



**ASSAM ELECTRICITY REGULATORY COMMISSION  
(AERC)**

**TARIFF ORDER  
February 15, 2021**

**TRUE-UP for FY 2019-20,  
APR for FY 2020-21 and  
REVISED ARR for FY 2021-22**

**&**

**Tariff for FY 2021-22**

**FOR**

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

**Petition No. 20,21,22,23,24,25/2020**

# Table of Contents

<b><u>1</u></b>	<b><u>INTRODUCTION</u></b>	<b><u>18</u></b>
1.1	CONSTITUTION OF THE COMMISSION	18
1.2	TARIFF RELATED FUNCTIONS OF THE COMMISSION	18
1.3	BACKGROUND	19
1.4	MULTI YEAR TARIFF REGULATIONS, 2018	19
1.5	PROCEDURAL HISTORY	21
1.6	STATE ADVISORY COMMITTEE MEETING	23
<b><u>2</u></b>	<b><u>SUMMARY OF APGCL'S PETITION</u></b>	<b><u>24</u></b>
2.1	BACKGROUND	24
2.2	TRUE-UP FOR FY 2019-20	24
2.3	REVISED CAPITAL INVESTMENT PLAN FOR FY 2020-21 AND FY 2021-22	25
2.4	ANNUAL PERFORMANCE REVIEW FOR FY 2020-21	25
2.5	REVISED ARR FOR FY 2021-22 FOR NTPS, LTPS, KLHEP AND LRPP	26
2.6	PROPOSED TARIFF FOR NTPS, LTPS, KLHEP AND LRPP FOR FY 2021-22	27
<b><u>3</u></b>	<b><u>SUMMARY OF STAKEHOLDERS' COMMENTS, RESPONSE OF APGCL AND COMMISSION'S VIEW</u></b>	<b><u>28</u></b>
<b><u>4</u></b>	<b><u>TRUING UP OF ARR FOR FY 2019-20</u></b>	<b><u>43</u></b>
4.1	METHODOLOGY FOR TRUING UP	43
4.2	INSTALLED AND EFFECTIVE CAPACITY OF FY 2019-20	44
4.3	PLANT AVAILABILITY FACTOR (PAF)/CAPACITY INDEX	44
4.4	PLANT LOAD FACTOR (PLF)	47
4.5	AUXILIARY CONSUMPTION	48
4.6	GROSS GENERATION AND NET GENERATION	50
4.7	STATION HEAT RATE (SHR)	51
4.8	FUEL COST	52

4.9	INCENTIVE FOR GENERATION .....	54
4.10	O&M EXPENSES .....	56
4.11	CAPITALISATION .....	60
4.12	FUNDING OF CAPITALISATION .....	61
4.13	DEPRECIATION .....	62
4.14	INTEREST ON LOAN CAPITAL .....	64
4.15	RETURN ON EQUITY (ROE).....	68
4.16	INTEREST ON WORKING CAPITAL (IOWC).....	69
4.17	INCOME TAX.....	71
4.18	CAPACITY BUILDING .....	71
4.19	SPECIAL R&M EXPENSES .....	72
4.20	NON-TARIFF INCOME .....	74
4.21	SHARING OF GAINS AND LOSSES .....	74
4.22	REDUCTION IN ANNUAL FIXED CHARGES.....	76
4.23	SUMMARY OF TRUE-UP FOR FY 2019-20.....	77
4.24	NET ARR FOR EFFECTIVE CAPACITY .....	80
4.25	REVENUE FROM SALE OF POWER .....	80
<b>5</b>	<b><u>REVISED CAPITAL INVESTMENT PLAN FOR FY 2020-21 AND FY 2021-22.....</u></b>	<b>82</b>
5.1	REGULATORY PROVISIONS .....	82
5.2	CAPITAL EXPENDITURE – EXISTING PROJECTS.....	82
5.3	CAPITAL EXPENDITURE AND FUNDING .....	86
<b>6</b>	<b><u>ANNUAL PERFORMANCE REVIEW FOR FY 2020-21.....</u></b>	<b>87</b>
6.1	METHODOLOGY FOR ANNUAL PERFORMANCE REVIEW .....	87
6.2	INSTALLED AND EFFECTIVE CAPACITY OF FY 2020-21 .....	88
6.3	PLANT AVAILABILITY FACTOR (PAF)/CAPACITY INDEX .....	88
6.4	PLANT LOAD FACTOR (PLF).....	90
6.5	AUXILIARY CONSUMPTION .....	91
6.6	GROSS GENERATION AND NET GENERATION .....	92
6.7	STATION HEAT RATE.....	93

6.8	FUEL COST .....	94
6.9	O&M EXPENSES .....	97
6.10	CAPITAL EXPENDITURE AND CAPITALISATION .....	98
6.11	DEPRECIATION .....	100
6.12	INTEREST ON LOAN CAPITAL .....	101
6.13	RETURN ON EQUITY (ROE).....	103
6.14	INTEREST ON WORKING CAPITAL (IOWC).....	104
6.15	NON-TARIFF INCOME .....	106
6.16	IMPACT OF AERC (PAYMENT OF FEES, ETC.) REGULATIONS, 2020.....	106
6.17	OTHER EXPENSES.....	107
6.18	SUMMARY OF APR FOR FY 2020-21 .....	107
6.19	NET ARR FOR EFFECTIVE CAPACITY .....	109
6.20	REVENUE FROM SALE OF POWER .....	109
6.21	REVENUE GAP/(SURPLUS) FOR FY 2020-21 .....	110
<b>7</b>	<b><u>REVISED ARR FOR FY 2021-22 .....</u></b>	<b><u>112</u></b>
7.1	INTRODUCTION .....	112
7.2	EFFECTIVE CAPACITY FOR FY 2021-22.....	112
7.3	GAS SUPPLY POSITION FOR FY 2021-22 .....	113
7.4	PLANT LOAD FACTOR (%) .....	116
7.5	AUXILIARY CONSUMPTION (%) .....	116
7.6	GROSS GENERATION AND NET GENERATION .....	117
7.7	STATION HEAT RATE.....	118
7.8	FUEL COST .....	119
7.9	O&M EXPENSES .....	120
7.10	CAPITAL EXPENDITURE AND CAPITALISATION .....	121
7.11	DEPRECIATION .....	122
7.12	INTEREST ON LOAN .....	123
7.13	RETURN ON EQUITY.....	125
7.14	INTEREST ON WORKING CAPITAL (IOWC).....	126
7.15	IMPACT OF AERC (PAYMENT OF FEES, ETC.) REGULATIONS,2020 .....	127
7.16	OTHER EXPENSES.....	128

7.17	NON-TARIFF INCOME .....	129
7.18	SUMMARY OF ARR FOR FY 2021-22 .....	130
7.19	NET ARR FOR EFFECTIVE CAPACITY .....	133
<b>8</b>	<b><u>TARIFF FOR FY 2021-22 .....</u></b>	<b>134</b>
8.1	CUMULATIVE REVENUE GAP/(SURPLUS) AND NET ARR FOR RECOVERY .....	134
8.2	FIXED CHARGES AND ENERGY CHARGES FOR FY 2021-22 FOR NTPS, LTPS AND LRPP .....	135
8.3	CAPACITY CHARGES AND ENERGY CHARGE RATE FOR KLHEP .....	136
8.4	GENERATION TARIFF FOR FY 2021-22.....	137
8.5	APPLICABILITY OF TARIFF .....	138
<b>9</b>	<b><u>DIRECTIVES .....</u></b>	<b>139</b>
<b>10</b>	<b><u>ANNEXURE 1: MINUTES OF THE 27<sup>TH</sup> MEETING OF THE STATE ADVISORY COMMITTEE .....</u></b>	<b>144</b>
	<b><u>ANNEXURE 2- STATION WISE DEPRECIATION .....</u></b>	<b>150</b>

## **List of Tables**

Table 1: True-up of ARR for FY 2019-20 as submitted by APGCL (Rs. Crore).....	24
Table 2: Summary of Capital Expenditure Plan for FY 2020-21 and FY 2021-22 (Rs. Crore).....	25
Table 3: ARR after APR for FY 2020-21 as submitted by APGCL (in Rs Crore) .....	26
Table 4: Revised ARR for FY2021-22 for NTPS, LTPS, KLHEP and LRPP as projected by APGCL (Rs. Crore).....	26
Table 5: Tariff of NTPS,LTPS,KLHEP and LRPP for FY 2021-22 as proposed by APGCL.....	27
Table 6: Installed and Effective Capacity for FY 2019-20 (MW).....	44
Table 7: Actual PAF/Capacity Index as submitted by APGCL.....	44
Table 8: PAF/Capacity Index as approved by the Commission for FY 2019-20 .....	47
Table 9: Auxiliary Consumption for FY 2019-20as submitted by APGCL.....	48
Table 10: Auxiliary Consumption (%) as approved by the Commission in the truing up for FY 2019-20 .....	50
Table 11: Actual Gross and Net Generation for FY 2019-20 as submitted by APGCL .....	50
Table 12: Gross and Net Generation for FY 2019-20 as approved by the Commission .....	51
Table 13: Station Heat Rate (kcal/kWh) for FY 2019-20as approved by the Commission .....	52
Table 14: Actual Weighted Average GCV and Landed Price of Gas for FY 2019-20considered by the Commission.....	53
Table 15: Normative Fuel Cost for FY 2019-20 as computed by the Commission ...	54
Table 16: Fuel Cost approved by the Commission in truing up for FY 2019-20 (Rs. Crore).....	54
Table 17: Secondary Charge Incentive for KLHEP for FY 2019-20.....	55
Table 18: Incentive approved by the Commission for KLHEP .....	56
Table 19: O&M expenses for FY 2019-20 as claimed by APGCL (Rs. Crore).....	56

Table 20: Details of O&M expenses claimed by APGCL for FY 2019-20 (Rs. Crore)	57
Table 21: ROP arrears for FY 2019-20 (Rs. Crore).....	57
Table 22: Normative O&M Expenses approved for FY 2019-20 (Rs. Crore) .....	58
Table 23: Normative O&M Expenses of LRPP for FY 2019-20 (Rs. Crore).....	58
Table 24: Donations and CSR expenses for FY 2019-20 (Rs. Crore) .....	59
Table 25: Actual O&M Expenses approved for FY 2019-20 (Rs. Crore) .....	59
Table 26: Capitalisation claimed for FY 2019-20 (Rs. Crore).....	60
Table 27: Additional Capitalisation incurred in FY2019-20 Post COD for LRPP (Rs. Crore).....	60
Table 28: Capitalisation approved for FY 2019-20 (Rs. Crore) .....	61
Table 29: Funding of Capitalisation approved for FY 2019-20 (Rs. Crore).....	62
Table 30: Details of Depreciation claimed by APGCL for FY 2019-20 (Rs. Crore) ...	62
Table 31: Depreciation for FY 2019-20 as approved by the Commission (Rs. Crore) .....	64
Table 32: Interest Charges as submitted by APGCL for FY 2019-20 (Rs. Crore).....	65
Table 33: Computation of Normative loan outstanding as on April 1, 2019 (Rs. Crore) .....	66
Table 34: Interest on Loan Capital for FY 2019-20 as approved by the Commission (Rs. Crore) .....	67
Table 35: Return on Equity approved by the Commission for FY 2019-20 (Rs. Crore) .....	69
Table 36: IoWC as approved by the Commission for FY 2019-20 (Rs. Crore) .....	70
Table 37: Capacity building submitted by APGCL for Truing-up of FY 2019-20 (Rs. Crore).....	72
Table 38: Special R&M Expenses incurred by APGCL in FY 2019-20 (Rs. Crore) ..	72
Table 39: Non-Tariff Income as claimed by APCGL for True-up for FY 2019-20 (Rs. Crore).....	74
Table 40: Sharing of (Gains)/Losses for O&M Expenses for FY 2019-20 (Rs. Crore) .....	75

Table 41: Sharing of (Gains)/Loss on account of Fuel Parameters as approved by the Commission in the True-up for FY 2019-20 (Rs. Crore).....	75
Table 42: Sharing of (Gain)/Loss on account of Auxiliary Consumption as approved by the Commission in the True-up for FY 2019-20 .....	76
Table 43: Total Sharing of (Gain)/Loss approved by the Commission in the True-up for FY 2019-20 (Rs. Crore) .....	76
Table 44: Reduction of fixed costs as approved by the Commission for True-up for FY 2019-20 (Rs. Crore).....	77
Table 45: True-up ARR for Existing Generating Stations for FY 2019-20 as approved by the Commission (Rs. Crore).....	78
Table 46: True-up ARR for Existing Generating Stations for FY 2019-20 as approved by the Commission at Effective Capacity (Rs. Crore) .....	80
Table 47: Revenue from Sale of Power as claimed by APGCL (Rs. Crore) .....	80
Table 48: Revised Capital Expenditure proposed for NTPS for FY 2020-21 and FY 2021-22 (Rs. Crore).....	83
Table 49: Revised Capital Expenditure proposed for LTPS for FY 2020-21 and FY 2021-22 (Rs. Crore).....	83
Table 50: Revised Capital Expenditure proposed for KLHEP for FY 2020-21 and FY 2021-22 (Rs. Crore).....	83
Table 51: Revised Capital Expenditure for Asset Valuation in FY 2020-21 (Rs. Crore) .....	85
Table 52: Revised Capital Expenditure for ERP Implementation in FY 2020-21 and FY 2021-22 (Rs. Crore).....	85
Table 53: Revised Capital Expenditure approved for FY 2020-21 and FY 2021-22 (Rs. Crore).....	86
Table 54: Installed and Effective Capacity for FY 2020-21.....	88
Table 55: Availability as submitted by APGCL for FY 2020-21 .....	89
Table 56: Target PAF/Capacity Index for recovery of full fixed Charges .....	90
Table 57: Plant Load Factor submitted by APGCL for FY 2020-21 .....	90
Table 58: Auxiliary Consumption considered by the Commission for FY 2020-21 ...	91



Table 59: Gross and Net Generation as submitted by APGCL for FY 2020-21 .....	92
Table 60: Gross Generation and Net Generation considered by the Commission in the APR for FY 2020-21 .....	93
Table 61: Gross Station Heat Rate (kcal/kWh) as projected by APGCL for FY 2020-21 .....	93
Table 62: Gross Station Heat Rate (kcal/kWh) considered in APR for FY 2020-21..	94
Table 63: Actual Plant-wise GCV and Price as submitted by APGCL for FY 2020-21 .....	94
Table 64: Total Fuel Cost for NTPS for FY 2020-21 as submitted by APGCL (Rs. Crore) .....	95
Table 65: Total Fuel Cost for LTPS for FY 2020-21 as submitted by APGCL (Rs. Crore) .....	95
Table 66: Total Fuel Cost for LRPP for FY 2020-21 as submitted by APGCL (Rs. Crore) .....	96
Table 67: GCV and Landed Price of Gas for FY 2020-21 considered by the Commission.....	96
Table 68: Fuel Cost considered by the Commission in APR for FY 2020-21 .....	97
Table 69: Normative O&M expenses for FY 2020-21 considered in APR (Rs. Crore) .....	98
Table 70: Capital Expenditure plan as submitted by APGCL for FY 2020-21 (Rs. Crore) .....	98
Table 71: Capital Expenditure and Capitalisation as considered by the Commission for FY 2020-21 (Rs. Crore) .....	99
Table 72: Funding of Capitalisation as considered by the Commission for FY 2020-21 (Rs. Crore) .....	100
Table 73: Station-wise depreciation considered for APR for FY 2020-21 (Rs. Crore) .....	101
Table 74: Interest on Loan Capital considered for APR for FY 2020-21 (Rs. Crore) .....	102

Table 75: Return on Equity considered by the Commission for FY 2020-21 (Rs. Crore)	103
Table 76: Interest on Working Capital considered for APR for FY 2020-21(Rs. Crore)	105
Table 77: Non-Tariff Income considered for APR for FY 2020-21 (Rs. Crore).....	106
Table 78: Other expenses submitted by APGCL for APR for FY 2020-21 (Rs. Crore)	107
Table 79: ARR for Existing Generation Stations for FY 2020-21 considered by the Commission in APR (Rs. Crore) .....	108
Table 80: APR for Existing Generating Stations for FY 2020-21 as approved by the Commission at Effective Capacity (Rs. Crore) .....	109
Table 81: Revenue Gap/Surplus after APR for FY 2020-21(Rs.Crore) .....	110
Table 82: Effective Installed Capacity for Existing Generating Stations post commissioning of LRPP and NRPP .....	113
Table 83: Plant Availability factor as projected by APGCL for FY 2021-22 .....	115
Table 84: Plant Availability factor as approved by Commission for FY 2021-22.....	115
Table 85: Plant Load Factor (%) as projected by APGCL .....	116
Table 86: Auxiliary Consumption as projected by APGCL .....	117
Table 87: Gross Generation and Net Generation as projected by APGCL for FY 2021-22 .....	117
Table 88: Gross and Net Generation as approved by Commission for FY 2021-22	118
Table 89: Station Heat Rate (kcal/kWh) as submitted by APGCL for FY 2021-22..	118
Table 90: GCV and Landed Price of Gas for FY 2021-22 claimed by APGCL .....	119
Table 91: Projected Landed Cost of Gas for FY 2021-22 as calculated by APGCL (Rs. Crore).....	119
Table 92: GCV and Landed Price of Gas for FY 2021-22 considered by the Commission.....	120
Table 93: Fuel Cost approved by the Commission for FY 2021-22 .....	120
Table 94: Normative O&M Expenses for FY 2021-22 (Rs. Crore).....	121

Table 95: Capital Expenditure plan as submitted by APGCL for FY 2021-22 (Rs. Crore)	121
Table 96: Capital Expenditure and Capitalisation as considered by the Commission (Rs. Crore)	122
Table 97: Funding of Capitalisation as considered by the Commission (Rs. Crore)	122
Table 98: Depreciation for FY 2021-22 as approved by the Commission (Rs. Crore)	123
Table 99: Interest on Loan Capital for FY 2021-22 as approved by the Commission (Rs. Crore)	124
Table 100: Return on Equity for FY 2021-22 as approved by the Commission (Rs. Crore)	125
Table 101: Interest on Working Capital for FY 2021-22 as approved by the Commission (Rs. Crore)	126
Table 102: Special R&M Expenses claimed by APGCL in FY 2021-22 (Rs. Crore)	128
Table 103: Capacity Building submitted by APGCL for ARR of FY 2021-22 (Rs. Crore)	129
Table 104: Other Income approved for FY 2021-22 (Rs. Crore)	130
Table 105: Summary of ARR for FY 2021-22 as approved by the Commission (Rs. Crore)	131
Table 106: ARR for Existing Generating Stations for FY 2021-22 as approved by the Commission at Effective Capacity (Rs. Crore)	133
Table 107: Revenue Gap/(Surplus) as submitted by APGCL (Rs. Crore)	134
Table 108: Revenue Gap/(Surplus) for FY 2019-20 as approved by the Commission (Rs. Crore)	134
Table 109: Proposed Generation tariff as submitted by APGCL (Rs. Crore)	135
Table 110: Fixed Charges as approved for FY 2021-22 by the Commission (Rs. Crore)	136
Table 111: Energy Charges for FY 2021-22 approved by the Commission (Rs. Crore)	136
Table 112: Proposed Generation tariff for KLHEP as submitted by APGCL	137

