managed to win the case against NEEPCO.

Chairperson AERC observed that the consumers like FINER and ABITA may also file petitions before the concerned forum.

Shri Subodh Sharma stated that an individual consumer residing in Delhi have made representations to CERC against the NTPC petitions. However, he also observed that this is a costly affair and large consumers like FINER and ABITA should come forward.

c) In the last budget, the Government of Assam has announced 5% electricity duty ad valorem on the total consumption which has increased the electricity duty substantially for the industrial consumers.

Chairperson AERC opined that it is the policy decision of the State Government.

d) A number of points have been raised by the Statutory Auditors on the financial Statements of APDCL and requested the Commission to consider those while determining tariff.

The Commission assured that all the points which are likely to impact the tariff will be scrutinized before making a decision.

The Chairperson, AERC thanked the members for their suggestions.

Agenda: Discussions on Draft Regulations notified by AERC

Two draft Regulations namely Draft AERC (Electricity Supply Code) (First Amendment) Regulations, 2018 and Draft AERC (Deviation Settlement Mechanism and Related Matters) Regulations, 2018 were notified as previous publications as per Section 181 (3) of the Electricity Act 2003 and public hearings were also held. These Regulations were circulated among the Advisory Committee members. Chairperson, AERC requested the Members to submit their comments on the Regulations, if any.

There was no comment from any member.

Agenda: Any Other matter.

No other matter came up for discussion.

Chairperson, AERC assured the members that the MYT proposals of the utilities would be prudently scrutinized and the valuable suggestions offered by each stakeholder would be taken into account while determining tariffs for FY 2019-20 and Annual Revenue Requirement for FY 2020-21 and FY2021-22.

The meeting ended with vote of thanks from the Chair.

Sd/-

Secretary,
Assam Electricity Regulatory Commission.

24th Meeting of SAC **ANNEXURE –I**

LIST OF MEMBERS & SPECIAL INVITEES PRESENT

MEMBERS

1. Shri Subhash Chandra Das, IAS (Retd), Chairperson, AERC.
2. Shri Dipak Chakravarty, Member, AERC
3. Smt. Utpala Saikia, Joint Secretary, Power Deptt., Government of Assam
4. Shri G.A Nayyar, Deputy Secretary, Finance Department, Government of Assam.
5. Shri Subodh Sharma, Consumer Activist
6. Shri Dilip Kumar Sarma, Sr. Consultant, NETC
7. Shri Abhijit Sharma, Secretary. ABITA

   Shri Abhijit Kakati, MRK, ABITA
8. Shri Niladri Roy, Advocate, Silchar Bar Council
9. Shri A.K. Baruah, Advisor, AASSIA
10. Shri Sailen Baruah, President, NESSIA
11. Shri Kumud Medhi, Secretary, NESSIA
12. Shri P.K. Goswami, Former Director, Technical Education and Retd. VC, Assam Science and Technology University
13. Shri Saurav Agarwal, Chairperson, Power, FINER
14. Shri Rajeev Goswami, DDG, FINER
15. Shri Champak Baruah, Ex- Member (Technical), APDCL.
16. Shri Arup Kr Mishra, Director, AEDA
17. Shri Pronip Kr. Barthakur, Ex Director, ONGC
18. Shri Birendra Kr. Das, President, Grahak Surakha Sanstha

SPECIAL INVITEES

1. Shri V.K. Pipersenia, IAS (Retd), Chairman, APDCL/AEGCL/APGCL
2. Shri Rajeev Agarwal, IAS, Managing Director, APDCL
3. Ms. Kalyani Baruah, Managing Director, APGCL

Shri Satyendra Nath Kalita, Managing Director, AEGCL

Annexure 2- Station Wise Depreciation

Depreciation for NTPS (Rs. Crore)

Particulars	FY 2017-18			FY 2018-19			FY 2019-20			FY 2020-21			FY 2021-22		
	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation
Land	9.71	-	-	9.71	-	-	9.71	-	-	9.71	-	-	9.71	-	-
Building	11.18	-	0.37	11.18	-	0.37	11.18	-	0.37	11.18	-	0.37	11.18	-	0.37
Hydraulic works	0.04	-	0.00	0.04	-	0.00	0.04	-	0.00	0.04	-	0.00	0.04	-	0.00
Other civil works	24.71	0.94	0.84	25.64	0.45	0.86	26.09	0.58	0.88	26.67	0.58	0.90	27.25	0.59	0.93
Plant & machinery- Gas	95.76	0.41	0.08	96.17	0.44	0.10	96.60	2.42	0.18	99.02	0.51	0.25	99.53	0.86	0.29
Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lines & cables	1.95	-	0.10	1.95	-	0.10	1.95	0.52	0.12	2.46	0.94	0.15	3.40	-	0.18
Vehicle	0.68	-	-	0.68	-	-	0.68	-	-	0.68	-	-	0.68	-	-
Furniture	1.06	0.03	0.07	1.09	-	0.01	1.09	-	0.00	1.09	-	0.00	1.09	-	0.00
Other office equipment	1.12	0.11	0.07	1.23	-	0.08	1.23	8.43	0.34	9.66	2.19	0.68	11.85	1.53	0.72
Roads on land belonging to others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital spares at Generating Stations	41.46	-	-	41.46	-	-	41.46	-	-	41.46	-	-	41.46	-	-
Total	**187.66**	**1.48**	**1.54**	**189.15**	**0.88**	**1.53**	**190.03**	**11.94**	**1.90**	**201.97**	**4.22**	**2.37**	**206.19**	**2.98**	**2.50**

Depreciation for LTPS (Rs. Crore)

Particulars	FY 2017-18			FY 2018-19			FY 2019-20			FY 2020-21			FY 2021-22		
	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation
Land	4.75	-	-	4.75	-	-	4.75	-	-	4.75	-	-	4.75	-	-
Building	32.21	-	1.08	32.21	-	1.08	32.21	0.60	1.09	32.81	1.90	1.11	34.71	2.00	1.24
Hydraulic works	-	-	-	-	-	-	-	-	-	-	0.25	0.05	0.25	-	0.01
Other civil works	42.75	-	1.43	42.75	0.48	1.44	43.22	-	1.44	43.22	-	1.45	43.22	-	1.44
Plant & machinery- Gas	272.15	0.04	14.37	272.19	2.66	14.44	274.85	2.57	14.58	277.42	9.95	14.65	287.37	11.11	15.47
Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-
Lines & cables	9.29	-	0.49	9.29	-	0.49	9.29	0.33	0.51	9.62	0.50	0.52	10.12	1.50	0.62
Vehicle	0.24	-	-	0.24	-	-	0.24	-	-	0.24	-	0.02	0.24	-	-
Furniture	0.46	-	0.01	0.46	-	0.00	0.46	-	0.00	0.46	-	0.00	0.46	-	0.00
Other office equipment	0.23	0.10	0.02	0.33	-	0.02	0.33	11.29	0.21	11.62	3.34	0.40	14.95	1.64	0.55
Roads on land belonging to others	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	-
Capital spares at Generating Stations	114.93	-	-	114.93	-	-	114.93	8.65	-	123.58	0.44	-	124.02	0.48	-
Total	**477.00**	**0.14**	**17.39**	**477.14**	**3.14**	**17.47**	**480.28**	**23.44**	**17.83**	**503.72**	**16.38**	**18.52**	**520.10**	**16.73**	**19.33**

Depreciation for KLHEP (Rs. Crore)