Table 113: Capacity Charges and Energy Charges approved by the Commission for KLHEP for FY 2021-22..... 137

Table 114: Generation Tariff for FY 2021-22 approved by the Commission..... 137

Table 115: Provisional Tariff for NRPP for FY 2021-22 as approved by the Commission ..... 138

## 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
FAR	Fixed Asset Register
FINER	Federation of Industry & Commerce of North Eastern Region
FPA	Fuel 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
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 K.S Krishna, Chairperson**

**Smt. B. Borthakur, Member**

**Shri S.N Kalita, Member**

Petition No. 20,21,22,23,24,25/2020

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

## **ORDER**

**(Passed on February 15, 2021)**

- (1) APGCL filed Petition for approval of Truing up for FY 2019-20, Annual Performance Review (APR) for FY 2020-21, Revised Aggregate Revenue Requirement (ARR) for FY 2021-22 and determination of Tariff for FY 2021-22 for NTPS, LTPS, KLHEP and LRPP as per the AERC (Terms and Conditions for determination of Multi-Year Tariff) Regulations, 2018 (MYT Regulations, 2018) on December 03, 2020. The same was registered as Petition No. 20,21,22,23,24,25/2020.
- (2) The Commission observed that there were a few inconsistencies in the Petition. The Commission sought additional data and clarifications on the Petitions vide letter dated December 11, 2020.
- (3) The Commission held an Admissibility Hearing on December 14, 2020 and admitted the Petitions (Petition No.s 20,21,22,23,24,25/2020) vide Order dated December 14, 2020, subject to submission of additional information as sought for.
- (4) On admission of the Petition, in accordance with Section 64 of the Electricity Act, 2003, the Commission directed APGCL to publish a summary of the ARR and Tariff filings in local dailies to facilitate due public participation.
- (5) Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from stakeholders to be submitted on or before January 11, 2021. The notice was



published in five (5) leading newspapers and short notice was published in five (5) leading newspapers of the State, as shown in the Table below:

<b>Date</b>	<b>Name of Newspaper</b>	<b>Content Published</b>
17.12.2020	Amar Asom	Public Notice in Assamese
17.12.2020	Dainik Janambhumi	Public Notice in Assamese
17.12.2020	The Assam Tribune	Public Notice in English
17.12.2020	Dainik Jugasankha	Public Notice in English
17.12.2020	Purbanchal Prahari	Public Notice in English
17.12.2020	Asomiya Pratidin	Short Notice in Assamese
17.12.2020	The Telegraph	Short Notice in English
17.12.2020	The Sentinel	Short Notice in English
17.12.2020	Bodosa (Bodo)	Short Notice in English
17.12.2020	Thekar (Karbi)	Short Notice in English

- (6) A copy of the Petition and other relevant documents were also directed to be made available to the consumers and other interested Parties at the office of the Managing Director of APGCL. A copy of the Petition was also made available on the websites of the Commission and APGCL.
- (7) The Commission decided to extend the last date of submission of objections/comments on Tariff Petitions up to January 19, 2021. The notice was published in one Leading Assamese and one leading English newspaper on January 07, 2021.

<b>Date</b>	<b>Name of Newspaper</b>
07.01.2021	The Times of India
07.01.2021	Asomiya Pratidin

- (8) In response to the Commission's letter dated December 11, 2020, APGCL submitted their replies to data gaps on January 05, 2021. After scrutinizing the first set of replies, a Technical Validation Session (TVS) was conducted on January 19, 2021. The Commission sought more clarifications on the Petition from APGCL vide letter dated January 19, 2021. The replies to the second set of queries were submitted by APGCL on January 25, 2021.

- (9) The Petitions were also discussed in the 27<sup>th</sup> meeting of the State Advisory Committee (SAC) (constituted under Section 87 of the Electricity Act, 2003) held on December 19<sup>th</sup>, 2020 at Bidyut Niyamak Bhawan Six Mile, Guwahati.
- (10) The Commission received suggestion/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 notice was also published in Newspapers inviting participation from the general public as well as the Respondents. The Hearing was held at Bidyut Niyamak Bhawan Six Mile, Guwahati on February 6, 2021 as scheduled. All stakeholders/respondents who participated in the Hearing were given the opportunity to express their views on the Petition. The details are discussed in the Chapters attached with this Order.
- (11) The Commission, now in exercise of its powers and functions vested under Sections, 61, 62, 86 and 181 of the Electricity Act, 2003 and all other powers enabling it in this behalf and taking into consideration the submissions made by the Petitioner, objections and suggestions received from stakeholders and all other relevant materials on record, has approved the Truing-up for FY 2019-20, APR for FY 2020-21, revised ARR for FY 2021-22 and determined the Tariff for FY 2021-22, as detailed in the Chapters attached with this Order.
- (12) The Commission directs APGCL to publish a Public Notice intimating the revised Generation Tariff before the implementation of this Order, in English and Vernacular newspapers and on the website of APGCL.
- (13) The approved Generation Tariff shall be effective from April 01, 2021 and shall continue until replaced by any subsequent Order of the Commission.
- (14) Accordingly, the Petition 20, 21, 22, 23, 24, 25 of 2020 stands disposed of.

Sd/-  
**(S.N. Kalita)**  
**Member, AERC**

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

Sd/-  
**(K. S. Krishna)**  
**Chairperson, AERC**

# 1 INTRODUCTION

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## 1.1 Constitution of the Commission

- 1.1.1 The Assam Electricity Regulatory Commission (hereinafter referred to as the AERC or the Commission) was established under the Electricity Regulatory Commissions Act, 1998 (14 of 1998) on February 28, 2001. The first proviso of Section 82(1) of the Electricity Act, 2003 (hereinafter referred as the Act or the EA, 2003) has ensured continuity of the Commission under the Electricity Act, 2003.
- 1.1.2 The Commission is mandated to exercise its powers and functions vested under Sections 61, 62, 86 and 181 of the Electricity Act, 2003 and all the other powers enabling it in this behalf, to determine the ARR and Tariff of APGCL.

## 1.2 Tariff related Functions of the Commission

- 1.2.1 Under Section 86 of the Act, the Commission has the following tariff related functions:
- a) To determine the tariff for electricity, wholesale, bulk or retail, as the case may be;
  - b) To regulate power purchase and procurement process of the distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
  - c) To promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.
- 1.2.2 Under Section 61 of the Act in the determination of tariffs, the Commission is to be guided by the following:
- a) The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
  - b) The electricity generation, transmission, distribution and supply are conducted on commercial principles;
  - c) Factors that would encourage efficiency, economical use of the resources, good performance, optimum investments, and other matters which the State Commission considers appropriate for the purpose of this Act;
  - d) The interests of the consumers are safeguarded and at the same time, the

consumers pay for the use of electricity in a reasonable manner based on the cost of supply;

- e) The tariff progressively reflects the cost of supply of electricity at an adequate and improving level of efficiency and also gradually reduces cross subsidies;
- f) The National Electricity Plan formulated by the Central Government including the National Electricity Policy and Tariff Policy.

### **1.3 Background**

1.3.1 APGCL is the successor corporate entity of erstwhile ASEB formed pursuant to the notification of the Government of Assam, notified under sub-sections (1), (2), (5), (6) and (7) of Section 131 and Section 133 of the Electricity Act 2003 (Central Act 36 of 2003), for the purpose of transfer and vesting of functions, properties, interests, rights, obligations and liabilities, along with the transfer of personnel of the Board to successor entities.

1.3.2 APGCL owns and operates the generating stations previously owned by Assam State Electricity Board (ASEB). APGCL started functioning as a separate entity from December 10, 2004.

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

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, 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.

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

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

*...*

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

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

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

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

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

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

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

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

## **1.5 Procedural History**

- 1.5.1 As per Regulation 18 of the MYT Regulations, 2018, APGCL is required to file an application for true-up for previous year, i.e., FY 2019-20, APR of current year, i.e., FY 2020-21 and revised ARR and Tariff for ensuing year, i.e., FY 2021-22, by 30<sup>th</sup> November of each year of the Control Period. APGCL filed its Petition for approval of True-up for FY 2019-20, APR for FY 2020-21 and revised ARR and Tariff for FY 2021-22 on December 03, 2020. The same were registered as Petition No.s 20,21,22,23,24,25/2020.
- 1.5.2 The Commission observed that there were a few inconsistencies in the Petition. The Commission raised queries in order to clarify the discrepancies, inconsistencies, and data gaps. The Commission sought additional data and clarifications on the Petitions vide letter dated December 11, 2020.
- 1.5.3 The Commission held an Admissibility Hearing on December 14, 2020 and admitted the Petition (Petition No.20,21,22,23,24,25/2020) vide Order dated December 14, 2020.
- 1.5.4 On admission of the Petition (Petition No.20,21,22,23,24,25/2019), in accordance with Section 64 of the Electricity Act 2003, the Commission directed APGCL to publish a summary of the ARR and Tariff filings in local dailies to facilitate due public participation.
- 1.5.5 Further, APGCL was directed to publish advertisement in few other newspapers stating that the copy of the Petition is made available on their website. A copy of the Petition and other relevant documents were also directed to be made available to the consumers and other interested Parties at the office of the Managing Director of APGCL. A copy of the Petition was also made available on the websites of the Commission and APGCL.
- 1.5.6 Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from stakeholders to be submitted on or before January 11, 2021. The notice was published in five (5) leading newspapers and short notice was published in five (5) leading newspapers of the State on December 17, 2020, as shown in the Table below:

<b>Date</b>	<b>Name of Newspaper</b>	<b>Content Published</b>
17.12.2020	Amar Asom	Public Notice in Assamese
17.12.2020	Dainik Janambhumi	Public Notice in Assamese
17.12.2020	The Assam Tribune	Public Notice in English
17.12.2020	Dainik Jugasankha	Public Notice in English
17.12.2020	Purbanchal Prahari	Public Notice in English
17.12.2020	Asomiya Pratidin	Short Notice in Assamese
17.12.2020	The Telegraph	Short Notice in English
17.12.2020	The Sentinel	Short Notice in English
17.12.2020	Bodosa (Bodo)	Short Notice in English
17.12.2020	Thekar (Karbi)	Short Notice in English

1.5.7 The Commission decided to extend the last date of submission of objections/comments on Tariff petition filed by APGCL up to January 19, 2021. The notice was published in one Leading Assamese and one leading English newspaper on January 07, 2021 as shown in the Table below:

<b>Date</b>	<b>Name of Newspaper</b>
07.01.2021	The Times of India
07.01.2021	Asomiya Pratidin

1.5.8 In response to the Commission's letter dated December 11<sup>th</sup>, 2020, APGCL submitted their replies to data gaps on January 05, 2021. After scrutinizing the first set of replies, a Technical Validation Session (TVS) was conducted on January 19, 2021. The Commission sought more clarifications on the Petition from APGCL vide letter dated January 19, 2021. The replies to the second set of queries were submitted by APGCL on January 25, 2021.

1.5.9 The Commission received suggestion/objections from three (3) stakeholders on the Petitions filed by APGCL. APGCL was asked to submit its responses to the submissions of the stakeholders. The stakeholders were notified about the place, date and time of Hearing, to enable them to take part in the Hearing. A notice was also published in Newspapers inviting participation from the general public as well as the Respondents. The Hearing was held at Bidyut Niyamak Bhawan Six Mile, Guwahati on February 6, 2021 as scheduled. All stakeholders/respondents who participated in

the Hearing were given the opportunity to express their views on the Petition.

1.5.10 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.

## **1.6 State Advisory Committee Meeting**

1.6.1 A meeting of the SAC was convened on December 19<sup>th</sup>, 2020 and members were briefed on the Tariff Petition of APGCL. The Minutes of the SAC meeting are appended to this order as **Annexure 1**.



## 2 Summary of APGCL's Petition

### 2.1 Background

2.1.1 APGCL submitted the Petition on December 3, 2020 seeking approval for Truing up for FY 2019-20, APR for FY 2020-21 and revised ARR and determination of Tariff for FY 2021-22 (Petition No. 20, 21, 22, 23, 24, 25/2020). The Generation Tariff is to be recovered from APDCL, who is the sole buyer of power from APGCL.

### 2.2 True-up for FY 2019-20

2.2.1 APGCL has submitted the true-up for NTPS, LTPS, LRPP and KLHEP for FY 2019-20. APGCL submitted that the True-up for FY 2019-20 is based on the audited accounts and in line with the provisions on true-up of various costs as specified under Section 10 of the MYT Regulations, 2018. The summary of ARR and Revenue Gap/ (Surplus) claimed by APGCL for FY 2019-20 is shown in the following Table:

**Table 1: True-up of ARR for FY 2019-20 as submitted by APGCL (Rs. Crore)**

Sl. No	Particulars	NTPS	LTPS	KLHEP	LRPP	Total APGCL
I	<b>Power Generation</b>					
1	Gross Generation (MU)	252.86	362.01	398.53	504.20	1517.60
2	Net Generation (MU)	237.85	324.39	396.85	489.48	1448.57
3	Auxiliary Consumption (%)	5.94%	10.39%	0.42%	2.92%	4.55%
II	<b>Fixed Charges</b>					
4	Operation & Maintenance Expenses	36.56	38.71	28.80	20.48	124.54
5	Employee Expenses	30.09	25.73	21.68	12.80	90.31
6	R&M Expenses	4.63	8.96	3.96	6.64	24.19
7	A&G Expenses	1.83	4.02	3.16	1.04	10.05
8	Interest & Finance Charges	0.10	0.03	20.68	3.66	24.46
9	Interest on working Capital	4.06	5.11	2.26	3.72	15.15
10	Depreciation	1.46	11.15	21.13	2.60	36.34
11	Return on Equity	8.53	22.18	10.64	2.37	43.72
12	Income taxes	0.21	0.41	0.23	0.32	1.16
13	Impact of ROP	2.49	2.82	1.19	0.50	6.99
14	Special R&M	0.00	0.00	0.00	0.00	0.00
15	Capacity Building	0.11	0.11	0.11	-	0.34
16	Less: Other Income	15.44	25.37	16.69	0.00	57.49
II	<b>Total Fixed Charges</b>	38.08	55.15	68.34	33.65	195.21
III	<b>Fuel Cost</b>	80.88*	108.21	-	95.13	284.23

Sl. No	Particulars	NTPS	LTPS	KLHEP	LRPP	Total APGCL
IV	<b>Total Revenue Requirement</b>	118.96	163.36	68.34	128.78	479.44
V	Generation Incentive for FY 2019-20	0.00	0.00	0.01	0.00	0.01
VI	Incentive for secondary energy generation	0.00	0.00	0.72	0.00	0.72
VII	<b>Total Cost</b>	<b>118.96</b>	<b>163.36</b>	<b>69.08</b>	<b>128.78</b>	<b>480.18</b>
VIII	<b>Revenue from Sale of Power</b>	<b>90.01</b>	<b>174.52</b>	<b>96.49</b>	<b>134.42</b>	<b>495.44</b>
IX	<b>Revenue Gap/(Surplus)</b>	<b>28.95</b>	<b>(11.16)</b>	<b>(27.41)</b>	<b>(5.64)</b>	<b>(15.26)</b>

\*Note: APGCL has revised its claimed of fuel cost of NTPS to Rs. 82.26 Crore in data gaps reply, due to revision in price of gas

2.2.2 APGCL has claimed Revenue Surplus of Rs 15.26 Crore in the true-up for FY 2019-20.

### 2.3 Revised Capital Investment Plan for FY 2020-21 and FY 2021-22

2.3.1 APGCL has claimed Revised Capital Investment Plan for FY 2020-21 and FY 2021-22 in line with Regulation 6 of the MYT Regulations, 2018, as shown in the following Table:

**Table 2: Summary of Capital Expenditure Plan for FY 2020-21 and FY 2021-22 (Rs. Crore)**

Sl. No	Particulars	FY 2020-21			FY 2021-22		
		Equity	Loan	Grant	Equity	Loan	Grant
I	<b>Existing Projects</b>						
	NTPS	0.00	0.94	0.00	0.00	1.58	0.00
	LTPS	0.00	6.85	0.00	0.00	6.72	0.00
	KLHEP	0.00	15.92	0.00	0.00	1.70	0.00
II	<b>Other Projects</b>						
	Asset Valuation		0.10	0.86			
	ERP Implementation and Infrastructure Development of APGCL		1.48	13.29		1.10	9.88
	<b>Total</b>	<b>0.00</b>	<b>25.29</b>	<b>14.16</b>	<b>0.00</b>	<b>11.10</b>	<b>9.88</b>

### 2.4 Annual Performance Review for FY 2020-21

2.4.1 APGCL has claimed the ARR after APR for FY 2020-21 based on its estimations, as detailed in the Table below:

**Table 3: ARR after APR for FY 2020-21 as submitted by APGCL (in Rs Crore)**

Sl. No	Particulars	NTPS*	LTPS*	KLHEP	LRPP	Total APGCL
I	<b>Power Generation</b>					
1	Gross Generation (MU)	173.73	395.92	341.11	519.40	1430.16
2	Net Generation (MU)	164.10	367.31	339.85	504.22	1375.49
3	Auxiliary Consumption (%)	5.54%	7.23%	0.40%	2.92%	3.82%
II	<b>Fixed Charges</b>					
4	Operation & Maintenance Expenses	36.06	37.26	30.34	21.30	124.96
5	Increase in AERC Tariff Filing fees	0.10	0.10	0.00	0.10	0.30
6	Interest & Finance Charges	0.05	0.00	19.62	3.54	23.21
7	Interest on working Capital	2.96	4.13	2.46	3.05	12.61
8	Depreciation	0.95	7.70	20.55	2.63	31.83
9	Return on Equity	5.57	15.16	10.64	2.44	33.81
10	Special R&M	0.00	0.00	0.00	0.00	0.00
11	Capacity Building	0.10	0.10	0.10	0.00	0.30
12	Less: Other Income	7.13	9.22	5.75	0.00	22.09
II	<b>Total Fixed Charges</b>	38.67	55.23	77.96	33.07	204.93
III	<b>Fuel Cost</b>	37.37	71.29	0.00	67.40	176.06
IV	<b>Total Revenue Requirement</b>	76.04	126.52	77.96	100.47	380.99
V	Revenue from Sale of Power	59.96	162.64	71.59	126.29	420.48
VI	<b>Revenue Gap/(Surplus)</b>	16.08	(36.13)	6.37	(25.82)	(39.49)

\*Note: The above ARR claimed by APGCL for NTPS and LTPS is after adjustment on account of effective capacity

## 2.5 Revised ARR for FY 2021-22 for NTPS, LTPS, KLHEP and LRPP

2.5.1 APGCL has projected the revised ARR for FY 2021-22 for NTPS, LTPS, KLHEP and LRPP as detailed in the Table below:

**Table 4: Revised ARR for FY2021-22 for NTPS, LTPS, KLHEP and LRPP as projected by APGCL (Rs. Crore)**

Particulars	NTPS*	LTPS*	KLHEP	LRPP	Total APGCL
Gross Generation (MU)	145.21	425.74	390.00	519.40	1480.35
Net Generation (MU)	138.68	402.32	388.05	501.22	1430.27
Auxiliary Consumption (%)	4.50%	5.50%	0.50%	3.50%	3.38%
<b>Fixed Charges</b>					
O&M Expenses	21.35	39.61	32.25	22.64	115.85

Particulars	NTPS*	LTPS*	KLHEP	LRPP	Total APGCL
Increase in AERC Tariff Filing fees	0.10	0.10	0.00	0.10	0.30
Interest & Finance Charges	0.04	0.00	18.21	3.23	21.48
Interest on working Capital	1.70	4.57	2.75	2.89	11.91
Depreciation	0.52	7.74	20.44	2.63	31.33
ROE	3.10	15.16	10.64	2.44	31.34
Special R&M	0.00	18.00	12.00	0.00	30.00
Capacity Building	0.13	0.13	0.13	0.00	0.39
Less: Other Income	7.13	9.22	5.75	0.00	22.10
<b>Total Fixed Charges</b>	<b>19.80</b>	<b>76.09</b>	<b>90.69</b>	<b>33.94</b>	<b>220.52</b>
<b>Fuel Cost</b>	<b>21.90</b>	<b>71.21</b>	<b>0.00</b>	<b>58.37</b>	<b>151.48</b>
<b>Total Revenue Requirement</b>	<b>41.70</b>	<b>147.30</b>	<b>90.69</b>	<b>92.30</b>	<b>371.99</b>
Fixed charges (Rs/kWh)	1.43	1.89	2.34	0.68	1.54
Energy Charges (Rs/kWh)	1.58	1.77	0.00	1.16	1.06
<b>Proposed Tariff (Rs/kWh)</b>	<b>3.01</b>	<b>3.66</b>	<b>2.34</b>	<b>1.84</b>	<b>2.60</b>

\*Note: The above ARR claimed by APGCL for NTPS and LTPS is after adjustment on account of effective capacity

## 2.6 Proposed Tariff for NTPS, LTPS, KLHEP and LRPP for FY 2021-22

2.6.1 The following Table shows the Tariff proposed by APGCL for NTPS, LTPS, KLHEP and LRPP for FY 2021-22:

**Table 5: Tariff of NTPS,LTPS,KLHEP and LRPP for FY 2021-22 as proposed by APGCL**

Particulars	NTPS	LTPS	KLHEP	LRPP
Annual Fixed Charges (Rs. Crore)	19.80	76.09	90.69	33.94
Monthly Fixed Charges (Rs. Crore)	1.65	6.34		2.83
Total Capacity Charges (Rs Crore)			45.34	
Energy Charge Rate (Rs. /kWh)	1.58	1.77	1.17	1.16

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

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

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

3.1.2 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 respondents 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 Public Hearing at its Office Building (Bidyut Niyamak Bhawan) on February 6, 2021.