Particulars	FY 2017-18			FY 2018-19			FY 2019-20			FY 2020-21			FY 2021-22		
	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation	Opening GFA	Additions	Depreciation
Land	4.40	-	-	4.40	-	-	4.40	-	-	4.40	-	-	4.40	-	-
Building	17.31	0.01	0.58	17.32	-	0.58	17.32	-	0.58	17.32	-	0.58	17.32	-	0.58
Hydraulic works	162.38	-	8.57	162.38	-	8.57	162.38	-	8.57	162.38	-	8.57	162.38	-	8.57
Other civil works	102.72	-	3.43	102.72	0.92	3.45	103.64	0.65	3.47	104.29	0.38	3.49	104.67	0.50	3.50
Plant & machinery- Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Plant & machinery- Hydel	175.50	0.04	9.27	175.54	2.80	9.34	178.34	8.10	9.63	186.44	-	9.84	186.44	-	9.84
Lines & cables	32.57	-	1.72	32.57	-	1.72	32.57	-	1.72	32.57	7.30	1.91	39.87	0.70	2.11
Vehicle	0.29	-	-	0.29	-	-	0.29	-	-	0.29	-	-	0.29	-	0.02
Furniture	0.00	0.04	0.00	0.05	-	0.00	0.05	-	0.00	0.05	-	0.00	0.05	-	0.00
Other office equipment	0.06	0.04	0.01	0.10	-	0.01	0.10	11.78	0.38	11.87	1.69	0.81	13.57	2.59	0.86
Roads on land belonging to others	0.28	-	0.01	0.28	-	0.01	0.28	-	0.01	0.28	-	0.01	0.28	-	0.09
Capital spares at Generating Stations	18.76	-	0.99	18.76	-	0.80	18.76	0.80	0.02	19.56	-	0.04	19.56	0.50	0.04
Total	**514.28**	**0.14**	**24.58**	**514.41**	**3.71**	**24.48**	**518.13**	**21.33**	**24.39**	**539.45**	**9.37**	**25.26**	**548.82**	**4.29**	**25.62**

Annexure 3- Capital Investment Plan

S.No	NTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of NTPS							
1	Mobile trolley mounted 6000 LPH capacity Transformer Oil filtration plant.	35.00	_	_	35.00	_	_	The CAPEX proposed will minimize equipment downtime resulting to generation loss, hence allowed
2	Procurement, Installation & Commissioning of 33 KV SF6 circuit breaker at NTPS switchyard for WHP & 2 MVA auxiliary power supply Transformer.	16.00	_	_	16.00	_	_	The CAPEX proposed will minimize equipment downtime and eliminate existing power evacuation problem and hence allowed
3	Renovation of the spray pond piping system of GT units.	18.50	_	_	18.50	_	_	The CAPEX proposed will enhance good performance of the cooling system and will reduce forced outages of the unit due to overheat.
4	Procurement & Replacement of 66 KV isolator sets for units and lines.	10.00	_	_	10.00	_	_	The CAPEX proposed will minimize equipment downtime and eliminate existing power evacuation problem and hence allowed
5	Procurement of Instrument & clutch air compressor with motor for Gas Turbine units.	6.00	_	_	6.00	_	_	The CAPEX proposed Will reduce unit downtime and subsequent generation loss and hence allowed
6	Procurement of Exhaust Thermocouple "J" type Make: PYCO, USA, Specification: 02-9069-02-14.6	3.00	_	1.50	1.50	_	0.00	The spares propsoed is for Unit 2, 3 and 4. However after commissioning of NRPP in April 2019, only Unit 2 will run. Therfore spares against Unit 2 is allowed i.e. 1/3 of the prospsed expenditure

S.No	NTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of NTPS							
7	Procurement of Inlet Thermocouple "K" type Make: PYCO, USA, Specification: 02-9074-17-25	12.00	_	6.00	6.00	_	0.00	The spares propsoed is for Unit 2, 3 and 4. However after commissioning of NRPP in April 2019, only Unit 2 will run. Therfore spares against Unit 2 is allowed i.e. 1/3 of the prospsed expenditure
8	Procurement, Installation & Commissioning of 66 KV SF6 circuit breaker for NTPS switchyard (for breaker No. 4 and both the 66 KV Nazira feeder).	25.50	_	_	25.50	_	_	The CAPEX proposed will minimize equipment downtime and eliminate existing power evacuation problem and hence allowed
9	Procurement of Medium Pressure Regulator. Make: FAIRCHILD, USA, Pressure Range: 0-150 psi	2.00	_	_	2.00	_	_	The CAPEX proposed will ensure availability of generating unit. and hence allowed
10	Procurement of High Pressure Regulator. Make: FAIRCHILD, USA, Presure Range: 0-50 psi	1.50	_	_	1.50	_	_	The CAPEX proposed will ensure availability of generating unit. and hence allowed
11	Procurement of Precision Hydrogen Regulator. Make: HARRIS CALORIFIC CO. LTD, USA, Pressure:0-100 psi	4.00	_	_	4.00	_	_	The CAPEX proposed will ensure availability of generating unit. and hence allowed
12	Procurement of Precision Hydrogen Regulator. Make: HARRIS CALORIFIC CO. LTD, USA, Pressure:0-50 psi	3.50	_	_	3.50	_	_	The CAPEX proposed will ensure availability of generating unit. and hence allowed