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

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

## **Issue 1: Performance of State Generating Stations**

### **Stakeholders Comments**

#### **NTPS**

CAC submitted that the Namrup Replacement Power Project (NRPP) - Phase-1 was taken up in 2009 with completion target by 2012. But even after lapse of long 12 years' time, the project could not be completed and the old units of NTPS continued to be in operation. While a more frequent equipment check is recommended for such older machines, no overhauling & other major preventive repair & maintenance works were carried out, which led to lower efficiency and generation.

CAC submitted that APGCL lost 10.32 MU in FY 2019-20 due to evacuation constraints. CAC submitted that out of 3 nos. of 20 MVA auto transformers at 66/132 kV NTPS Switchyard, 1 no. has been lying inoperative due to some fault since 2017 and NTPS has been facing such constraints in evacuating power. CAC submitted that both APGCL and AEGCL must work in unison to resolve this issue.

CAC requested the Commission not to pass such gross inefficiencies of APGCL to the consumers and accountability fixed for such technical and managerial lapses.

#### **LTPS**

CAC submitted that In FY 2019-20 out of targeted 402.32 MU, LTPS could supply only 324.39 MU due to low gas pressure. CAC observed that Gas Supply Agreement envisages supply of gas with standard pressure at receiving end of the power station. Therefore, CAC questioned as to whether such inferior quality of supply has been intimated to the supplier and corresponding gas bills adjusted for lesser supply.

CAC further submitted that reasons of such lower generation have also been attributed to 1) Low fuel gas supply and 2) Emergency shutdown of HRSG (Heat Recovery Steam Generator) unit no -1. CAC questioned as to whether the cause of failure of the HRSG has been investigated and corrective measures were resorted to for future healthy operation of the system. CAC observed that low fuel gas supply problem has been sustaining since long & APGCL must take up this issue from commercial point of view with the suppliers as well as with the GOA.

#### **LRPP**

CAC submitted that LRPP could supply 489.48MU against approved 502.59 MU mainly for not having adequate fuel gas supply.

## **KLHEP**

CAC stated that out of 2 units at KLHEP, Unit no-1 was put under major overhauling in 2020. While the Unit no-2 had to be withdrawn as a result of heavy land slide that took place at the upstream of the DAM on the LHS during September 2020.

CAC observed that the cause of the landslide has to be studied in depth for a long-term solution and prevent repetition of such happenings. The short-term measures adopted to remove the impasse must be completed within such time so that proper generation from the plant could be achieved in the coming monsoon period. CAC requested the Commission to ask APGCL to clarify its future commitment on production schedule.

## **Response of APGCL**

### **NTPS**

APGCL submitted that it has provided the list of certificates for Generation Loss of NTPS due to Grid Restrictions and Auto Transformer Constraints as a part of its Petition.

APGCL informed that the Company had taken up the matter regarding the restoration of the 20MVA autotransformer with AEGCL. AEGCL tried to do the same putting all out efforts. However, as these transformers are very old, no spares could be found to repair it and there was no spare transformer available with AEGCL as well to replace it.

### **LTPS**

APGCL submitted that generation of LTPS suffered due to low gas supply. LTPS received only 0.67 MMSCMD of gas on average against the contracted quantity of 0.9 MMSCMD in FY 2019-20.

APGCL further submitted that auxiliary consumption of LTPS was higher than approved due to the gas compressors and part loading of units. APGCL don't claim any concession for higher auxiliary consumption.

APGCL informed that the issue pertaining to the damage of the HRSG unit 1 of LTPS was investigated and corrective measures have been taken.

## **Commission's views**

Noted. The analysis of the Commission regarding performance of the stations is discussed in subsequent chapters of this Order.

## **Issue 2: Plant Availability Factor (PAF)**

### **Stakeholders Comments**

FINER requested the Commission to consider normative PAF and gap between normative and actual PAF should be computed for the cost impact which should be disallowed to Petitioner. FINER also requested the Commission to pass on benefit of penal charges for not meeting normative PAF to consumers.

FINER & CAC submitted that the Petitioner has achieved the target of PAF for LTPS, KLHEP & LRPP, however, miserably failed at NTPS. The Capacity charges at normative norms of PAF @ 50% for NTPS is Rs 22.32 Cr as approved by the Commission vide its order dated March, 2019 for ARR for FY 2019-20. However, the Petitioner has achieved actual PAF of 33.93% which is only 67.86% of target. Accordingly, the Commission is requested to allow only 67.86% of Rs 22.32 Crore, i.e., Rs 15.14 Crore only.

ABITA requested the Commission to allow only the PAF norms specified in the Tariff Regulations, 2018 and allow recovery of fixed charges pro-rata to actual PAF achieved by each generating station.

### **Response of APGCL**

APGCL replied that the fixed cost for the operating power stations of APGCL is approved based on the Regulations by the Commission and the Fixed Cost of NTPS is also approved following the same principle based on the actual PAF of the station.

APGCL submitted that NTPS faced Force Majeure conditions in the form of grid disturbance and auto transformer constraints and therefore requested the Commission to approve the same as claimed in their petition. APGCL submitted the SLDC Certificate for FY 2019-20 to verify their claim.

### **Commission's View**

The Commission has approved the PAF for the generating stations after prudence check in accordance with the MYT Regulations 2018.

## **Issue 3: Gas Availability**

### **Stakeholders Comments**

CAC submitted that APGCL had an agreement with gas producers and suppliers which



embody the various commercial conditions related to such transactions on gas supply. CAC sought clarification as to whether correspondences have been maintained with the supplier in order to avoid the effect of “deemed supply” clause of the agreement.

CAC further questioned as to how APGCL is going to utilize the excess 0.17 mmscmd of fuel gas after commissioning of NRPP - phase-1. CAC suggested that the probable options may be 1) To continue with existing operating old units (after due R&M work) in conformity with the proposal given by APGCL or 2) To install new gas engines.

### **Response of APGCL**

APGCL submitted that it has been under constant communication with its suppliers for issues pertaining to gas supply. The gas suppliers cite Force majeure for lower gas supply. Further additional Force Majeure was declared by Oil India Limited on account of CAA/CAB Bandh and blow out of well no.5 at Baghjan. The copy of the Force Majeure Notice and minutes of discussions conducted with OIL and GAIL was submitted to the Commission as part of the response to additional query submitted by the Commission.

APGCL also submitted that it would continue generation from NTPS considering the residual gas available post utilization for NRPP. Regarding utilization of the residual gas post commissioning of NRPP with a new turbine/engine, planning for such new installation will be made after the stabilization of NRPP.

### **Commission’s View**

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

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

### **Stakeholders Comments**

FINER submitted that the Commission in the APGCL True-Up Order for FY 2018-19 has held at para 4.6.2 that “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.” The Petitioner in the True-Up Petition for FY 2019-20 has claimed the actual heat rate for computation of fuel cost and such actual heat rate is significantly higher in case of NTPS

and LRPP (4583.58 kcal/kWh and 2144 kcal/kWh respectively) than the normative heat rate prescribed by the Regulations. FINER urged the Commission that the fuel costs for the purposes of True-Up should be calculated at Normative Heat Rate.

ABITA requested the Commission not to pass on the performance inefficiencies of APGCL to the end consumers and consider the SHR as per approved norms for FY 2019-20 or actual, whichever is lower.

### **Response of APGCL**

APGCL submitted that the higher SHR for NTPS and LTPS plants are due to the lower gas supply, evacuation constraints, and operational implications of running the older units. The matter of approving the same is under the discretion of the Commission.

### **Commission's Views**

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 (APC)**

### **Stakeholders Comments**

ABITA & FINER submitted that in 2019-20, while the actual APC of KLHEP and LRPP are lower than the norms, the APC of NTPS and LTPS are very high. ABITA & FINER requested the Commission to allow the APC as per the norms specified in the Tariff Regulations, 2018.

CAC submitted that against approved APC of 5.50%, LTPS reported APC of 10.39%. Therefore, CAC suggested that proper energy auditing of the entire plant for each machine need to be conducted in order to identify the leakage point of the system.

### **Response of APGCL**

APGCL submitted that even though the issue of higher auxiliary consumption exists due to the gas compressors of LTPS and part loading of units in case of both LTPS and NTPS, APGCL, however, don't claim any concession for this higher auxiliary consumption. APGCL further informed that, under the PAT scheme of BEE, energy audit of LTPS is being conducted in regular intervals.

### **Commission's View**

Auxiliary consumption has been approved as per norms specified in the MYT Regulations, 2018. The details are available in the relevant Chapters of this Order.

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

#### **Stakeholders Comments**

ABITA submitted that APGCL has claimed Rs. 10.73 Crore towards additional capitalization and Rs. 0.98 Crore towards FERV loss for the LRPP project. ABITA submitted that as per APGCL, the expenditure undertaken post COD of LRPP is within the original scope of work and these were either works deferred for execution or undischarged liabilities recognized to be payable at a future date.

ABITA requested the Commission to consider the equity base and return on equity for the commissioned projects in accordance with Tariff Regulations, 2018. With regard to undischarged liabilities claimed as additional capitalization, ABITA requested the Commission to check the prudence and that only the liabilities discharged during the FY 2019-20 may be considered for tariff purpose.

#### **Response of APGCL**

No reply on this issue has been furnished.

### **Commission's View**

Return on Equity has been allowed as per norms specified in the MYT Regulations.

### **Issue 6: O& M Expenses**

#### **Stakeholders Comments**

FINER submitted that APGCL has claimed Rs. 124.54 Crore towards O&M Expenses. However, the O&M Expenses are to be claimed on prorated basis with the achieved plant availability factor and the recovery of the same shall be in terms of the clause 50 of the Tariff Regulations, 2018. As per the actual operating performance in FY 2019-20, the actual plant availability factor for NTPS (33.93%) have been lower than the target plant availability factor (50%) and hence, full O&M cannot be allowed in respect of NTPS. FINER

therefore, requested the Commission to allow O&M expenses to the tune of Rs. 106.18 Crore only.

ABITA recalculated the O & M Expenses claimed to Rs 119.06 Crore for FY 2019-20. CAC submitted that O&M expenses claimed should be on actual basis rather than on normative basis.

### **Response of APGCL**

APGCL submitted that it had claimed the actual O&M cost factoring in the operational implications of running the units with actual operating heat rates, actual cost of manpower, actual maintenance activities and general & administrative expenses incurred. APGCL requested the Commission to duly consider the O&M cost claimed on actual basis giving due consideration to the operating conditions of APGCL.

### **Commission's views**

The Commission has allowed O&M expenses after necessary prudence check and in accordance with the MYT Regulations. The details regarding computation of O&M are discussed in the relevant Chapters of this Order.

## **Issue 7: Interest and Finance Charges**

### **Stakeholders Comments**

ABITA submitted that APGCL proposed Interest & Finance charges of Rs. 24.47 Cr. as against approved amount of Rs. 25.63 Cr for FY 2019-20. ABITA computed less Net Interest on Loan Capital for Effective Capacity for NTPS, KLHEP and LRPP for both FY21 and FY22.

CAC submitted that in the true up petition the interest burden has been shown as Rs 24.95 Cr against approved amount of Rs 22.95 Cr. However, actual loan taken and actual interest charged by the bank with interest payment certificates were not furnished with the petition.

FINER submitted that the Petitioner while computing Interest and finance charges considered increase due to addition during the year/ period as Rs. 2.1 Crore for LRPP during FY 2019-20. However, in Tariff forms it has claimed Rs 11 Crore towards addition. The Objector further submitted that while computing the Interest and finance charges the Petitioner has not considered decapitalisation of Rs. 2.13 Crore as claimed for NTPS for

FY 2019-20 and the proceeds received from sale of asset on account of decapitalised assets are also not provided in the Petition.

### **Response of APGCL**

APGCL submitted that the Company claimed the normative interest on loan in line with Regulations 34 of the Tariff Regulations, 2018, which states that the Commission will consider interest on Loan capital on normative basis with repayment equal to depreciation allowed for that year and rate of interest will be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year.

APGCL submitted that it has furnished the Actual Interest Details and Certificates as part of its submission to the Commission on the queries raised on its petition.

APGCL submitted that it has considered the Loan addition for LRPP after consideration of grants and normative equity and has claimed interest in loan as per Tariff Regulations, 2018. The detailed loan, grant and equity breakup for additional capitalization was submitted to the Commission as part of the petition.

### **Commission's views**

The Commission has allowed the Interest and Finance expenses after necessary prudence check and in accordance with the MYT Regulations as discussed in the relevant Chapters of this order.

## **Issue 8: Impact of Pay Revision**

### **Stakeholders Comments**

CAC submitted that APGCL has claimed additional Rs 9.19 Crore, Rs 8.75 Crore and Rs 4.51 Crore as impact of ROP against approved amount of Rs 1.62 Crore, Rs 1.89 Crore and Rs 2.71 Crore in the matter of NTPS, KLHEP and LRPP respectively. CAC observed that the above needs to be clarified by APGCL.

CAC submitted that APGCL needs efficient management and a sound full time technical director with adequate knowledge on power generation and transmission. CAC requested the Commission to advise the GOA in this regard.

FINER submitted that APGCL's claim towards impact of pay revision is neither inferable from the audited accounts of FY 2019-20 nor petitioner has submitted any auditors

certificate in this regard. FINER, therefore, requested the Commission to allow such expenditure only after prudence check considering the achieved plant availability factor.

FINER also observed that the entire impact of the revision has been attributed to NTPS, LTPS and KHLEP and there is Rs. 0.50 Crore allocation towards LRPP which is lower than NTPS, LTPS & KHLEP. The respondent requested the Commission to ensure that the pay revision impact attributable towards the employees deployed in construction activities of LRPP may be capitalized and not charged to other operating plants.

### **Response of APGCL**

APGCL submitted that it has furnished the employee wise impact of Revision of Pay computation as part of its submission to the Commission on the queries raised on its petition. The reconciliation of employee expenses was also submitted to the Commission with its audited annual accounts.

The documentary evidence of all the bills passed for ROP arrears paid in FY 2019-20 have also been submitted to the Commission.

### **Commission's views**

Impact of Pay Revision has been illustrated in relevant sections of this Order.

## **Issue 9: Capacity Building**

### **Stakeholders Comments**

FINER submitted that the Petitioner has claimed Rs 0.33 Cr in FY 2019-20 and Rs. 0.13 Crore against Capacity Building expenses in FY 2020-21. However, the Petitioner has not submitted any documentary proof for claiming these expenses.

CAC submitted that the power plants like NTPS, LTPS were running efficiently in the past because preventive and routine maintenance of these units were effectively done by its own manpower. At present, even for routine maintenance works the company has to outsource manpower. CAC therefore, suggested that a team of permanent, skilled and trained manpower has become necessary and APGCL management must take up appropriate measures in this respect.

### **Response of APGCL**

APGCL submitted that the Company has submitted the details of capacity building

activities undertaken by it as part of its petition. The capacity building expenses incurred in the year is disclosed in the audited annual accounts of APGCL at 'Note 20 Employee Benefit Expenses'

APGCL submitted that most of the senior employees of APGCL are now retired and APGCL has been recruiting fresh employees from time to time. APGCL admitted that to continue the routine maintenance works, APGCL sometimes has to engage contractual manpower. APGCL takes the help of expert agencies for specialized jobs and also to impart training to the fresh employees.

### **Commission's View**

The Commission allows expenses towards Capacity Building at time of truing up for the respective Financial Year, subject to prudence check.

### **Issue 10: Aggregate Revenue Requirement (ARR)**

#### **Stakeholders Comments**

ABITA & FINER requested the Commission to consider their submissions regarding the True-up of FY 2019-20, APR of FY 2020- 21 and revised Tariff Projections for FY 2021-22 proposed by them, and accordingly review APGCL's Tariff Petition and approve the Generation Tariff and Annual Revenue Requirements. ABITA & FINER further requested the Commission disallow any relaxation in norms in the Controllable parameters as specified in the AERC Tariff Regulations, 2018.

#### **Response of APGCL**

No comment.

#### **Commission's views**

The Commission has allowed ARR after necessary prudence check and in accordance with the MYT Regulations, as discussed in the relevant Chapters of this order.

### **Issue 11: Fuel Cost**

#### **Stakeholders Comments**

ABITA submitted that APGCL has projected fuel costs for FY21 and FY22 considering the

fuel cost approved and actual expenses. ABITA observed that the heat rate, GCV, price of gas etc. parameters is not as approved in the AERC Tariff Order. ABITA recalculated the fuel expenses considering the normative parameters as per Tariff Regulations and March 2019 Tariff Order.

ABITA requested the Commission not to allow any liabilities arising out of the contractual agreements between the gas suppliers and APGCL or due to inefficiencies in plant operation. ABITA further requested the Commission to consider approval of Fuel Costs based on the methodology followed in AERC Tariff/ MYT Orders and AERC Tariff Regulations only.