S.No	NTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of NTPS							
13	New pipe line of water supply for North colony	15.00			15.00	0.00	0.00	NTPS being a old unit the CAPEX proposed is justified for future
14	Re-wiring of the quarters.	9.00	9.00	9.00	9.00	9.00	9.00	The CAPEX proposed will ensure safety of the Plant and its occupants
15	C.W. Pump for colony water supply. (60 HP)	8.00	8.00	8.00	8.00	8.00	8.00	NTPS being a old unit the CAPEX proposed is justified for future
16	Sump Pump for DM plant (Submersible)	6.00			6.00	0.00	0.00	Capex justified and allowed
17	DG set for GM office and two nos for Guest House (VVIP & old) 63 KVA	15.00	15.00		15.00	15.00	0.00	Capex justified and allowed
18	Renovation of Overhead tank (Existing, 100000 lit capacity) for 24 hrs.water supply.	24.00			24.00	0.00	0.00	NTPS being a old unit the CAPEX proposed is justified for future
19	High mast (30 m height, 400 W)	24.00	24.00	24.00	24.00	24.00	24.00	The CAPEX proposed shall ensure Equipment safety inside the power house
20	LED Street light	3.80	3.80	3.80	3.80	3.80	3.80	The CAPEX proposed shall ensure Equipment safety inside the power house
21	Multifunction/Mult i-parameter Calibration Test Bench	–	20.00	–	–	20.00	–	The CAPEX proposed will serve as a powerful tool for Total Quality Management (TQM) and ISO conformance with accuracies traceable to international standards and hence allowed

S.No	NTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of NTPS							
22	Procurement of one CT Fan Motor of Unit-6	_	10.00	_	_	10.00	_	The CAPEX proposed will greatly enhance reliability and ensure uninterrupted operation of the unit by minimising downtime and forced outages and hence allowed
23	Procurement of AIR VOLUME BOOSTER. Make: FAIRCHILD, Model: 4500	_	0.90	_	_	0.90	_	The CAPEX proposed will enhance reliability and ensure uninterrupted operation of the unit by minimising downtime and forced outages and hence allowed
24	Procurement of 1.1 KV Single Core Copper XLPE Cable of size 630mm²,Length- 495 meters	_	90.50	_	_	90.50	_	The CAPEX proposed will minimize equipment downtime due to cable fault resulting to generation loss and hence allowed
25	Procurement of 33 KV out door oil filled current Transformer of Ratio 600/5.5 with 2 nos. terminal connectors for 33 KV Main Breaker,Dillighat breaker and cooling tower breaker of NTPS.	_	3.30	_	_	3.30	_	The CAPEX is justified for safety and reliability. Hence allowed
26	Procurement of overseas spare for major overhauling of Unit-2, W-301Gas Turbine unit proposed to be carried out in the F.Y. 2021-2022	_		750.00	_		0	The CAPEX is overlapping with overhauling cost being considered under Special R&M - as revenue expenses - hence, not allowed
27	Procurement and installation of 125 volt, 425 Ah Plenty Type Lead Acid Battery Bank with matching charger sys. For gas turbine unit		40.00		0.00	40.00	0.00	The CAPEX will make the whole control system of Power House run on this DC power. Hence healthy battery bank. Hence allowed
28	Construction of Overhead tank (100000 lit capacity) for 24 hrs. water supply for Civil colony & WHP colony		16.00		0.00	16.00	0.00	NTPS being a old unit the CAPEX proposed is justified for future
29	Procurement of one CW Pump- motor set of Unit-6	_	_	63.00	_	_	63.00	The CAPEX proposed will Ensure uninterrupted operation of the unit by minimising downtime and forced outages and hence allowed
30	Procurement of one Air dryer for Unit-6	_	_	15.00	_	_	15.00	The CAPEX proposed will minimize equipment downtime resulting to generation loss and hence allowed
31	407 Mini truck for electrical maintenance of colony & Dillighat.	_	_	10.00	_	_	10.00	The CAPEX is necessary for maintenance purpose and hence allowed