CAC submitted that APGCL needs to clarify as to how the weighted average gross calorific value per standard cubic metre of supplied gas was calculated and verified against the bills. CAC submitted that the thermal efficiency of the machines has not been furnished and APGCL must submit the details to justify fuel cost claimed for FY 2019-20.

### **Response of APGCL**

APGCL submitted that it projected Fuel Cost considering its actual operating parameters for gross generation, SHR, GCV of gas received and the price of gas it has paid to the gas suppliers in the 1<sup>st</sup> 6 months of FY2020-21.

APGCL submitted that the calorific value of gas supplied by OIL is measured at OIL's laboratory and the monthly average calorific value is reconciled at a monthly reconciliation meeting in presence of the authorised representatives of NTPS, LTPS and APL. For the gas received from GAIL, GAIL has gas chromatographs to measure the real time CV and APGCL officers visit their facility time to time to monitor the parameters of the gas being supplied by GAIL. APGCL submitted that LTPS will also install gas chromatograph for real time monitoring of the gas supplied by its suppliers. Order has already been placed for the supply and installation of the required equipment.

### **Commission's views**

Noted.

## **Issue 12: Report of Statutory Auditor**

### **Stakeholders Comments**

FINER submitted a number of observations made by the statutory auditors and CAG and



requested the Commission to consider these during true-up and tariff determination.

### **Response of APGCL**

APGCL has noted the submissions of the statutory auditors and CAG and actions have been initiated, wherever necessary.

### **Commission's views**

The Commission has considered the report of the Statutory Auditors and CAG for True-up of FY 2019-20.

### **Issue 13: Special R&M**

FINER submitted that APGCL has claimed Special R&M to the tune of Rs. 30 Crore against the approved amount of Rs. 23.20 Crore in its Annual Revenue Requirement and Tariff Petition for FY 2021-22. FINER submitted that the Petitioner has failed in achieving the timeline of achieving special R&M as specified by Commission in its MYT Order for FY 2019-20 to FY 2021-22.

FINER observed that the Commission in its MYT order held that APGCL should ensure that the planned overhauling are undertaken as per the schedule and as approved, failing which the present approval shall stand lapsed, unless ordered otherwise by the Commission. However, the Petitioner revised the overhauling of LTPS Unit-6 approved in FY 2021-22 and has instead claimed the overhauling of LTPS Unit-7 which is contrary to the MYT Tariff Order.

FINER submitted that as per MYT Regulations, 2018, the generating company for meeting the expenditure on renovation and modernisation (R&M) for the purpose of extension of life beyond the useful life of the generating station or a unit thereof, shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis. However, the Petitioner has failed in submitting the documentary evidence in its instant Petition and therefore, FINER requested the Commission to disallow the Special R&M as claimed by the Petitioner for FY 2021-22 in entirety and to ask APGCL to strictly follow the timeline as specified in the Tariff Order.

### **Response of APGCL**

APGCL submitted that it has made all efforts to adhere to the timelines for the proposed

Special R&M works which have been submitted to the Commission from time to time. The execution of the actual work depends on the availability of funds.

APGCL requested the Commission to approve the proposed Special R&M activities which are of critical importance for the plant operations of APGCL.

#### **Commission's views**

Delay in execution of the projects by APGCL is a matter of concern for the Commission. Directions have been issued once again in this tariff order.

### **Issue 14: Fixed Asset Register**

#### **Stakeholders Comments**

FINER submitted that the Commission in its MYT Order dated March 2019 directed APGCL to prepare and update the Fixed Asset Register, duly certified by Chartered Accountant, every year and submit the same during tariff proceedings. Although, APGCL submitted that the same is maintained and available, however, the same should be available in public domain (maybe uploaded in web) and should be subjected to Review by the Public.

FINER requested the Commission to ask the Petitioner to furnish the relevant documents in the Public Domain under a separate head.

#### **Response of APGCL**

Noted.

#### **Commission's views**

Stakeholders may be allowed to inspect the Fixed Asset Registers at the Office of the Generating Company upon request.

### **Issue 15: Preventive Maintenance**

#### **Stakeholders Comments**

FINER submitted that the Commission in its MYT Order dated March 2019 directed APGCL to earnestly pursue preventive maintenance of its power stations using diagnostic tools and strategies, to avoid forced shutdown of its turbines and loss in revenue. However,

FINER submitted that actions to validate the directive could not be found in the present Petition.

FINER requested the Commission to ask the Petitioner to provide the plan for pursuing preventive maintenance station wise.

### **Response of APGCL**

APGCL submitted that the following actions are being taken for ensuring adequate preventive maintenance to avoid forced shutdowns:

NTPS:

1. Taking up scheduled maintenance activities as per OEM guidelines.
2. Generating timely alerts (reminders) through Computerised Maintenance Management System (CMMS) apps.

LTPS + LRPP:

1. Taking up scheduled maintenance activities as per OEM guidelines.
2. Generating timely alerts (reminders) through Computerised Maintenance Management System (CMMS) apps.

KLHEP:

1. Recording all vital parameters and preventive maintenance are taken to timely to avoid forced shutdowns
2. Taking up scheduled maintenance (weekly, monthly, quarterly, half yearly and annually) as per OEM guidelines

### **Commission's views**

Noted.

## 4 Truing up of ARR for FY 2019-20

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### 4.1 Methodology for Truing Up

- 4.1.1 The Commission approved the ARR for existing Generating Stations, viz., NTPS, LTPS and KLHEP for FY 2019-20 vide Order dated March 01, 2019. Further, the Commission had approved ARR for FY 2019-20 for LRPP vide separate Order dated March 01, 2019 in Petition No. 18 of 2018.
- 4.1.2 APGCL has submitted Truing-up Petition for FY 2019-20 based on audited Annual Accounts and provisions of MYT Regulations, 2018. APGCL has sought true-up for FY 2019-20, with the Revenue Gap/(Surplus) to be recovered from APDCL during FY 2021-22.
- 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, 2018. The projections might vary over the course of the year.
- 4.1.4 The actual cost/values for certain elements/parameters may vary as against the approved cost during the year due to various controllable and uncontrollable factors. The Generating Company may end up with higher or lower expenditure, as the case may be, at the end of the year as against the approved cost.
- 4.1.5 The Commission analyses the actual expenditure for the previous year/years based on the audited Annual Accounts of the Generating Company and allows/disallows the recovery of the actual expenditure through the ensuing year's tariff, subject to prudence check.
- 4.1.6 In the present Chapter, the Commission has carried out Truing up for FY 2019-20 for existing Generating Stations, i.e., NTPS, LTPS, KLHEP and LRPP based on the submissions of APGCL, audited Annual Accounts for FY 2019-20 and provisions of the MYT Regulations, 2018. Apart from the audited Accounts, the Commission sought Station-wise reconciliation of expenses claimed in the Petition with audited Accounts for FY 2019-20 and the same has been considered for Truing up purposes.
- 4.1.7 In this Chapter, the Commission has analysed all the elements of actual expenditure

and revenue of APGCL for FY 2019-20 and undertaken the truing-up of expenses and revenue in accordance with Regulation 9.1 of the MYT Regulations, 2018. 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 12 of the MYT Regulations, 2018.

## 4.2 Installed and Effective Capacity of FY 2019-20

4.2.1 APGCL submitted the following installed and effective capacity for FY 2019-20.

**Table 6: Installed and Effective Capacity for FY 2019-20 (MW)**

Station	Installed Capacity	No. of Units	Units Decommissioned	Units available for Generation	Effective Capacity
NTPS	119.5	6	1	2, 3(21MW), 4 (11 MW), 5 (24 MW), 6 (22.50 MW-WHRU)	99.5
LTPS	142.2	8	1,2,3,4	5,6,7(20 MW Each), 8 (37.20 MWWHRU)	97.2
KLHEP	100.0	2	0	1 (50), 2(50)	100
LRPP	69.755	7	0	1-7 (9.965 each)	69.755

4.2.2 The Commission has verified the decommissioning of Units, based on documentary evidence submitted by APGCL. The Commission has considered the effective capacity for FY 2019-20 as submitted by APGCL in the above Table. The Commission has accordingly reduced the fixed cost derived after Truing-up of FY 2019-20 to the extent of effective capacity with respect to the installed capacity of each of the above Stations, in subsequent section of this Chapter.

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

4.3.1 The Actual PAF/Capacity Index for NTPS, LTPS, KLHEP and LRPP for FY 2019-20, as submitted by APGCL are shown in the Table below:

**Table 7: Actual PAF/Capacity Index as submitted by APGCL**

Station	Actual
NTPS	33.93%
LTPS	53.92%
KLHEP	85.03%
LRPP	88.63%

- 4.3.2 APGCL submitted that it has considered 33.93% PAF for NTPS. APGCL submitted the following reasons for loss of generation impacting the PAF:
- a) During FY 2019-20, it has lost the opportunity to generate 12.40 MU of electricity due to Grid unavailability and Grid disturbance.
  - b) The generation loss of 2.07 MU was due to breakdown of various transmission lines and other grid disturbance from time to time during FY 2019-20.
  - c) Generation loss of 10.32 MU was on account of evacuation constraints faced due to issues with the auto transformers used for evacuation of power from NTPS.
- 4.3.3 The above events being uncontrollable in nature, APGCL has claimed availability lost for NTPS in FY 2019-20 due to these events. APGCL has also provided the SLDC certificate on generation loss of NTPS due to Grid Restrictions and Auto Transformer Constraints.
- 4.3.4 For LTPS, KLHEP and LRPP, the availability has been higher than the normative availability specified in the Regulations. Accordingly, recovery of full fixed charges has been claimed by APGCL in FY 2019-20 for these stations.

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

- 4.3.5 In accordance with Regulations 47.1 and 49.1 of the MYT Regulations, 2018, the Target PAF / Capacity Index for recovery of full Fixed Charges are 50% for NTPS and LTPS, and 85% for KLHEP. Regarding LRPP, the Regulation specifies the normative availability of 85%.
- 4.3.6 As regards NTPS, SLDC has certified PAF of 32.44%. The difference of 1.49% in PAF between 33.93% claimed by APGCL and 32.44% certified by SLDC has been sought by APGCL on the basis of "uncontrollable factors" like grid disturbance, grid unavailability and breakdown of various Transmission lines.
- 4.3.7 APGCL submitted that NTPS had suffered due to frequent shutdowns of the old Units and auxiliaries of NTPS in FY 2019-20. Due to the expected commissioning of NRPP in the near future, APGCL is doing only regular Repair & Maintenance (R&M) works at NTPS and not investing in capital intensive high-cost Operation & Maintenance (O&M). The Units of NTPS are not being overhauled for past few years. This has contributed to the frequent breakdowns of the Units and auxiliaries.
- 4.3.8 APGCL further submitted that currently NTPS is generating around 38 MW. There are two Transformers of capacity 20 MVA each to evacuate the power generated from NTPS. In view of upcoming NRPP, APGCL did not pursue with AEGCL for making

further investment in NTPS for evacuation of power.

- 4.3.9 On a query raised by the Commission related to low Gas availability and Generation Loss due to low gas availability, APGCL submitted that during FY 2019-20, 0.37 MMSCMD out of allotted 0.66 MMSCMD gas was received for NTPS resulting in a generation loss of 20.40 MU.
- 4.3.10 Similarly, for LTPS and LRPP, during 2019-20, 0.67 MMSCMD was received out of the allotted 0.90 MMSCMD, resulting in a generation loss of 122.03 MU.
- 4.3.11 On scrutiny of the Petition as well as the replies to the queries, the Commission observes the following:
- a) APGCL has submitted SLDC certificate, which shows that there is a loss of 10.32 MU due to auto transformer constraints against NTPS for the FY 2019-20.
  - b) As regards lower gas supply, the Commission notes that during FY 2019-20, 0.37 MMSCMD out of allotted 0.66 MMSCMD was received for NTPS, and 0.67 MMSCMD out of allotted 0.90 MMSCMD gas was received for LTPS+LRPP. The arrangement of gas is the responsibility of APGCL only, and no relaxation can be allowed for generation loss on account of lower gas availability.
  - c) APGCL claimed loss of 2.07MU pertaining to Grid disturbance and SLDC certificate confirms the same.
- 4.3.12 The Commission noted that NRPP was expected to be commissioned from 01 April 2019 as submitted by APGCL at the time of MYT Order dated March 01, 2019. Accordingly, the Commission had considered effective capacity of 43.5 MW of NTPS for FY 2019-20 while projecting ARR for FY 2019-20 in MYT Order, considering the decommissioning of all Units of NTPS except Unit 3 and Unit 6 (WHRU). However, the commissioning of NRPP got delayed and APGCL continued to run its older Units in FY 2019-20 and beyond.
- 4.3.13 The delay in commissioning of NRPP resulted in running of old Units of NTPS with effective capacity of 99.5 MW in FY 2019-20. If NRPP would have been commissioned on time, the effective capacity of NTPS during FY 2019-20 would have come down to 43.5 MW instead of 99.5 MW, and there would not have been any loss in generation on account of auto transformer constraint.
- 4.3.14 The Commission is of the opinion that APGCL is responsible for delay in commissioning of NRPP, which had led to the loss of generation due to auto transformer constraint. Hence, this loss of generation cannot be termed as

'uncontrollable' in nature and is therefore, attributable to APGCL.

4.3.15 Based on the above analysis, the Commission has considered only 2.07 MU losses due to evacuation constraint, which translates to around 0.27% availability loss. Accordingly, Commission allows availability of 32.71% for NTPS.

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

4.3.17 The Commission has approved the normative and actual PAF/Capacity Index for FY 2019-20 as shown in the following Table:

**Table 8: PAF/Capacity Index as approved by the Commission for FY 2019-20**

<b>Station</b>	<b>Target Availability/Capacity Index (NAPAF) (%)</b>	<b>Approved (%)</b>
NTPS	50%	32.71%
LTPS	50%	53.92%
KLHEP	85%	85.03%
LRPP	85%	88.63%

4.3.18 Regulation 51.1 (b) of the MYT Regulations, 2018 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 has been considered in subsequent Sections.

4.3.19 Further, actual availability of other Generating Stations is higher than normative, hence, full recovery of fixed charges for FY 2019-20 is allowed for these stations.

#### **4.4 Plant Load Factor (PLF)**

4.4.1 APGCL submitted that as per Regulation 47.2 of the MYT Regulations, 2018, the Normative Plant Load Factor (PLF) for FY 2019-20 is 50% and 66% for NTPS and LTPS, respectively. Against this, the actual PLF has been 28.50% and 40.21% for NTPS and LTPS, respectively.

4.4.2 Regulation 49 of the MYT Regulations, 2018 specifies normative PLF for KLHEP as 44.5% for FY 2019-20. The actual PLF for FY 2019-20 has been 45.41%. In case of



LRPP, Regulation 47.2 of the Tariff Regulations, 2018 specifies the Normative PLF at 90% for newly commissioned plants. The actual PLF for LRPP has been 82.78%.

### Commission's Analysis

- 4.4.3 The Commission has computed the actual PLF for each of the stations of APGCL considering the gross generation as certified by SLDC and the effective capacity submitted by APGCL during FY 2019-20.
- 4.4.4 The Commission, therefore, approves the actual PLF of 28.93% for NTPS, 42.40% for LTPS, 45.37% for KLHEP and 82.29% for LRPP for FY 2019-20, after truing up.
- 4.4.5 As per Regulation 47.2(i) of the MYT Regulations 2018, the target PLF for eligibility of incentive is 50% for NTPS and 66% for LTPS. As per Regulation 47.2 (ii) of the MYT Regulations 2018, the target PLF for eligibility of incentive is 90% for LRPP. The Commission notes that actual PLF for NTPS, LTPS and LRPP for FY 2019-20 is lower than normative; hence, they are not eligible for generation incentive.
- 4.4.6 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.

### 4.5 Auxiliary Consumption

- 4.5.1 APGCL submitted the actual Auxiliary Consumption for FY 2019-20 and Auxiliary Consumption approved by the Commission in the Tariff Order dated March 01, 2019as shown in the following Table:

**Table 9: Auxiliary Consumption for FY 2019-20as submitted by APGCL**

Sl. No.	Station	Tariff Order dated March 1, 2019	Actual submitted by APGCL
1	NTPS	4.50%	5.94%
2	LTPS	5.50%	10.39%
3	KLHEP	0.50%	0.42%
4	LRPP	3.50%	2.92%

- 4.5.2 APGCL submitted that the Auxiliary Consumption of NTPS is higher than the approved Auxiliary Consumption in FY 2019-20 due to part loading of Units. APGCL prayed to the Commission to approve the actual Auxiliary Consumption as it has increased due

to uncontrollable factors.

- 4.5.3 APGCL further submitted that Auxiliary Consumption of LTPS is higher than approved due to low gas pressure in supply of gas, which resulted in higher usage of gas compressors and hence, higher Auxiliary Consumption. The Auxiliary Consumption of LTPS is also higher due to part loading of Units. Further, the lower gas supply constraints simultaneous operations of all 3 GTs most of the time. As the WHRU is designed to run with 3 Heat Recovery Steam Generators (HRSG), non-availability of one HRSG increases the percentage of APC as same number of auxiliaries have to be run to operate the WHRU.
- 4.5.4 In case of KLHEP and LRPP the actual Auxiliary Consumption has been lower than the normative Auxiliary Consumption as specified in the Regulations.

### **Commission's Analysis**

- 4.5.5 The Commission notes that actual Auxiliary Consumption for NTPS and LTPS is higher than the approved norms. APGCL, in its Petition, has submitted that Auxiliary Consumption of NTPS is higher due to part loading of Units resulting from low/non-availability of gas. Further, APGCL, in its Petition, has mentioned that the Auxiliary Consumption of LTPS is higher than approved primarily due to low gas pressure in supply of gas.
- 4.5.6 The Commission observes that the deviation in Auxiliary Consumption of NTPS and LTPS with respect to normative Auxiliary Consumption is on account of lower supply of gas and low gas pressure from its various sources. The Commission, in its previous Tariff Orders, has already ruled that any inefficiency due to insufficient supply of gas shall be on account of APGCL. The Commission has therefore, not considered any relaxation in normative Auxiliary Consumption for NTPS and LTPS as claimed by APGCL.
- 4.5.7 For the purpose of truing up, the Commission has approved the Auxiliary Consumption for FY 2019-20 at the same level as approved in the Tariff Order dated March 01, 2019. As Auxiliary Consumption is a controllable parameter, the sharing of gains/losses on account of Auxiliary Consumption has been undertaken in subsequent Section in this Chapter.
- 4.5.8 The Auxiliary Consumption approved by the Commission for the Truing Up of FY 2019-20 is shown in the Table below:

**Table 10: Auxiliary Consumption (%) as approved by the Commission in the truing up for FY 2019-20**

Sl. No.	Station	Tariff Order dated March 1, 2019	Actual submitted by APGCL	Approved after Truing up
1	NTPS	4.50%	5.94%	4.50%
2	LTPS	5.50%	10.39%	5.50%
3	LRPP	3.50%	2.92%	3.50%
4	KLHEP	0.50%	0.42%	0.50%

#### 4.6 Gross Generation and Net Generation

4.6.1 The actual Gross Generation and Net Generation submitted by APGCL for FY 2019-20 is shown in the following Table:

**Table 11: Actual Gross and Net Generation for FY 2019-20 as submitted by APGCL**

Sl. No.	Station	Actual Gross Generation (MU)	Actual Net generation (MU)
1	NTPS	252.86	237.85
2	LTPS	362.01	324.39
3	LRPP	504.20	489.48
	<b>Total Thermal</b>	<b>1119.07</b>	<b>1051.72</b>
4	KLHEP	398.53	396.85
	<b>Total APGCL</b>	<b>1517.60</b>	<b>1448.57</b>

#### Commission's Analysis

4.6.2 The Commission notes that actual Gross Generation and Net Generation submitted by APGCL for FY 2019-20 corresponds to the Gross and Net Generation as certified by SLDC.

4.6.3 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.

4.6.4 The Gross Generation and Net Generation approved by the Commission for FY 2019-20 is shown in the following Table:

**Table 12: Gross and Net Generation for FY 2019-20 as approved by the Commission**

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	252.86	241.48
2	LTPS	362.01	342.10
3	LRPP	504.20	486.55
	<b>Total Thermal</b>	<b>1119.07</b>	<b>1070.13</b>
4	KLHEP	398.53	396.54
	<b>Total APGCL</b>	<b>1517.60</b>	<b>1466.67</b>

#### **4.7 Station Heat Rate (SHR)**

- 4.7.1 APGCL submitted that the Commission in the Tariff Order dated March 01, 2019 had approved SHR for NTPS, LTPS and LRPP as 4300 kcal/kWh (O.C), 3900 kcal/kWh (C.C), 3900 kcal/kWh (O.C.) / 3200 kcal/kWh (C.C.), and 2150 kcal/kWh, respectively.
- 4.7.2 The actual SHR was 4584 kcal/kWh for NTPS, 3397 kcal/kWh for LTPS, and 2144 kcal/kWh for LRPP as submitted by APGCL in its Petition.

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

- 4.7.3 The Commission notes that actual SHR for NTPS and LTPS is higher than the approved norms for FY 2019-20. APGCL submitted that this is because of part loading of Units resulting due to lower gas supply and evacuation constraints and old nature of the plant and equipment. 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.
- 4.7.4 Further, deterioration of SHR is due to running of old plant and equipment, which is also attributable to APGCL, since it has not been able to commission NRPP as per schedule. Therefore, relaxation in SHR on account of these issues cannot be allowed by the Commission.
- 4.7.5 Regulation 47.4 provides for weighted average SHR for NTPS and LTPS based on its operation in Open Cycle (OC) and Closed Cycle (CC) mode. In this regard, the Commission directed APGCL to submit the information of its planned operation of NTPS and LTPS in OC and CC mode.
- 4.7.6 APGCL, in its replies, submitted that NTPS has been operational in OC mode for 81

days and in CC mode for balance days of FY 2019-20 as per the planned shutdown schedule in FY 2019-20. Similarly, LTPS has been operational in OC mode for only 7 days and in CC mode for balance days of FY 2019-20.

4.7.7 As regards major overhauling and planned shutdown, the Commission in Section 4.6.3 of the MYT Order dated March 01,2019 had ruled as under:

*“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”*

4.7.8 In line with the above ruling, the Commission has considered the planned shutdown of 25 days for NTPS during FY 2019-20 and has accordingly relaxed the SHR considering its operation in OC mode in line with the Regulations. In case of LTPS, the Commission has considered the actual planned shutdown of 7 days as submitted by APGCL in the replies and has accordingly relaxed the SHR in line with the Regulations.

4.7.9 The Commission has considered the normative SHR as approved in Tariff Order dated March 01, 2019 for LRPP.

4.7.10 The Commission has retained the SHR for NTPS, LTPS and LRPP as approved in Tariff order dated March 1, 2019. Being a controllable factor, the sharing of gains/losses has been computed in a subsequent Section of this Chapter.

4.7.11 The SHR approved by the Commission for NTPS, LTPS and LRPP in the truing up for FY 2019-20is shown in the following Table:

**Table 13: Station Heat Rate (kcal/kWh) for FY 2019-20as approved by the Commission**

Sl. No.	Station	Tariff Order dated March 1, 2019	Actual submitted by APGCL	Approved after Truing up
1	NTPS	3900	4584	3927
2	LTPS with WHRU	3200	3397	3213
3	LRPP	2150	2144	2150

*\*Note: The above SHR is approved by the Commission after considering the open cycle and closed cycle operating days.*

## 4.8 Fuel Cost

4.8.1 APGCL submitted that the Commission in the Tariff Order dated March 1, 2019, had

approved Fuel Cost of Rs. 46.30 Crore for NTPS, Rs 115.81 Crore for LTPS, and Rs. 95.19 Crore for LRPP. As against this, APGCL has incurred actual fuel cost of Rs. 80.88 Crore (revised in data gaps reply to Rs. 82.26 Crore) for NTPS, Rs. 108.21 Crore for LTPS, and Rs. 95.14 Crore for LRPP. APGCL has submitted the copies of month-wise fuel bills raised by APGCL's suppliers for FY 2019-20 in its quarterly FPA reports.

### Commission's Analysis

- 4.8.2 Since, gas supply is common for LTPS and LRPP, the Commission has considered the same values of Gross Calorific Value (GCV) of gas and Price of gas for LTPS and LRPP for the purpose of truing up.
- 4.8.3 The Commission has verified the actual fuel price and GCV of fuels from the actual fuel bills submitted by APGCL. Based on the detailed scrutiny of the fuel bills, the Commission has considered the actual price of fuel and GCV for NTPS, LTPS and LRPP.
- 4.8.4 The Commission has computed the weighted average price of gas and weighted average GCV of gas for NTPS and LTPS and LRPP based on actual month-wise quantity of gas received, month-wise GCV of gas received and month-wise fuel cost.
- 4.8.5 The Commission observed that there are slight changes in the weighted average GCV of LTPS and LRPP as compared to the average GCV submitted by APGCL in its Petition. However, the gas prices are in line with the gas prices submitted by APGCL for FY 2019-20 for NTPS, LTPS and LRPP.
- 4.8.6 The actual weighted average GCV and actual landed price of gas considered by the Commission for truing up of fuel cost is shown in the Table below:

**Table 14: Actual Weighted Average GCV and Landed Price of Gas for FY 2019-20 considered by the Commission**

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)		Wt. Avg. Landed Price of Gas (Rs. /1000 SCM)	
	As submitted by APGCL	As considered by Commission	As submitted by APGCL	As considered by Commission
NTPS	9157.63	9157.63	6390.70*	6499.78
LTPS & LRPP	9388.83	9382.28	8263.04	8263.04

*\*Note: Gas price revised from Rs. 6390.70/1000 SCM to Rs. 6499.78/1000 SCM in data gaps reply*

- 4.8.7 The Commission has trued up the Fuel Cost based on the approved performance

parameters and actual fuel price and GCV for FY 2019-20. The Commission has approved the Gross Generation for NTPS, LTPS and LRPP as discussed in earlier Section of this Chapter. The fuel cost for different thermal stations corresponding to approved generation has been computed based on the approved performance parameters as shown in the following Table:

**Table 15: Normative Fuel Cost for FY 2019-20 as computed by the Commission**

S. No.	Particulars	Unit	NTPS	LTPS	LRPP
1	Gross Generation	MU	252.86	362.01	504.20
2	Heat Rate	kcal/kWh	3927.32	3213.39	2150.00
3	Overall Heat	Giga calories	993062.74	1163265.73	1084030.00
4	GCV of gas	kcal/SCM	9157.63	9382.28	9382.28
5	Gas consumption	M. SCM	108.44	123.99	115.54
6	Price of Gas	Rs. /1000 SCM	6499.78	8263.04	8263.04
7	Cost of gas	Rs. Crore	70.48	102.45	95.47

4.8.8 On the above basis, normative Fuel Cost and actual Fuel Cost for FY 2019-20 for different thermal stations corresponding to actual gross generation is given in the Table below:

**Table 16: Fuel Cost approved by the Commission in truing up for FY 2019-20 (Rs. Crore)**

Station	Actual Fuel Cost submitted by APGCL	Normative Fuel Cost approved by Commission
NTPS	80.88*	70.48
LTPS	108.21	102.45
LRPP	95.13	95.47

*\*Note: Fuel Cost of NTPS revised to Rs. 82.26 Crore in reply to data gaps*

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

## 4.9 Incentive for Generation

4.9.1 APGCL submitted that Regulation 53.6 of the MYT Regulations 2018 specifies that for a hydro power station, if the actual saleable energy in a year exceeds Design Energy, the Energy Charge for such energy is billed equal to the lowest variable charges of the

Central Sector thermal power generating stations in the North-Eastern Region. APGCL submitted that the Net Generation of KLHEP in FY 2019-20 was 396.85 MU. The Net generation of KLHEP in FY 2019-20 was higher than the design energy and hence APGCL has claimed Secondary Charge Incentive of Rs.0.72 Crore.

4.9.2 In addition to the above incentive, Regulation 53.2 provides for incentive to be payable to hydro power plants for achieving higher availability than normative availability. APGCL submitted that the actual availability of KLHEP is 85.03%, which is higher than the normative availability of 85%. Accordingly, APGCL claimed the Incentive of Rs.0.01 Crore in the truing up of FY 2019-20 for over achievement of target availability. The total incentive claimed by APGCL for KLHEP is Rs. 0.73 Crore in FY 2019-20.

### Commission's Analysis

4.9.3 As per the MYT Regulations, 2018, Hydro Generating Stations are eligible for Incentive on account of higher Generation than Design Energy and on account of higher Capacity Index than normative Capacity Index.

4.9.4 The Commission notes that actual Net Generation of KLHEP is 396.85 MU, which is higher than Net Design Energy of 388.05 MU. Hence, KLHEP is eligible for secondary Charge Incentive on account of higher generation.

4.9.5 The Commission has therefore worked out the Secondary Charge Incentive for KLHEP in the following Table. The Commission has considered the variable charge of Assam Gas Based Power Project of NEEPCO which is the lowest variable charge of the Central Sector thermal power generating stations in the North-Eastern Region.

**Table 17: Secondary Charge Incentive for KLHEP for FY 2019-20**

S. No.	Station	Design Energy	Aux	Net Design Energy	Actual Energy	Energy for Incentive	Rate	Incentive (Rs. Crore)
		MU	%	MU	MU	MU	Rs./kWh	
1	KLHEP	390	0.50%	388.05	396.85	8.80	0.818	0.72

4.9.6 Further, it is noted that Actual Capacity Index is higher than normative. The Commission has computed the incentive based on month-wise actual Capacity Index and Annual Fixed Charges approved after Truing up. The Commission has approved Availability Incentive of Rs. 0.03 Crore for KLHEP for FY 2019-20 as shown in the following Table:



**Table 18: Incentive approved by the Commission for KLHEP**

S. No.	Month	Actual AFC for FY 2019-20	Days	Capacity Index (%)		Capacity Charges with Incentive	Incentive
				Normative	Actual		
1	April	5.53	30	85%	57.29%	1.86	(0.90)
2	May	5.71	31	85%	100.50%	3.38	0.52
3	June	5.53	30	85%	100.50%	3.27	0.50
4	July	5.71	31	85%	100.50%	3.38	0.52
5	August	5.71	31	85%	82.67%	2.78	(0.08)
6	September	5.53	30	85%	87.10%	2.83	0.07
7	October	5.71	31	85%	100.50%	3.38	0.52
8	November	5.53	30	85%	100.16%	3.26	0.49
9	December	5.71	31	85%	95.33%	3.20	0.35
10	January	5.71	31	85%	101.99%	3.43	0.57
11	February	5.35	29	85%	95.03%	2.99	0.32
12	March	5.71	31	85%	0.00%	-	(2.86)
13	<b>Total</b>	<b>67.46</b>	<b>366</b>		<b>85.03%</b>	<b>33.76</b>	<b>0.03</b>

4.9.7 Accordingly, the Commission approves the total Incentive of Rs.0.75 Crore for KLHEP for FY 2019-20.

#### 4.10 O&M Expenses

4.10.1 As against the normative O&M expenses, the actual O&M expenses and APGCL's claim for O&M expenses for FY 2019-20 are as shown in the Table below:

**Table 19: O&M expenses for FY 2019-20 as claimed by APGCL (Rs. Crore)**

Station	Tariff Order dated 01 March, 2019	Approved considering effective installed capacity in order of March 2019	As per audited accounts of FY 2019-20	Amount considered in True up for FY 2019-20(excluding Special R&M and impact of Revision of Pay)
NTPS	51.72	18.83	39.04	36.56
LTPS	56.49	38.62	41.53	38.71
KLHEP	28.44	28.44	29.99	28.80
LRPP	20.04	20.04	20.98	20.48
<b>Total</b>	<b>156.69</b>	<b>105.93</b>	<b>131.53</b>	<b>124.54</b>

4.10.2 The Station-wise details of head-wise O&M expenses claimed for FY 2019-20 by

APGCL are given in the Table below:

**Table 20: Details of O&M expenses claimed by APGCL for FY 2019-20 (Rs. Crore)**

Station	Employee Cost	R&M	A&G	Total
NTPS	30.09	4.63	1.83	36.55
LTPS	25.73	8.96	4.02	38.71
KLHEP	21.68	3.96	3.16	28.80
LRPP	12.80	6.64	1.04	20.48
<b>Total</b>	<b>90.30</b>	<b>24.19</b>	<b>10.05</b>	<b>124.54</b>

4.10.3 APGCL submitted that that impact of Revision of Pay (ROP) arrears is being claimed separately as per the MYT Regulations, 2018, as shown in the Table below:

**Table 21: ROP arrears for FY 2019-20 (Rs. Crore)**

Station	Tariff Order dated March 1, 2019	Amount appeared in Annual Accounts for FY 2019-20	Amount claimed for True-Up
NTPS	0.00	2.49	2.49
LTPS	0.00	2.82	2.82
KLHEP	0.00	1.19	1.19
LRPP	0.00	0.50	0.50
<b>Total</b>	<b>0.00</b>	<b>6.99</b>	<b>6.99</b>

### Commission's Analysis

4.10.4 In the MYT Order dated March 1, 2019, the Commission had approved O&M Expenses on normative basis as specified in Regulation 50.1 of MYT Regulations, 2018. In the MYT Order, the Commission had determined the O&M expenses by considering actual expenses of FY 2015-16 to FY 2017-18 and these expenses were escalated by weighted average index of Consumer Price Index (CPI) and Wholesale Price Index (WPI) in 60:40 ratio to arrive at base expenses of FY 2018-19. These base expenses were further escalated by 6.30% as specified in the Regulations to arrive at O&M Expenses of FY 2019-20.

4.10.5 The Commission has considered the normative O&M expenses for FY 2019-20 as that approved in the MYT Order dated March 1, 2019. The following Table shows the normative O&M expenses approved for FY 2019-20:

**Table 22: Normative O&M Expenses approved for FY 2019-20 (Rs. Crore)**

<b>Station</b>	<b>Normative O&amp;M Expenses approved in True-up</b>
NTPS	51.72
LTPS	56.49
KLHEP	28.44

4.10.6 Regulation 50.2 (c) of the MYT Regulations, 2018 specifies the norms for O&M expenses for new stations. As per the Regulation, the normative O&M expense for LRPP for base year of FY 2018-19 was Rs. 27.03 Lakh/MW/year. For subsequent year of the Control Period, escalation of 6.30% is to be considered as per the MYT Regulations, 2018. The normative O&M expense for LRPP for FY 2019-20 therefore, works out to Rs. 28.73 Lakh/MW/year. The Commission has accordingly computed the normative O&M expenses for LRPP for FY 2019-20, as shown in the following Table:

**Table 23: Normative O&M Expenses of LRPP for FY 2019-20 (Rs. Crore)**

<b>Station</b>	<b>Installed Capacity (MW)</b>	<b>Base O&amp;M Norm (Rs. lakh /MW/year)</b>	<b>Applicable O&amp;M Norm (Rs. lakh/MW/year)</b>	<b>Total O&amp;M Expenses (Rs. Crore)</b>
LRPP	69.76	27.03	28.73	20.04

4.10.7 The Commission had directed APGCL to reconcile the actual O&M expenses claimed in the Petition with the Audited Accounts of FY 2019-20. The Commission also enquired APGCL the basis of allocation of actual O&M expenses between stations claimed by APGCL.

4.10.8 APGCL submitted a reconciliation statement of O&M expenses claimed in the Petition with respect to the expenses reflecting in its Audited Accounts. APGCL has claimed O&M expenses after excluding the impact of ROP, which were included in the Audited Accounts of FY 2019-20. APGCL has claimed ROP under separate head in the Petition.

4.10.9 APGCL further submitted that the O&M expenses claimed in each of the Stations is on the basis of actual expenses booked in Trial Balance of each individual station. Further, the common Employee Expenses, A&G Expenses, and R&M Expenses are allocated between stations on the basis of installed capacity.

4.10.10 The actual O&M expenses claimed by APGCL include expenses with respect to

contributions/donations to other Institutes and expenses towards Corporate Social Responsibility (CSR). The following Table shows the station wise donations and CSR expenses made during FY 2019-20 as reflecting in the formats submitted by APGCL.

**Table 24: Donations and CSR expenses for FY 2019-20 (Rs. Crore)**

Station	Donations to Institutes/ Associations	CSR Expenses
NTPS	0.06	0.04
LTPS	0.06	0.04
KLHEP	0.11	0.04
LRPP	0.04	0.03
<b>Total</b>	<b>0.27</b>	<b>0.15</b>

4.10.11 The Commission is of the view that while CSR expenses are mandatory as per the provisions of the Companies Act, 2013, the same have to be incurred by the Company out of its profits, and cannot be recovered from the beneficiaries. Similarly, the Company is free to make any donations for worthwhile causes from its profits. Hence, the Commission has not considered these expenses under actual expenses, after prudence check.

4.10.12 Accordingly, the Commission, after scrutiny of the O&M expenses, approves the actual O&M expenses as claimed by APGCL in the True-up Petition, after excluding the expenses towards donations and CSR as shown in the Table below.

**Table 25: Actual O&M Expenses approved for FY 2019-20 (Rs. Crore)**

Station	Tariff Order dated 1 March, 2019	Amount claimed by APGCL for True up of FY 2019-20 (excluding Special R&M and impact of ROP arrears)	Actual approved by the Commission for Sharing of (Gains)/Losses on account of controllable factors
NTPS	51.72	36.56	36.46
LTPS	56.49	38.71	38.61
KLHEP	28.44	28.80	28.65
LRPP	20.04	20.48	20.41
<b>Total</b>	<b>156.69</b>	<b>124.54</b>	<b>124.12</b>

4.10.13 The Commission has considered the above actual O&M expenses (excluding ROP)

for computation of sharing of (Gains)/Losses on account of O&M expenses, which is a controllable factor as specified in the Regulations.

4.10.14 The Commission also approves the amount of Rs. 6.99 Crore as reflecting in Audited Accounts on account of ROP arrears as claimed in the Petition. The Commission has allowed this amount separately in the Truing-up of FY 2019-20.