S.No	NTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Chemical Department, NTPS							
32	Spectrophoto meter	8.00	_	_	8.00	_	_	The CAPEX proposed will prevent the boilers, super heater tube & turbine blade from corrosion and scale formation. So, sophisticated instrument like spectrophotometer is urgently required. Hence allowed
33	Electronic Balance	2.40	_	_	2.40	_	_	The CAPEX proposed will give accurate results of chemical. Hence allowed
34	Portable Dissolved Oxygen Kit	1.80	_	_	1.80	_	_	The CAPEX proposed will prevent corrosion. Hence allowed
35	Turbidity Meter	2.00	_	_	2.00	_	_	The CAPEX proposed is to prevent the condenser tube from scale formation & corrosion it is most essential. Hence allowed
36	pH Meter	3.00	_	_	3.00	_	_	The CAPEX is for pH meter, which is essential for pH measure at any time. Hence allowed
37	Conductivity meter	3.60	_	_	3.60	_	_	The CAPEX is for conductivity meter, which is essential for conductivity measure at any time. Hence allowed

S.No	NTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of NRPP, NTPS							
38	Procurement, installation & Commissioning of a 33 KV/6.6 KV, 5 MVA Auxiliary Power Supply Transformer along with all auxiliary works.	210	_	_	0			The CAPEX proposed is for NRPP and hence disallowed
39	Procurement of high height Aluminium Ladder (23/41 ft Tiltable Tower Extension Ladder)	_	3.5	_	_	0.00	_	The CAPEX proposed is revenue expenditure and therefore should not form part of capex
40	Fork Lifter for Material Handling	_	21.5	_	_	0.00	_	The CAPEX proposed is revenue expenditure and therefore should not form part of capex
	CIVIL Works in NTPS							
41	Repairing of residential quarter of Type-III, Type-C, Type-IV at NTPS (Phase-I), Type-III 5 nos., Type-C 4 nos., Type-IV 4 nos.	19.6	_	_	19.60	_	_	The CAPEX proposed will ensure safety of the Plant and its occupants. Hence allowed
42	Repairing of Dikrong Path at NTPS.	9.88	_	_	9.88	_	_	The CAPEX proposed is essential. Hence allowed
43	Repairing of Dikrai Path at NTPS.	9.9	_	_	9.90	_	_	
44	Repairing of Manah Path at NTPS.	9.63	_	_	9.63	_	_	
45	Repairing of 9 nos. of residential quarters of Type-B at NTPS (Phase-II).	_	19.13	_	_	19.13	_	The CAPEX proposed will ensure safety of the Plant and its occupants. Hence allowed
46	Repairing of connecting road between Dihing and Disang Path, NTPS	_	9.97	_	_	9.97	_	The CAPEX proposed is essential. Hence allowed
47	Repairing of Dikhou Path at NTPS.	_	9.75	_	_	9.75	_	
48	Repairing of Champabati Path at NTPS.	_	9.91	_	_	9.91	_	
49	Repairing of residential quarter of Type-III, Type-C, Type-IV at NTPS (Phase-II), Type-III 5 nos., Type-C 3 nos., Type-IV 4 nos.	_	_	18.01	_	_	18.01	The CAPEX proposed is essential. Hence allowed
50	Construction of road from Qtr No. Type-IV 130 to 137 at NTPS.	_	_	7.63	_	_	7.63	
51	Repairing of Dihing Path at NTPS.	_	_	24.13	_	_	0.00	The proposed CAPEX is a repetition and has benn already allowed
	TOTAL in lakhs	521.61	314.26	940.07	304.11	289.26	158.44	

S.No.	LTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works							
1	Procurement of field instruments of Gas Turbine units of LTPS	50	60	60	50	60	60	The CAPEX will reduce downtime of the units and hence can avoid generation loss. Hence allowed
2	Procurement of field instruments of Gas Turbine units of LTPS of Gas Compressor units of LTPS	40	50	50	40	50	50	The CAPEX proposed will reduce downtime of the Gas Compressor units and hence can avoid generation loss. Hence allowed
3	Procurement and up-gradation of one number spintronic mark-IV control system to mark Vie Control system at GT #6, #7		600	650	-	600	650	The CAPEX proposed will reduce downtime of the units. Ii) Generation loss can be avoided.
4	Procurement of Vacuum Circuit Breaker for 3.3 KV panel in Ph-II power house	30	_	_	30	_	_	The CAPEX proposed will reduce the downtime of the units and generation loss can be avoided. Hence allowed
5	Installation of new 12" gas pipeline with accessories to accommodate flow computer with online chromatograph	60	_	_	60	_	_	The CAPEX proposed will implement instantaneous monitoring of Station Heat Rate (SHR) in line with AERC's approved SHR to run the GT units in cost effective manner. Hence allowed
6	Procurement and installation of gas Flow Computer (AGA standard) with online chromatograph including work part for both GAIL and AGCL supply.		110	_	-	110	_	The CAPEX proposed is for instantaneous monitoring of Station Heat Rate (SHR) in line with AERC's approved SHR to run the GT units in cost effective manner. Hence allowed
7	Up gradation of Generator Control & protection panel of 3 x 20 MW, Ph-II units (1 unit in first phase)	_		150	_	-	150	The CAPEX proposed will ensure safety & reliability of the generating unit. Hence allowed
8	Procurement of 05 sites of 132 KV isolators for replacing the old existing isolators in phase-II power house switchyard.	_	50	_	_	50	_	The CAPEX proposed will enable power evacuation due to outage of switchyard can be averted. Hence allowed
9	Procurement of Inlet Air Filter for GT's	22	24	27	22	24	27	The Capex proposed will avoid GT generation loss to the tune of 5% with clogged air filter. Hence allowed
10	Procurement of spares for DRESSER RAND Gas Compressor and for Air Compressors		110	121	-	110	121	The CAPEX proposed will enhance operating life of these compressors for another operating cycle. As single Gas Compressor is delivering gas to an amount equivalent to 0.4 MU/day, which will benefit the plant. Hence allowed
11	Procurement of spares for Gas Turbines	40	44	48	40	44	48	The proposed CAPEX is for replacement of recommended spares during Major Overhauling will enhance the operating life of the turbine for another full cycle operation of minimum 28,000 running hours. This subsequently leads to maintain the generation of unit. Hence allowed
12	Major inspection of Gas Turbine #5	90	_	_	90	_	_	The proposed CAPEX will reduce downtime of the units.Hence allowed

S.No.	LTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works							
13	HGPI Works of GT #6 & #5	60	_	100	60	_	100	The proposed CAPEX will reduce generation loss. Hence allowed
14	Procurement of spares for HGPI works #6 & #5	800	_	1,000	800	_	1,000	The proposed CAPEX will reduce downtime of the units.Hence allowed
15	MI works of GT #7 & #6	_	90	110	_	90	110	The proposed CAPEX will reduce generation loss. Hence allowed
16	Procurement of new EOT Crane in GC #9	_	25	_	_	25	_	The CAPEX proposed will support maintenance work. Hence allowed
17	Procurement of New Air Drying system in GC #9	_	10	_	_	10	_	The proposed CAPEX will reduce generation loss. Hence allowed
	WHRP (Waste Heat Replacement Project)							
18	11 Kv Generator PT (For metering & protection)	1	_		1	_	-	The proposed CAPEX is vital for the safe and proper running of the generator unit. Hence allowed
19	11 Kv Generator PT (For metering & protection)	1	_		1	_	-	
20	12 KV Generator L.A.	1	_	_	1	_	_	
21	18 KV Surge Capacitor	1			1	-	-	
22	GFD Seal air fan motor.	2	_	_	2	_	_	The proposed CAPEX is required to arrest any leakage of the Gas Turbine Exhaust Flue Gas . Hence allowed
23	GFD Seal air fan.	1	_	_	1	_	_	
24	GD Seal air fan motor.	2	_	_	2	_	_	The proposed CAPEX is avoiding outage of the generating units and to avert Generation loss. Hence, allowed
25	GD Seal air fan.	1	_	_	1	_	_	
26	Cooling Tower Fan Motor	5	_	_	5	_	_	The proposed CAPEX will minimize equipment downtime resulting to generation loss. Hence allowed
27	Condensate Extraction pump Motor	20	_	_	20	_	_	The proposed CAPEX will minimize equipment downtime resulting to generation loss. Hence allowed
28	JOP Motor (AC)	5	_	_	5	_	_	The proposed CAPEX will minimize equipment downtime resulting to generation loss. Hence allowed
29	Condensate Extraction pump	45	_	_	45	_	_	The proposed CAPEX will minimize equipment downtime resulting to generation loss. Hence allowed
30	Cooling Tower Spares	25	_	_	25	_	_	The proposed CAPEX is for adequate availability of spares, the same will ensure availability of generating unit. Hence allowed
31	Main control valve of Auxiliary Steam System	4	_	_	4	_	_	The proposed CAPEX will minimize equipment downtime resulting to generation loss. Hence allowed
32	Raw Water Pump Motor	_	10	_	_	10	_	The proposed CAPEX is for avoiding Outage of the generating units and Generation loss can be averted. Hence allowed
33	Cooling Tower makeup pump motor	_	6	_	_	6	_	
34	Cooling Tower makeup pump.	_	10	_	_	10	_	