#### 4.11 Capitalisation

4.11.1 The following Table shows the Capitalisation as claimed by APGCL for FY 2019-20 in its True-up Petition:

**Table 26: Capitalisation claimed for FY 2019-20 (Rs. Crore)**

Station	Capitalisation claimed by APGCL
NTPS	1.40
LTPS	3.38
KLHEP	0.13
LRPP	10.73
<b>Total</b>	<b>15.64</b>

4.11.2 APGCL has claimed additional Capitalisation post COD for LRPP, as shown in the following Table:

**Table 27: Additional Capitalisation incurred in FY2019-20 Post COD for LRPP (Rs. Crore)**

Station	Approved Additional Capitalisation as per Order March 2019	Capitalisation in FY 2018-19	Capitalisation in FY 2019-20
Capitalisation Post COD	22.34	12.21	10.73
Grant Portion of the Additional Capitalisation	11.43	6.02	7.40

4.11.3 APGCL submitted that the above claim of Rs. 10.73 Crore for FY 2019-20 for additional capitalisation includes Foreign Exchange Risk Variation (FERV) of Rs. 0.98 Crore (in addition to FERV claimed in True Up for FY2018-19). As per Regulation 28.1 (a) of MYT Regulations, 2018, any loss or gain on account of FERV will form part of the capital cost for the plant. Accordingly, APGCL has claimed the above capitalisation for LRPP.

## Commission's Analysis

- 4.11.4 The Commission scrutinized the amount of capitalization claimed by APGCL against each of the stations. The total capitalization of Rs. 15.64 Crore is also reflecting in the Audited Accounts of APGCL for FY 2019-20.
- 4.11.5 Further, the Commission observed that the additional capitalisation as claimed by APGCL for LRPP in FY 2018-19 and FY 2019-20 has slightly deviated by Rs. 0.60 Crore as compared to the additional capitalization approved in Tariff Order dated March 01, 2019.
- 4.11.6 It is observed that the deviation of Rs. 0.98 Crore has been on account of FERV. Regulation 28.1 (a) of the MYT Regulation 2018 provides for passing of any gain or loss on account of FERV, which shall be included in the capital cost of the project. Accordingly, the Commission approves the revised additional capitalization of Rs. 22.94 Crore for LRPP as against the original approved additional capitalization of Rs. 22.34 Crore.
- 4.11.7 The Commission therefore, considers the additional capitalisation of Rs. 10.73 Crore for LRPP in FY 2019-20 as claimed by APGCL in its Petition. The Commission hence, approves the following capitalisation as claimed by APGCL for FY 2019-20:

**Table 28: Capitalisation approved for FY 2019-20 (Rs. Crore)**

<b>Station</b>	<b>Capitalisation claimed by APGCL</b>	<b>Capitalisation approved by Commission</b>
NTPS	1.40	1.40
LTPS	3.38	3.38
KLHEP	0.13	0.13
LRPP	10.73	10.73
<b>Total</b>	<b>15.64</b>	<b>15.64</b>

## 4.12 Funding of Capitalisation

- 4.12.1 APGCL submitted that the capitalisation of NTPS, LTPS and KLHEP is funded through loan. Hence, no equity additions have been claimed by APGCL for FY 2019-20 against these stations.
- 4.12.2 APGCL submitted that out of the total additional capitalisation of Rs. 10.73 Crore claimed in FY 2019-20 for LRPP, Rs. 7.40 Crore has been funded through grant and balance has been funded through loan and equity. Accordingly, APGCL has

considered addition in loan as well as equity for LRPP during FY 2019-20.

### Commission's Analysis

4.12.3 The Commission has considered the funding of approved capitalisation through loans for NTPS, LTPS and KLHEP as submitted by APGCL.

4.12.4 For consideration of funding of additional capitalisation of LRPP of Rs. 10.73 Crore, the Commission has excluded the amount of Rs. 7.73 Crore funded through grants, and the balance amount of Rs. 3.00 Crore has been considered at normative debt: equity ratio of 70:30 as submitted by APGCL. The following Table shows the funding of capitalisation approved for FY 2019-20:

**Table 29: Funding of Capitalisation approved for FY 2019-20 (Rs. Crore)**

Station	Capitalisation approved by Commission	Loan	Equity	Grant
NTPS	1.40	1.40	-	-
LTPS	3.38	3.38	-	-
KLHEP	0.13	0.13	-	-
LRPP	10.73	2.10	0.90	7.73
<b>Total</b>	<b>15.64</b>	<b>7.01</b>	<b>0.90</b>	<b>7.73</b>

### 4.13 Depreciation

4.13.1 APGCL submitted that it has computed the Depreciation as per MYT Regulations, 2018 and considering Capital Cost of the asset admitted by the Commission with 10% salvage value. The depreciation on grants has been subtracted. The Table below summarizes the plant-wise Depreciation claimed by APGCL in the True-up for FY 2019-20:

**Table 30: Details of Depreciation claimed by APGCL for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order dated March 1, 2019	APGCL's Submission in True-up
NTPS	Depreciation	1.90	1.56
	Less: Depreciation on assets funded by Grants	0.16	0.11
	<b>Net Depreciation</b>	<b>1.74</b>	<b>1.46</b>
LTPS	Depreciation	17.83	12.89

Station	Particulars	Tariff Order dated March 1, 2019	APGCL's Submission in True-up
	Less: Depreciation on assets funded by Grants	2.53	1.74
	<b>Net Depreciation</b>	<b>15.30</b>	<b>11.15</b>
KLHEP	Depreciation	24.39	23.65
	Less: Depreciation on assets funded by Grants	2.76	2.51
	<b>Net Depreciation</b>	<b>21.63</b>	<b>21.13</b>
LRPP	Depreciation	13.6	13.47
	Less: Depreciation on assets funded by Grants	10.85	10.87
	<b>Net Depreciation</b>	<b>2.75</b>	<b>2.60</b>

### Commission's Analysis

4.13.2 For the purpose of Truing up, the Commission has considered the approved Station-wise Closing GFA of FY 2018-19 as the opening GFA for FY 2019-20.

4.13.3 The Commission has considered the actual capitalisation for NTPS, LTPS, KLHEP and LRPP based on audited accounts for FY 2019-20, as approved in the previous Section.

4.13.4 The Commission has computed depreciation as per scheduled rates specified in the Tariff Regulations, 2018. As per Regulation 32 of the MYT Regulations, 2018, the total depreciation during the life of the asset shall not exceed 90% of the original cost of Asset. The Commission has computed the depreciation separately for assets added under each asset head in each year. The Commission has disallowed the depreciation in excess of 90% of the original cost of asset under different asset heads.

4.13.5 In line with the approach adopted in the previous Orders and as specified in Regulation 32 of the MYT Regulations, 2018, the Commission has not considered the depreciation on assets funded through grants or capital subsidy, for FY 2019-20.

4.13.6 The station-wise depreciation approved by the Commission in the True-up for FY 2019-20 is shown in the following table:



**Table 31: Depreciation for FY 2019-20 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after True up
NTPS	Depreciation	1.90	1.56	1.59
	Less: Depreciation on assets funded by Grants	0.16	0.11	0.11
	<b>Net Depreciation</b>	<b>1.74</b>	<b>1.46</b>	<b>1.48</b>
LTPS	Depreciation	17.83	12.89	17.50
	Less: Depreciation on assets funded by Grants	2.53	1.74	2.42
	<b>Net Depreciation</b>	<b>15.30</b>	<b>11.15</b>	<b>15.08</b>
KLHEP	Depreciation	24.39	23.65	23.60
	Less: Depreciation on assets funded by Grants	2.76	2.51	2.53
	<b>Net Depreciation</b>	<b>21.63</b>	<b>21.13</b>	<b>21.07</b>
LRPP	Depreciation	13.60	13.47	13.43
	Less: Depreciation on assets funded by Grants	10.85	10.87	10.84
	<b>Net Depreciation</b>	<b>2.75</b>	<b>2.60</b>	<b>2.60</b>

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

#### **4.14 Interest on Loan Capital**

4.14.1 APGCL submitted that it has computed the Interest on long-term Loan for FY 2019-20 on normative basis. APGCL has considered the normative loan portfolio and the repayment has been considered equal to the depreciation for FY 2019-20. The interest rate has been considered as the weighted average rate of actual interest rate applicable to APGCL at the beginning of FY 2019-20.

4.14.2 Accordingly, APGCL has claimed the Interest and Finance Charges of Rs. 24.46 Crore for FY 2019-20, which includes Interest and Charges of Rs. 0.10 Crore for NTPS, Rs. 0.03 Crore for LTPS, Rs. 20.68 Crore for KLHEP and Rs. 3.66 Crore for LRPP, as shown in the following Table:

**Table 32: Interest Charges as submitted by APGCL for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order dated March 1, 2019	APGCL Submission
NTPS	Net Normative Opening Loan	5.14	0.85
	Addition of normative loan during the year	4.75	1.40
	Normative Repayment during the year	1.74	1.46
	Net Normative Closing Loan	8.16	0.79
	Avg. Normative Loan	6.65	0.82
	Interest Rate	10.30%	10.04%
	Interest on Loan Capital	0.68	0.08
	Add: Bank Charges	0.00	0.02
	<b>Net Interest on Loan Capital</b>	<b>0.68</b>	<b>0.10</b>
LTPS	Net Normative Opening Loan	0.00	0.00
	Addition of normative loan during the year	16.10	3.38
	Normative Repayment during the year	15.30	11.15
	Net Normative Closing Loan	0.80	0.00
	Avg. Normative Loan	0.40	0.00
	Interest Rate	10.30%	10.04%
	Interest on Loan Capital	0.04	0.00
	Add: Bank Charges	0.00	0.03
	<b>Net Interest on Loan Capital</b>	<b>0.04</b>	<b>0.03</b>
KLHEP	Net Normative Opening Loan	219.70	216.24
	Addition of normative loan during the year	11.20	0.13
	Normative Repayment during the year	21.63	21.13
	Net Normative Closing Loan	209.28	195.24
	Avg. Normative Loan	214.49	205.74
	Interest Rate	10.30%	10.04%
	Interest on Loan Capital	22.09	20.65
	Add: Bank Charges	0.00	0.02
	<b>Net Interest on Loan Capital</b>	<b>22.09</b>	<b>20.68</b>
LRPP	Net Normative Opening Loan	34.80	36.71
	Addition of normative loan during the year	0	2.10
	Normative Repayment during the year	2.75	2.60
	Net Normative Closing Loan	32.05	36.21
	Avg. Normative Loan	33.43	36.46
	Interest Rate	10.30%	10.04%
	Interest on Loan Capital	3.44	3.66
	Add: Bank Charges	0.00	0.00
	<b>Net Interest on Loan Capital</b>	<b>3.44</b>	<b>3.66</b>
	<b>Total</b>	<b>26.25</b>	<b>24.46</b>

## Commission's Analysis

4.14.3 In the Tariff Order dated March 01, 2019, the Commission approved the Interest on Loan Capital on normative basis as per Regulation 34 of the MYT Regulations, 2018. In the said Order, the Commission has approved the Station-wise Interest on loan capital by considering the Station-wise normative loan.

4.14.4 As per the above said Regulation, normative loan outstanding as on April 1, 2019, shall be computed by deducting the cumulative repayment as admitted by the Commission up to March 31, 2019, from the gross normative loan. Accordingly, the Commission has computed the normative loan outstanding as on April 1, 2019 as shown in the following Table:

**Table 33: Computation of Normative loan outstanding as on April 1, 2019 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP
Gross Normative Loan	7.16	268.93	391.27
Less: Cumulative repayment (equal to accumulated depreciation)	6.32	279.90	175.03
<b>Net Normative loan</b>	<b>0.85</b>	<b>-</b>	<b>216.24</b>

4.14.5 The loan addition has been considered for each of the Stations in line with the loans approved in the Section on funding of capitalisation. The loan repayment has been considered equivalent to depreciation approved in this Order.

4.14.6 The Commission has scrutinised the actual loan details and actual interest amount as submitted by APGCL. The Commission has considered weighted average rate of interest of 10.04% for the purpose of trueing up.

4.14.7 The interest on loan capital as approved by the Commission after true-up for FY 2019-20 is shown in the following Table:

**Table 34: Interest on Loan Capital for FY 2019-20 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order dated March 1, 2019	APGCL Submission	Approved after Truing up
NTPS	Net Normative Opening Loan	5.14	0.85	0.85
	Addition of normative loan during the year	4.75	1.40	1.40
	Normative Repayment during the year	1.74	1.46	1.48
	Net Normative Closing Loan	8.16	0.79	0.77
	Interest Rate	10.30%	10.04%	10.04%
	Interest on Loan Capital	0.68	0.08	0.08
	Interest and Finance Charges	0.00	0.02	0.02
	<b>Total Interest Expenses</b>	<b>0.68</b>	<b>0.10</b>	<b>0.10</b>
LTPS	Net Normative Opening Loan	0.00	0.00	0.00
	Addition of normative loan during the year	16.10	3.38	3.38
	Normative Repayment during the year	15.30	11.15	15.08
	Net Normative Closing Loan	0.80	0.00	0.00
	Interest Rate	10.30%	10.04%	10.04%
	Interest on Loan Capital	0.04	0.00	0.00
	Interest and Finance Charges	0.00	0.03	0.03
	<b>Total Interest Expenses</b>	<b>0.04</b>	<b>0.03</b>	<b>0.03</b>
KLHEP	Net Normative Opening Loan	219.70	216.24	216.24
	Addition of normative loan during the year	11.20	0.13	0.13
	Normative Repayment during the year	21.63	21.13	21.07
	Net Normative Closing Loan	209.28	195.24	195.30
	Interest Rate	10.30%	10.04%	10.04%
	Interest on Loan Capital	22.09	20.65	20.66
	Interest and Finance Charges	0.00	0.02	0.02
	<b>Total Interest Expenses</b>	<b>22.09</b>	<b>20.68</b>	<b>20.68</b>
LRPP	Net Normative Opening Loan	34.80	36.71	30.28
	Addition of normative loan during the year	0	2.10	2.10
	Normative Repayment during the year	2.75	2.60	2.60
	Net Normative Closing Loan	32.05	36.21	29.78
	Interest Rate	10.30%	10.04%	10.04%

Station	Particulars	Tariff Order dated March 1, 2019	APGCL Submission	Approved after Truing up
	Interest on Loan Capital	3.44	3.66	3.01
	Interest and Finance Charges	0.00	0.00	0.00
	<b>Total Interest Expenses</b>	<b>3.44</b>	<b>3.66</b>	<b>3.01</b>

#### 4.15 Return on Equity (RoE)

4.15.1 APGCL submitted that the Commission in the Tariff Order dated March 1, 2019 approved RoE separately for each Generating Station for FY 2019-20. Since, there has been no variation in the Equity for NTPS, LTPS and KLHEP; APGCL has claimed the same amount in the True-up for FY 2019-20 as approved in Tariff Order dated March 1, 2019. However, there has been equity addition in LRPP in FY 2019-20. APGCL has claimed RoE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs. 10.64 Crore for KLHEP, and Rs 2.37 Crore for LRPP.

#### Commission's Analysis

4.15.2 The Commission has approved the RoE in accordance with Regulation 33 of the MYT Regulations, 2018.

4.15.3 The Commission has considered the opening Equity for each of the Stations in line with the closing Equity approved in the Truing-up of FY 2018-19. The addition to Equity has been considered in line with the equity approved in funding of capitalisation, as elaborated in this Chapter.

4.15.4 The Commission has considered the rate of Return on Equity at 15.5% as specified in Regulation 33.2 of MYT Regulations, 2018.

**Table 35: Return on Equity approved by the Commission for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up
NTPS	Opening Equity	55.00	55.00	55.00
	Closing equity	55.00	55.00	55.00
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>8.53</b>	<b>8.53</b>	<b>8.53</b>
LTPS	Opening Equity	143.08	143.08	143.08
	Closing equity	143.08	143.08	143.08
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>22.18</b>	<b>22.18</b>	<b>22.18</b>
KLHEP	Opening Equity	68.65	68.65	68.65
	Closing equity	68.65	68.65	68.65
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>10.64</b>	<b>10.64</b>	<b>10.64</b>
LRPP	Opening Equity	16.10	14.84	14.85
	Closing equity	16.10	15.73	15.74
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>2.50</b>	<b>2.37</b>	<b>2.37</b>

#### **4.16 Interest on Working Capital (IoWC)**

4.16.1 APGCL submitted that the Commission in the Tariff Order dated March 1, 2019 approved IoWC of Rs.15.95 Crore for FY 2019-20. As against this, APGCL has claimed normative IoWC of Rs. 15.15 Crore for FY 2019-20 in accordance with MYT Regulations, 2018. APGCL has considered the interest rate of 10.00% as per MYT Regulations, 2018.

4.16.2 APGCL has claimed IoWC of Rs. 4.06 Crore for NTPS, Rs. 5.11 Crore for LTPS, Rs. 2.26 Crore for KLHEP, and Rs 3.72 Crore for LRPP.

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

4.16.3 The Commission has computed IoWC in accordance with Regulation 36.1 of the MYT Regulations, 2018. For computation of working capital requirement, the Commission has considered the normative fuel cost and normative O&M Expenses.

4.16.4 Regulation 36.1 (d) provides for rate of IoWC to be considered equivalent to normative interest rate of three hundred (300) basis points above the average State Bank of India (SBI) Marginal Cost of Lending Rate (MCLR) (One-Year Tenor) prevalent during the last available six months for the determination of tariff.

4.16.5 The Commission has accordingly considered the interest rate of 10.00% (7.00% +3.00%) for computation of IoWC. The IoWC approved by the Commission after true-up for FY 2019-20 is shown in the following Table:

**Table 36: IoWC as approved by the Commission for FY 2019-20 (Rs. Crore)**

Station	Particulars	Tariff Order dated March 1, 2019	APGCL submission	Approved after True up
NTPS	Fuel Cost for one month	4.23	6.74	12.16
	O&M Expenses for one month	1.57	3.05	4.31
	Maintenance Spares-30% of O&M	5.65	10.97	15.52
	Receivables for two months	12.21	19.83	29.50
	Total Working Capital Requirement	23.66	40.58	61.49
	Rate of Interest (%)	11.50%	10.00%	10.00%
	<b>Interest on Working Capital</b>	<b>2.72</b>	<b>4.06</b>	<b>6.15</b>
LTPS	Fuel Cost for one month	9.65	9.02	14.69
	O&M Expenses for one month	3.22	3.23	4.71
	Maintenance Spares-30% of O&M	11.58	11.61	16.95
	Receivables for two months	31.23	27.23	41.64
	Total Working Capital Requirement	55.68	51.09	77.99
	Rate of Interest (%)	11.50%	10.00%	10.00%
	<b>Interest on Working Capital</b>	<b>6.40</b>	<b>5.11</b>	<b>7.80</b>
KLHEP	O&M Expenses for one month	2.37	2.40	2.37
	Maintenance Spares-30% of O&M	4.27	8.64	4.27
	Receivables for two months	15.79	11.57	11.25
	Total Working Capital Requirement	22.43	22.61	17.89
	Rate of Interest (%)	11.50%	10.00%	10.00%
	<b>Interest on Working Capital</b>	<b>2.58</b>	<b>2.26</b>	<b>1.79</b>
LRPP	Fuel Cost for one month	7.91	7.93	8.20
	O&M Expenses for one month	1.67	1.71	1.67
	Maintenance Spares-30% of O&M	6.01	6.14	6.01

Station	Particulars	Tariff Order dated March 1, 2019	APGCL submission	Approved after True up
	Receivables for two months	21.32	21.46	21.85
	Total Working Capital Requirement	36.91	37.24	37.73
	Rate of Interest (%)	11.50%	10.00%	10.00%
	<b>Interest on Working Capital</b>	<b>4.24</b>	<b>3.72</b>	<b>3.77</b>

#### 4.17 Income Tax

4.17.1 APGCL has claimed Income Tax of Rs. 1.16 Crore for FY 2019-20 as per audited accounts. APGCL submitted that it has determined the annual tax claim to be payable to Income Tax Department at Rs. 1.16 Crore. However, the final tax payment will be done based on the amount determined under the tax audit.