S.No.	LTPS Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works							
35	Raw Water Pump.	_	20	_	_	20	_	
36	Gland Steam Control Valve	_	5	_	_	5	_	The proposed CAPEX will avoid Steam leakage and will avert Generation loss. Hence allowed
37	JOP Motor (DC)	_	10	_	_	10	_	The proposed CAPEX is to increase the reliability of the turbine.
38	HPBFP Motor	_	_	20	_	_	20	The proposed CAPEX is for avoiding Outage of the generating units and Generation loss can be averted. Hence allowed
39	LPBFP Motor	_	_	6	_	_	6	The proposed CAPEX is for avoiding Outage of the generating units and Generation loss can be averted. Hence allowed
40	EOP Motor	_	_	11	_	_	11	The proposed CAPEX is to avoid Outage of the generating. Hence allowed
41	Cooling Water Pump	_	_	50	_	_	50	The proposed CAPEX is for avoiding Outage of the generating units and Generation loss can be averted. Hence allowed
42	I/H Converter	_	_	6	_	_	6	The proposed CAPEX is to avoid Outage of the generating. Hence allowed
43	CIVIL WORKS							
44	Upgradation & renovation of water supply system (treatment plant and pipe lines) at RWSS & DWSS at LTPS colony	20	20	_	20	20	_	The proposed CAPEX is to ensure safety as well as ensure uninterrupted water supply to LTPS. Hence allowed
45	Modification of drainage system inside LTPS colony and plant area	30	_	_	30	_	_	The proposed CAPEX is to create a hygienic condition in the colony as well as the plant area. Hence allowed
47	Colony quarter boundary fencing inside LTPS colony	20	_	_	20	_	_	The propsoed CAPEX is for Renovation of boundary fencing i.e presently fully rusted and damaged. Hence allowed
48	Renovation of boundary wall of LTPS colony (Residential)	20	20	10	20	20	10	
50	Renovation of boundary wall of LTPS plant area.	20	20	20	20	20	20	CAPEX is justified and hence allowed
51	Construction of one no. of Type III/IV residential milt storied building at LTPS residential area.		170	180	-	170	180	The proposed CAPEX is to support accommodation of the officers and staff. Hence allowed
52	Construction of watch tower (4 nos.) inside LTPS plant area.	40	_	_	40	_	_	The proposed CAPEX is for safety purpose. Hence allowed
53	Beautification of LTPS colony and plant area.	15	10		15	10	-	CAPEX is justified and hence allowed
54	Repairing of residential quarter inside LTPS colony	20	20	20	20	20	20	Most of the colony quarter are badly damaged as they were constructed since long back. CAPEX is justified and allowed
55	Renovation and beautification of LTPS guest house.	15	10		15	10	-	
56	Providing 5 nos. of bio toilet at colony and plant area (wherever required)	10	_	_	10	_	_	CAPEX is justified and hence allowed
57	Renovation of children's park	20			20	-	-	
58	Procurement of Gym equipment.	5	5	5	5	5	5	
59	**Total**	**1,540**	**1,509**	**2,644**	**1,540**	**1,509**	**2,644**	