##### Commission's Analysis

4.17.2 Regulation 35 of MYT Regulations, 2018 provides for reimbursement of actual Income tax paid on the basis of documentary evidence submitted at the time of truing up of each year of the Control Period.

4.17.3 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. 1.16 Crore for FY 2019-20 for truing up. The Commission has allocated Income Tax to the existing Generating Stations based on the philosophy proposed by APGCL. Accordingly, the Commission approves Station-wise Income Tax of Rs. 0.21 Crore for NTPS, Rs. 0.41 Crore for LTPS, Rs. 0.23 Crore for KLHEP and Rs. 0.32 Crore for LRPP for FY 2019-20 after Truing up.

#### 4.18 Capacity Building

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

4.18.2 APGCL has claimed Capacity Building Expenses of Rs. 0.34 Crore, i.e., Rs. 0.113 Crore each for NTPS, LTPS and KLHEP in the Truing-up for FY 2019-20.



**Table 37: Capacity building submitted by APGCL for Truing-up of FY 2019-20 (Rs. Crore)**

Station	Approved in Tariff Order dated March 1, 2019	APGCL Submission
NTPS	0.10	0.113
LTPS	0.10	0.113
KLHEP	0.10	0.113
LRPP	-	-
<b>Total</b>	<b>0.30</b>	<b>0.34</b>

### Commission's Analysis

4.18.3 APGCL submitted the detailed list of activities undertaken by APGCL for capacity building during FY 2019-20 and claimed expenses of Rs. 33.78 Lakh (Rs. 0.34 Crore).

4.18.4 The capacity building charges were additionally approved in the MYT Order dated March 1, 2019 for the Control Period FY 2019-20 to FY 2021-22, over and above the regular capacity building that was required to be undertaken by APGCL, within A&G expenses. Hence, these additional expenses cannot be trued-up on the basis of actuals, in case they are higher than the additional expenses allowed in the Order.

4.18.5 The Commission therefore, approves capacity building charges of Rs. 0.30 Crore as approved in MYT Order dated March 01, 2019, i.e., Rs. 0.10 crore each for LTPS, NTPS and KLHEP.

### 4.19 Special R&M Expenses

4.19.1 APGCL submitted that no Special R&M works could be undertaken in FY 2019-20 as shown in the Table below:

**Table 38: Special R&M Expenses incurred by APGCL in FY 2019-20 (Rs. Crore)**

Name of Work	Total Amount Approved	As per Audited Accounts	Claimed in true-up for FY 2019-20	Remarks
Overhauling of Unit 6 of NTPS	4.00	0.00	0.00	The Overhauling could not be undertaken in FY 2019-20. The overhauling schedule will be revised post commissioning of NRPP.
Overhauling LTPS -Unit 5 in FY 2020-21	10.00	0.00	0.00	LTPS, APGCL has been using HRSG with 20 MW BHEL, GE, Frame – V Gas Turbines to produce power in combined cycle since 2012.

Name of Work	Total Amount Approved	As per Audited Accounts	Claimed in true-up for FY 2019-20	Remarks
				<p>As the HRSG of the unit GT#5 is under shut down since 08/02/2018, for the purpose of maximizing generation, optimizing the utilization of limited available Natural Gas and to minimize heat rate and mainly to run the plant in combined Cycle Mode, Preference was given to Gas Turbines whose HRSG were in available condition and so it was assumed that GT#7 will reach next MI running hours earlier than GT#5 though the MI of GT#7 was done around 8 months later on 03/12/2014 at running hours of 82889 hrs than GT#5. MI of GT#5 was completed on 24/02/2014 after at Running Hour of 80914.5 RH and so the MI of GT#5 was shifted to GT#7. In the above context the Major Overhauling work was interchanged from GT#5 to GT#7. GT#5 will get preference in producing power only after completion of restoration work of its HRSG.</p> <p>Thus, APGCL is undertaking the Special R&amp;M of Unit 7 in the first phase in FY 2021-22.</p>
Capital Overhauling of 50MW Francis type Fuji make Generator Turbine Unit-II - KLHEP	15.00	0.00	0.00	The revised estimate for work to be undertaken in FY 2021-22 is Rs. 15.10 Crore

### Commission's Analysis

4.19.2 The Commission observed that Special R&M Expenses for NTPS is proposed to be revised after commissioning of NRPP, while Special R&M for Unit 7 of LTPS and Unit

2 of KLHEP is proposed to be carried out in FY 2021-22.

4.19.3 The Commission has therefore, not considered any Special R&M Expenses for FY 2019-20. The Commission observed that APGCL has been deferring special R&M in the past after taking approval from the Commission in ensuing year's ARR. The Commission is of the view that any loss on account of deferment of special R&M shall be on account of APGCL. The Commission has dealt with the same in subsequent section of this Order.

#### 4.20 Non-Tariff Income

4.20.1 APGCL submitted that the Commission in the Tariff Order dated March 01, 2019 approved Non-Tariff Income of Rs.22.10 Crore. As against this, APGCL has claimed Non-Tariff Income of Rs. 57.49Crore as per audited accounts for the purpose of True-up. The Station-wise Non-Tariff Income submitted by APGCL is shown in the following Table:

**Table 39: Non-Tariff Income as claimed by APCGL for True-up for FY 2019-20 (Rs. Crore)**

Station	Tariff Order dated March 1, 2019	As per audited accounts for FY 2019-20	True up Petition for FY 2019-20
NTPS	7.13	15.44	15.44
LTPS	9.22	25.37	25.37
KLHEP	5.75	16.69	16.69
LRPP	0.00	0.00	0.00
<b>Total</b>	<b>22.09</b>	<b>57.49</b>	<b>57.49</b>

#### Commission's Analysis

4.20.2 For the purpose of Truing up for FY 2019-20, the Commission has considered the actual Non-Tariff Income of Rs. 57.49 Crore as per audited accounts, as submitted by APGCL. Accordingly, the Commission approves Non-Tariff Income of Rs. 15.44Crore for NTPS, Rs. 25.37 Crore for LTPS, and Rs. 16.69 Crore for KLHEP in the Truing-up of FY 2019-20.

#### 4.21 Sharing of Gains and Losses

4.21.1 Regulation 10.2 of the MYT Regulations, 2018 specifies the controllable factors for

Generating Stations and Regulation 12 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

4.21.2 Regulation 10.2 of the MYT Regulations, 2018 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. Similarly, the ROP arrears was also allowed separately. Hence, for undertaking sharing of gains or losses, the Commission has excluded the actual arrears paid on account of ROP from normative as well as actual employee expenses.

4.21.3 The sharing of (Gains)/Losses on account of O&M Expenses is shown in the following Table:

**Table 40: Sharing of (Gains)/Losses for O&M Expenses for FY 2019-20 (Rs. Crore)**

Sr. No.	Particulars	Revised Normative	Actual	(Gains)/Losses	(Gains)/Losses passed to Beneficiary	Net Entitlement
		(A)	(B)	(C)=(B-A)	D= (1/3) *C	E=A+D
1	NTPS	51.72	36.46	(15.26)	(5.09)	46.63
2	LTPS	56.49	38.61	(17.88)	(5.96)	50.53
3	KLHEP	28.44	28.65	0.20	0.07	28.51
4	LRPP	20.04	20.41	0.37	0.12	20.16
	<b>Total</b>	<b>156.70</b>	<b>124.12</b>	<b>(32.57)</b>	<b>(10.86)</b>	<b>145.84</b>

*Note: ROP have been excluded from the total O&M Expenses, while computing the sharing of (gains)/losses*

Fuel Cost

4.21.4 Sharing of (gains)/losses on account of performance parameters and Fuel Cost in the True-up for FY 2019-20 is shown in the Table below:

**Table 41: Sharing of (Gains)/Loss on account of Fuel Parameters as approved by the Commission in the True-up for FY 2019-20 (Rs. Crore)**

Station	Normative Cost	Actual Cost	(Gains)/ Loss	(Gains)/ losses passed to beneficiary	Net Entitlement
NTPS	70.48	82.26*	11.78	3.93	74.41
LTPS	102.45	108.22	5.77	1.92	104.37
LRPP	95.47	95.14	(0.33)	(0.11)	95.36

\* *Note: Actual Fuel Cost revised to Rs. 82.26 Crore in reply to data gaps*

### Auxiliary Consumption

4.21.5 As per MYT Regulations, 2018, Auxiliary Consumption is considered as a controllable parameter. Sharing of (gains)/losses on account of Auxiliary Consumption in the True-up for FY 2019-20 is shown in the Table below:

**Table 42: Sharing of (Gain)/Loss on account of Auxiliary Consumption as approved by the Commission in the True-up for FY 2019-20**

Station	Net Normative Generation (MU)	Net Actual Generation (MU)	ECR (Rs. /kWh)	(Gain)/ Loss (MU)	(Gain)/ Loss (Rs. Crore)	(Gains)/ losses passed to beneficiary
NTPS	241.48	237.85	2.92	3.63	1.06	0.35
LTPS	342.10	324.39	2.99	17.70	5.30	1.77
LRPP	486.55	489.48	1.96	(2.93)	(0.57)	(0.19)

4.21.6 The total sharing of Gains and Losses for FY 2019-20 has been summarised in the following Table:

**Table 43: Total Sharing of (Gain)/Loss approved by the Commission in the True-up for FY 2019-20 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP	LRPP
(Gains)/Losses passed to beneficiary for O&M Expenses	(5.09)	(5.96)	0.07	0.12
(Gains)/Losses (Gains)/Losses passed to beneficiary for Fuel Cost	3.93	1.92	-	(0.11)
(Gains)/Losses passed to beneficiary for Auxiliary Consumption	0.35	1.77	-	(0.19)
<b>Grand Total</b>	<b>(0.81)</b>	<b>(2.27)</b>	<b>0.07</b>	<b>(0.18)</b>

## **4.22 Reduction in Annual Fixed Charges**

4.22.1 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 44: Reduction of fixed costs as approved by the Commission for True-up for FY 2019-20  
(Rs. Crore)**

<b>Particulars</b>	<b>PAF (%) – Normative</b>	<b>PAF (%) – Actual</b>	<b>AFC (Rs. Crore)</b>	<b>Allowable AFC (Rs. Crore)</b>	<b>Disallowed AFC</b>
NTPS	50.00%	32.71%	55.33	36.19	(19.14)
LTPS	50.00%	53.92%	79.54	79.54	-
LRPP	85.00%	88.63%	32.65	32.62	-

#### **4.23 Summary of True-up for FY 2019-20**

4.23.1 The Summary of true-up for FY 2019-20 is shown in the following Table:

**Table 45: True-up ARR for Existing Generating Stations for FY 2019-20 as approved by the Commission (Rs. Crore)**

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up
<b>A</b>	<b>Annual Fixed Charges</b>												
1	O&M expenses	51.72	36.56	51.72	56.49	38.71	56.49	28.44	28.80	28.44	20.04	20.48	20.04
2	Special R&M Expenses	4.00	0.00	0.00	10.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00
3	Revision of Pay	0.00	2.49	2.49	0.00	2.82	2.82	0.00	1.19	1.19	0.00	0.50	0.50
4	Depreciation	1.74	1.46	1.48	15.30	11.15	15.08	21.63	21.13	21.07	2.75	2.60	2.60
5	Interest on Loans	0.68	0.10	0.10	0.04	0.03	0.03	22.09	20.68	20.68	3.44	3.66	3.01
6	Return on Equity	8.53	8.53	8.53	22.18	22.18	22.18	10.64	10.64	10.64	2.50	2.37	2.37
7	Interest on WC	2.72	4.06	6.15	6.40	5.11	7.80	2.58	2.26	1.79	4.24	3.72	3.77
8	Income Tax	0.00	0.21	0.21	0.00	0.41	0.41	0.00	0.23	0.23	0.00	0.32	0.32
9	AERC Filing fees	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Capacity Building	0.10	0.11	0.10	0.10	0.11	0.10	0.10	0.11	0.10	0.00	0.00	0.00
11	Less: Non-Tariff Income	7.13	15.44	15.44	9.22	25.37	25.37	5.75	16.69	16.69	0.00	0.00	0.00
<b>12</b>	<b>Fixed Cost</b>	<b>62.36</b>	<b>38.08</b>	<b>55.33</b>	<b>101.29</b>	<b>55.15</b>	<b>79.54</b>	<b>94.73</b>	<b>68.34</b>	<b>67.46</b>	<b>32.97</b>	<b>33.65</b>	<b>32.62</b>
<b>B</b>	<b>Fuel Cost</b>	<b>46.30</b>	<b>82.26</b>	<b>70.48</b>	<b>115.81</b>	<b>108.22</b>	<b>102.45</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>95.19</b>	<b>95.13</b>	<b>95.47</b>
<b>C</b>	<b>Total ARR</b>	<b>108.66</b>	<b>120.34</b>	<b>125.82</b>	<b>217.10</b>	<b>163.36</b>	<b>181.99</b>	<b>94.73</b>	<b>68.34</b>	<b>67.46</b>	<b>128.16</b>	<b>128.78</b>	<b>128.09</b>
D	Incentive for Generation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00
	Incentive for Secondary Generation			-					0.72	0.72			
E	(Gains)/Losses on account of Fuel Cost			4.28			3.69			0.07			(0.30)
F	(Gains)/Losses on account of Fixed Cost			(5.09)			(5.96)			-			0.12

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up	Tariff Order dated March 1, 2019	APGCL's Petition	Approved after Truing up
G	Reduction in Fixed Cost on Account of AFC			(19.14)			-			-			-
H	<b>Net ARR</b>	<b>108.66</b>	<b>120.34</b>	<b>105.87</b>	<b>217.10</b>	<b>163.36</b>	<b>179.72</b>	<b>94.73</b>	<b>69.08</b>	<b>68.27</b>	<b>128.16</b>	<b>128.78</b>	<b>127.91</b>



#### 4.24 Net ARR for Effective Capacity

4.24.1 The Commission has considered the Net ARR computed on the effective capacity of NTPS and LTPS based on the actual retirement of Units as submitted by APGCL.

4.24.2 The Commission has considered the effective capacity of 99.50 MW for NTPS. Further, Unit 1,2,3 & 4 of LTPS are de-commissioned. Accordingly, the effective capacity has been considered as 97.20 MW for LTPS. Accordingly, the Commission has computed the Net ARR at effective capacity.

4.24.3 The following Table shows the Net ARR of NTPS and LTPS to be considered for FY 2019-20 after adjusting for effective capacity:

**Table 46: True-up ARR for Existing Generating Stations for FY 2019-20 as approved by the Commission at Effective Capacity (Rs. Crore)**

Particulars	NTPS	LTPS
<b>Total Fixed Cost Approved on Installed Capacity</b>	<b>46.44</b>	<b>98.85</b>
Reduction of Fixed cost due to Decommissioning	7.77	31.28
Total Fixed Cost approved at effective Capacity	38.68	67.57
Add: Capacity Building Charges	0.10	0.10
Less: Non-Tariff Income	15.44	25.37
<b>Total Fixed Cost approved for effective capacity</b>	<b>23.34</b>	<b>42.32</b>
Add: Fuel Cost including sharing of (gains)/loss on account of Fuel cost	74.76	106.14
<b>Net ARR approved for effective capacity</b>	<b>98.10</b>	<b>148.44</b>

#### 4.25 Revenue from Sale of Power

4.25.1 APGCL submitted the Station-wise revenue from sale of power for FY 2019-20 as shown in the Table below, as Rs.495.44 Crore as per Audited Accounts:

**Table 47: Revenue from Sale of Power as claimed by APGCL (Rs. Crore)**

Particulars	Fixed/Capacity charges	Variable charges	Total Revenue appeared in Annual Accounts FY 2019-20	Approved as per order of March 2019	Total Revenue claimed in True up for FY 2019-20
NTPS	22.31	67.70	90.01	68.80	90.01
LTPS	71.56	102.96	174.52	187.36	174.52
LRPP	33.06	101.36	134.42	128.16	134.42

Particulars	Fixed/Capacity charges	Variable charges	Total Revenue appeared in Annual Accounts FY 2019-20	Approved as per order of March 2019	Total Revenue claimed in True up for FY 2019-20
KLHEP	47.51	48.98	96.49	94.73	96.49
MSHEP	0.00	6.24	6.24	0.00	0.00
<b>Total</b>	<b>174.44</b>	<b>327.24</b>	<b>501.67</b>	<b>479.05</b>	<b>495.44</b>

4.25.2 APGCL submitted that the above revenue does not include Rs. 6.24 Crore recovered on account of MSHEP, which is reflecting in the Audited Accounts of FY 2019-20.

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

4.25.3 The Commission has considered the actual revenue of Rs. 495.44 Crore billed in FY 2019-20 for truing up, based on the audited accounts.

## 5 Revised Capital Investment Plan for FY 2020-21 and FY 2021-22

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### 5.1 Regulatory Provisions

- 5.1.1 APGCL submitted that Regulation 6 of the MYT Regulations, 2018 specifies as under regarding Capital Investment Plan for Generating Companies for the Control Period from FY 2019-20 to FY 2021-22:

*“6 Capital Investment Plan*

*6.1 The Generating Company, Transmission Licensee, SLDC Business and Distribution Licensee shall submit a Capital Investment Plan for the entire Control Period, as part of the MYT Petition as per the timeline specified in this Regulation and accompanied by the Fee required for processing of Investment plan, as specified in AERC (Payment of Fee) Regulations, 2015.....*

*.....6.14 In case during the annual performance review, large variations are observed in the actual cumulative capital expenditure incurred up to the current year starting from first year of the control period as against the approved capital expenditure, the Commission may revisit the costs incidental to the actual capital expenditure in the current year and remaining years of the control period.*

*Provided that the actual capital expenditure incurred shall be only for the schemes as per the approved capital investment plan.*

*Provided that if the actual capital expenditure incurred is more than the approved capital expenditure (whether at the time of MYT Order or separate approval before investment), the Commission may take appropriate decision at the time true-up of the cost incidental to such variations.”*

- 5.1.2 APGCL stated that it has submitted a revised Capital Expenditure Plan for FY 2020-21 and FY 2021- 22 for the Commission’s approval in accordance with the above Regulations.