S.No	KLHEP Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of KLHEP							
1	Replacement of Generator Control Panels with Digital One. (Process automation)	800	–	–	800	_	_	The proposed CAPEX is for high Accuracy and reliable for proper protection. Hence allowed
2	Procurement of Testing Equipment for KLHEP & MSHEP	100	–	–	100	_	_	The proposed CAPEX will minimize equipment downtime. Hence allowed
3	Procurement of100 KVA Diesel Pump Set	10	–	–	10	_	_	The proposed CAPEX is for the Safety of the equipment installed at the bottom most level inside the Power house. Hence allowed
4	Procurement of spares for 500 KV DG Set.	15			15	-	-	The CAPEX is justified and hence allowed
5	Replacement of LT Panels of KLHEP	–	100	–	_	100	_	The proposed CAPEX is to ensure high Accuracy. Hence allowed
6	Replacement of Marshalling Box for GTs	–	30	–	_	30	_	The proposed CAPEX is for smooth running and functioning of both the units. Hence allowed
7	Procurement of 220 KV switchgear materials for replacement of existing old system. (CT, transformer, isolators etc.)	–	600	–	_	600	_	The proposed CAPEX will minimize equipment downtime and eliminate existing power evacuation problem. Hence allowed
8	Procurement of spare for Crane Loading Capacity 15 Tones	–	–	30	_	_	30	The proposed CAPEX will also help to make the major overhauling work and other maintenance works of the units of KLHEP. Hence allowed
9	Procurement of UAT (Spare)	_	_	20	_	_	20	The proposed CAPEX is for reducing outage of the generating units and help avert Generation loss. Hence allowed
10	Roof Top Solar Power For KLHEP/ Auxiliary consumption.	–	–	90				The CAPEX proposed is for unregulated business. Hence disallowed
11	Upgradation of Transformer capacity and substation at KLHEP Lengery colony	_	_	70	_	_	70	The CAPEX proposed is for construction of new substation and will minimise the outage, man power and financial involvement as well. Hence allowed

S.No	KLHEP Proposed CAPEX	APGCL Proposal (In Rs Lacs)			Approved by Commission (In Rs Lacs)			Remarks
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2019-20	FY 2020-21	FY 2021-22	
	Electro-mechanical works of 3 x 1.50 MW MSHEP-II							
13	Capital Overhauling of 1.50MW Francis type Gugler make Generator Turbine. (Unit I& II)	65	–	–				The proposed CAPEX is for MSHEP and hence disallowed
14	Outsourcing of service labour to work under the supervisory of Gugler for capital overhauling of 1.50 MW machine.	20	–	–				Overhauling cost is separately provided and hence disallowed
	CIVIL Works in KLHEP							
15	Renovation and Modernisation of GM Office complex, KLHEP	15	–	–	15	_	_	The proposed CAPEX will ensure safety. Hence allowed
16	Renovation and Modernisation of water supply system at dam site of KLHEP.	5	–	–	5	_	_	The proposed CAPEX will facilitate the occupants in getting service water. Hence allowed
17	Renovation and Modernisation of water supply providing Deep Tube Well at Power House site of KLHEP.	15	–	–	15	_	_	The proposed CAPEX is justified and hence allowed
18	Renovation of Erector's Hostel at KLHEP	10	–	–	10	_	_	The proposed CAPEX will ensure safety. Hence allowed
19	Renovation and Modernisation of KLHEP colony roads of length 1.50 km at Lengery	20	–	–	20	_	_	The proposed CAPEX will ensure safety. Hence allowed
20	Construction of Masonary Drain at Amtereng Hatidubi Road at Chainage 2.00 km	_	3	_	_	3	_	
21	Construction of Masonary Drain at Amtereng Hatidubi Road at Chainage 5.00 km	_	5	_	_	5	_	
22	Protection work of Landslide area at left bank of Downstream of KLHEP Hatidubi Dam	_	30	_	_	30	_	
23	Construction of Engineers Hostel (Assam Type) near Power House for O&M personnel, KLHEP	_	–	40	_	_	40	The proposed CAPEX is justified and hence allowed
24	Renovation of Bachelor's Hostel at KLHEP	_	–	10	_	_	10	The proposed CAPEX is justified and hence allowed
	Total	**1,075**	**768**	**260**	**990**	**768**	**170**	