### 5.2 Capital Expenditure – Existing Projects

- 5.2.1 APGCL submitted the revised Capital Expenditure Plan for NTPS, LTPS and KLHEP as shown in the Tables below:

**Table 48: Revised Capital Expenditure proposed for NTPS for FY 2020-21 and FY 2021-22 (Rs. Crore)**

Particulars	Approved for FY 2020-21	Claimed for FY 2020-21	Approved for FY 2021-22	Claimed for FY 2021-22
Electrotechnical Works for NTPS	-	-	1.33	1.33
Civil works for NTPS	0.20	0.94	0.26	0.26
<b>Total Capital Expenditure</b>	<b>0.20</b>	<b>0.94</b>	<b>1.58</b>	<b>1.58</b>

**Table 49: Revised Capital Expenditure proposed for LTPS for FY 2020-21 and FY 2021-22 (Rs. Crore)**

Particulars	Approved for FY 2020-21	Claimed for FY 2020-21	Approved for FY 2021-22	Claimed for FY 2021-22
Electrotechnical Works for LTPS	8.56	5.85	1.37	4.37
Civil works for LTPS	2.35	1.00	2.35	2.35
<b>Total Capital Expenditure</b>	<b>10.91</b>	<b>6.85</b>	<b>3.72</b>	<b>6.72</b>

**Table 50: Revised Capital Expenditure proposed for KLHEP for FY 2020-21 and FY 2021-22 (Rs. Crore)**

Particulars	Approved for FY 2020-21	Claimed for FY 2020-21	Approved for FY 2021-22	Claimed for FY 2021-22
Electrotechnical Works for KLHEP	12.37	14.92*	1.20	1.20
Civil works for KLHEP	-	1.00	0.50	0.50
<b>Total Capital Expenditure</b>	<b>12.37</b>	<b>15.92</b>	<b>1.70</b>	<b>1.70</b>

**\*Note:** APGCL reversed its claim by Rs. 2.55 Crore in data gaps reply since the expenditure was for MSHEP.

### Commission's Analysis

5.2.2 The Commission observed that the Revised Capital Expenditure claimed for NTPS, LTPS and KLHEP for FY 2020-21 and FY 2021-22 was on account of revision in cost for approved schemes and due to addition of new schemes.

- 5.2.3 The Commission directed APGCL to justify the reasons for deviation in cost as claimed with respect to the amounts approved in previous Tariff Orders. The Commission also directed to submit the details of new schemes proposed to be carried out in FY 2020-21 and FY 2021-22.
- 5.2.4 APGCL provided detailed reasons for claiming proposed capital expenditure for new schemes. The Commission observed that the new works proposed were essential in nature and necessary for smooth and efficient operations of the stations.
- 5.2.5 For revision in works with respect to approved capital expenditure, APGCL submitted the reasons for deviation, present status and actual expenditure incurred on these approved works till December 2020.
- 5.2.6 Regulation 6.14 of MYT Regulations, 2018 provides for the following provisions  
*“... Provided that the actual capital expenditure incurred shall be only for the schemes as per the approved capital investment plan.*  
*Provided that if the actual capital expenditure incurred is more than the approved capital expenditure (whether at the time of MYT Order or separate approval before investment), the Commission may take appropriate decision at the time true-up of the cost incidental to such variations.”*
- 5.2.7 Considering the nature of expenses claimed by APGCL for FY 2020-21 and FY 2021-22 against approved and new schemes and based on the justification provided against each of the works, the Commission provisionally approves the Capital Expenditure claimed by APGCL for FY 2020-21 and FY 2021-22.
- 5.2.8 **The Commission shall scrutinize the capital expenditure for approved as well as new schemes at the time of Truing-up of FY 2020-21 and FY 2021-22 with respect to the amounts approved in the Tariff Order dated March 07, 2020 and this Order.**

#### Asset Valuation

- 5.2.9 APGCL submitted that the Commission approved Asset Valuation Expenses for APGCL in its Order dated March 07, 2020. The work for Asset Valuation is under way and is expected to be paid out in entirety in FY2020-21 in line with the contract signed with the valuation agency. The revised estimates claimed by APGCL against approved expenses are shown in the Table below:

**Table 51: Revised Capital Expenditure for Asset Valuation in FY 2020-21 (Rs. Crore)**

Particulars	Approved for FY 2020-21	Claimed for FY 2020-21
<b>Asset Valuation</b>	<b>3.00</b>	<b>0.96</b>
Loan	0.30	0.10
Grant	2.70	0.86

### Commission's Analysis

5.2.10 The Commission has already approved the scheme for Asset Valuation in previous Tariff Orders. Based on the submission made by APGCL for asset valuation, the Commission approves the revised Capital Expenditure as claimed for FY 2020-21.

#### ERP Implementation

5.2.11 APGCL submitted that the Commission approved ERP Implementation and Consultancy costs for FY2019-20 to FY2020-21 in its Order dated March 07, 2020. The work for ERP Implementation is divided into four lots.

5.2.12 Presently, Lot 1 is under implementation, which is being carried out by M/s Accenture Solutions Pvt. Ltd. The contract was signed on July 31, 2019 for Lot 1 at contract price at Rs. 27.50 Crore and actual implementation work at APGCL site began on October 14, 2019.

5.2.13 APGCL submitted that the actual cost of the remaining Lots will be known only after signing of the contracts for the same and they will be claimed during True Up for the respective years. APGCL had earlier considered the ERP consultancy to be completed within FY2018-19. However, the ERP Consultancy contract is currently under review as the implementation is ongoing. The cost for ERP consultancy work would be shared in True Up of FY2020-21.

5.2.14 The following Table shows the revised estimates claimed by APGCL for FY 2020-21 and FY 2021-22 for ERP Implementation:

**Table 52: Revised Capital Expenditure for ERP Implementation in FY 2020-21 and FY 2021-22 (Rs. Crore)**

Particulars	Approved for FY 2020-21	Claimed for FY 2020-21	Approved for FY 2021-22	Claimed for FY 2021-22
<b>ERP Implementation</b>	<b>4.05</b>	<b>14.77</b>	<b>-</b>	<b>10.98</b>

Particulars	Approved for FY 2020-21	Claimed for FY 2020-21	Approved for FY 2021-22	Claimed for FY 2021-22
Loan	0.34	1.48	-	1.10
Grant	3.71	13.29	-	9.88

### Commission's Analysis

5.2.15 The Commission observed that APGCL has claimed the ERP Implementation cost against Lot 1, which has already been awarded and is expected to be completed shortly.

5.2.16 The revised Capital Expenditure does not include the cost for other Lots, which are yet to be awarded by APGCL. Accordingly, the Commission approves the revised capital expenditure for ERP Implementation as claimed by APGCL for FY 2020-21 and FY 2021-22.

### 5.3 Capital Expenditure and Funding

5.3.1 Based on the discussions in above Sections of this Chapter, the Commission approves the proposed capital expenditure for FY 2020-21 and FY 2021-22. The funding of proposed capital expenditure is approved in line with the submission of APGCL. Accordingly, addition to loan and equity for FY 2020-21 and FY 2021-22 is considered in subsequent Chapters.

5.3.2 The following Table shows the Capital Expenditure approved for FY 2020-21 and FY 2021-22 against the schemes as discussed in the above sections and the proposed funding of this capital expenditure:

**Table 53: Revised Capital Expenditure approved for FY 2020-21 and FY 2021-22 (Rs. Crore)**

Sl. No	Particulars	FY 2020-21			FY 2021-22		
		Equity	Loan	Grant	Equity	Loan	Grant
I	<b>Existing Projects*</b>						
a	NTPS	-	1.47	4.75	-	1.90	2.80
b	LTPS	-	7.37	4.64	-	7.10	3.49
c	KLHEP	-	13.90**	4.77	-	2.10	3.59
	<b>Total</b>	-	<b>22.74</b>	<b>14.16</b>	-	<b>11.10</b>	<b>9.88</b>

**Note 1:** \* - Capital Expenditure approved for Asset Valuation and ERP Implementation allocated among the Stations

**Note 2:** \*\* - Capital Expenditure of KLHEP reduced by Rs. 2.55 Crore as submitted by APGCL in data gaps reply since the amount pertains to MSHEP

## 6 Annual Performance Review for FY 2020-21

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### 6.1 Methodology for Annual Performance Review

6.1.1 The Commission had approved the revised ARR for FY 2020-21 for existing Generating Stations in the Tariff Order dated March 7, 2020.

6.1.2 Regulation 9.3 of the MYT Regulations, 2018, specifies that the Commission shall undertake the APR and True-up for the respective years of the Control Period from FY 2019-20 to FY 2021-22, as reproduced below:

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

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

6.1.3 APGCL submitted the Annual Performance Review (APR) Petition for FY 2020-21, supported by actual information available till September 2018 and estimated the values for the next six months.

6.1.4 From the above said Regulation, the main objective of the APR is to compare the performance targets for FY 2020-21 vis-à-vis forecast approved in the Tariff Order for FY 2020-21. The Revenue Gap/(Surplus) arising out of APR for FY 2020-21 shall not be passed on to the beneficiaries, and the same shall be considered at the time of Truing-up only.

6.1.5 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 2020-21. The Commission has computed the Revenue Gap/(Surplus) as an indication of the performance in FY 2020-21. 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 2020-21.



## 6.2 Installed and Effective Capacity of FY 2020-21

6.2.1 APGCL submitted the following installed and effective capacity for FY 2020-21.

**Table 54: Installed and Effective Capacity for FY 2020-21**

Station	Installed Capacity (MW)	No. of Units	Units Decommissioned	Units available for Generation	Effective Capacity
NTPS	119.5	6	1, 4,5 (w.e.f.20 <sup>th</sup> August2020)	2, 3(21MW), 6 (22.50 MW-WHRU)	78.12
LTPS	142.2	8	1,2,3,4	5,6,7(20 MW Each), 8 (37.20 MWWHRU)	97.20
KLHEP	100.0	2	0	1 (50), 2(50) MW	100
LRPP	69.755	7	0	1-7 (9.965 MW each)	69.755

6.2.2 The Commission has considered the effective capacity for FY 2020-21 as submitted by APGCL in the above Table. The Commission has accordingly reduced the fixed cost derived after APR of FY 2020-21 to the extent of effective capacity with respect to the installed capacity of each of the above Stations in subsequent section of this Chapter.

6.2.3 The impact of reduction of fixed cost with respect to effective capacity can be seen only in NTPS and LTPS as some of their Units have been decommissioned till date. There is no impact of reduction in fixed cost due to effective capacity for KLHEP and LRPPP as none of their Units are decommissioned/proposed to be decommissioned in FY 2020-21.

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

6.3.1 APGCL submitted that as per Regulation 47.1 of the MYT Regulations, 2018, the NAPAF for recovery of full fixed charges is 50% for NTPS. However, due to the problem of low gas supply and frequent forced shutdown of the aged Units/auxiliaries, NAPAF may not be achieved.

6.3.2 APGCL submitted that NAPAF for recovery of full fixed charges is 50% for LTPS. It is expected that the normative numbers may not be achieved due to lower availability of gas in the first 6 months of FY2020-21.

6.3.3 Further, Regulation 49 of MYT Regulations, 2018 specifies NAPAF for KLHEP as 85% for FY 2020-21. Due to the delay in planned maintenance of KLHEP Unit 1, the

normative availability may not be achieved for the year. APGCL also mentioned that the delay is due to the COVID-19 related restrictions. Further, Unit 2 is also under shutdown due to landslide.

6.3.4 APGCL submitted that it expected to achieve the Plant Availability Factor of 85% for LRPP for FY 2020-21.

6.3.5 APGCL requested the Commission to approve the revised estimated Availability for FY 2020-21 as shown in the Table below:

**Table 55: Availability as submitted by APGCL for FY 2020-21**

Sl. No.	Station	Tariff Order dated March 7, 2020	Apr-Sep (actual)	Oct-March (estimated)	Estimated total
1	NTPS	50%	26.29%	50.00%	38.14%
2	LTPS	50%	46.62%	50.00%	48.31%
3	KLHEP	85%	40.91%	62.85%	51.88%
4	LRPP	85%	83.28%	85.00%	84.14%

### **Commission's Analysis**

6.3.6 The Commission notes that APGCL has projected the availability for NTPS and LTPS, lower than NAPAF due to the problem of low gas supply and frequent forced shutdown of the aged Units/auxiliaries. The Commission also notes that APGCL has projected lower than NAPAF for KLHEP due to planned maintenance.

6.3.7 The Commission notes that the supply of gas was lower during FY 2020-21 (H1). The arrangement of fuel is the responsibility of the Generator and therefore, lower availability cannot be allowed for insufficient gas supply. As regards KLHEP, the Commission shall revisit the availability for FY 2020-21 at the time of Truing-up.

6.3.8 In accordance with the MYT Regulations, 2018, APGCL shall be eligible to recover full fixed charges if NAPAF is achieved as specified in MYT Regulations, 2018. Accordingly, the Commission approves NAPAF as per MYT Regulations, 2018 as shown in the following Table:

**Table 56: Target PAF/Capacity Index for recovery of full fixed Charges**

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

#### 6.4 Plant Load Factor (PLF)

6.4.1 APGCL submitted that as per Regulation 47.2 of the MYT Regulations, 2018, the Normative Plant Load Factor (NAPLF) is 50% for NTPS. APGCL submitted that due to the lower gas supply, grid constraints and issues of ageing and frequent forced shutdowns, the plant has not been able to achieve NAPLF. Further, post commissioning of NRPP, the PLF of NTPS is expected to decrease due to lower availability of gas.

6.4.2 As per MYT Regulations, 2018, NAPLF for availing incentive for LTPS is specified as 66% for FY 2020-21. However, as there is shortage of gas, PLF is considered same as that as normative Availability of 50% for H2.

6.4.3 APGCL submitted that due to the planned maintenance of KLHEP Unit 1 and shutdown of Unit 2 due to landslide, the NAPLF may not be achieved during the year.

6.4.4 APGCL requested the Commission to approve the revised estimated PLF for FY 2020-21 as shown in the Table below:

**Table 57: Plant Load Factor submitted by APGCL for FY 2020-21**

Sl. No.	Station	Tariff Order dated March 7, 2020	Apr-Sep (actual)	Oct-March (estimated)	Estimated total
1	NTPS	50.00%	21.62%	50.00%	35.81%
2	LTPS	66.00%	41.32%	50.00%	45.66%
3	KLHEP	44.50%	33.64%	38.99%	36.31%
4	LRPP	90.00%	75.46%	90.00%	82.73%

#### Commission's Analysis

6.4.5 The Commission notes that APGCL has projected lower than NAPLF for NTPS, LTPS and KLHEP on account of the same reasons as discussed in the above Section of

NAPAF.

6.4.6 APGCL shall be eligible for incentive only if actual PLF is higher than NAPLF specified in MYT Regulations, 2018. For the purpose of APR, the Commission has considered Gross Generation as submitted by APGCL and accordingly PLF. However, the incentive shall be allowed with respect to NAPLF specified in the MYT Regulations, 2018.

## 6.5 Auxiliary Consumption

6.5.1 APGCL submitted that the Auxiliary Consumption of NTPS is estimated to be higher than the approved Auxiliary Consumption in FY 2020-21 due to part loading of Units resulting from low/non-availability of gas, which is an uncontrollable factor.

6.5.2 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.

6.5.3 APGCL estimated the Auxiliary Consumption of 5.54% for NTPS, 7.23% for LTPS, 0.37% for KLHEP, and 2.92% for LRPP in the APR of FY 2020-21.

### Commission's Analysis

6.5.4 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 2020-21 vis-à-vis Auxiliary Consumption approved in the Tariff Order dated March 07, 2020 for FY 2020-21. 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.

6.5.5 The Commission considers the Auxiliary Consumption for existing Generating Stations as per MYT Regulations, 2018, for the purpose of APR, as shown in the following Table:

**Table 58: Auxiliary Consumption considered by the Commission for FY 2020-21**

Sl. No.	Station	Tariff Order dated March 7, 2020	Estimated by APGCL	Approved for APR
1	NTPS	4.50%	5.54%	4.50%
2	LTPS	5.50%	7.23%	5.50%
3	KLHEP	0.50%	0.37%	0.50%

Sl. No.	Station	Tariff Order dated March 7, 2020	Estimated by APGCL	Approved for APR
4	LRPP	3.50%	2.92%	3.50%

## 6.6 Gross Generation and Net Generation

6.6.1 The actual Gross Generation and Net Generation estimated by APGCL for 2020-21 is shown in the following Table:

**Table 59: Gross and Net Generation as submitted by APGCL for FY 2020-21**

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	173.73	164.10
2	LTPS	395.92	367.31
3	LRPP	519.40	504.22
4	KLHEP	341.11	339.85

### Commission's Analysis

6.6.2 The Commission observed that during the first half of FY 2020-21, the availability of the gas was lower than the contracted capacity, which led to lower generation. In view of the above, for the purpose of APR, the Commission has considered the gross generation for FY 2020-21 as submitted by APGCL. The Commission has also considered the Net Generation after considering the approved auxiliary consumption of the respective plants in the APR of FY 2020-21.

6.6.3 As regards KLHEP, it is observed that APGCL has estimated generation from KLHEP lower than value approved in the Tariff Order dated March 07, 2020. In this regard, APGCL submitted that the actual generation from KLHEP in H1 of FY 2020-21 is 147.28MU and for H2 is projected to be 193.83 MU due to scheduled plant maintenance. As such the total projected generation is lower than approved gross generation. For the purpose of APR, the Commission has considered the gross generation for KLHEP as submitted by APGCL.

6.6.4 The Commission has computed the Net Generation based on above estimated Gross Generation and approved Auxiliary Consumption for FY 2020-21. The Gross Generation and Net Generation approved by the Commission in the APR for FY 2020-21 is shown in the following Table:

**Table 60: Gross Generation and Net Generation considered by the Commission in the APR for FY 2020-21**

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	173.73	165.91
2	LTPS	395.92	374.14
3	LRPP	519.40	501.22
	<b>Total Thermal</b>	<b>1089.05</b>	<b>1041.27</b>
4	KLHEP	341.11	339.40
	<b>Total APGCL</b>	<b>1430.16</b>	<b>1380.69</b>

## 6.7 Station Heat Rate

6.7.1 APGCL submitted that the normative SHR is 3900 kcal/kWh for NTPS in partial CC mode of operation as per Regulation 47.4 of the MYT Regulation 2018. However, SHR is estimated to be higher than the approved SHR in FY 2020-21 due to part loading of Units resulting from low/non-availability of gas along with evacuation constraints and old nature of the plant equipment.

6.7.2 As per Regulation 47.4, of the MYT Regulations, 2018, the normative Station Heat Rate is 3200 kcal/kWh for FY 2021-21 for LTPS in partial CC mode of operation. The actual SHR of LTPS in the first six (6) months have been lower than normative. APGCL has considered SHR at actual for the first 6 months and normative for rest of the year.

6.7.3 The SHR approved by the Commission in MYT Order and as submitted by APGCL for FY 2020-21 is shown in the following Table:

**Table 61: Gross Station Heat Rate (kcal/kWh) as projected by APGCL for FY 2020-21**

Sl. No.	Station	Tariff Order dated March 7, 2020	APGCL's submission
1	NTPS	3900	4608.42
2	LTPS	3200	2981.15
3	LRPP	2150	2153.00

### Commission's Analysis

6.7.4 Regulation 47.4 provides for weighted average SHR for NTPS based on its operation in OC and CC mode. The Commission accordingly asked APGCL to submit the details of planned shutdown in FY 2020-21 for which the plant will be operational in OC mode.

APGCL submitted that the planned shutdown was taken for around 16 days during FY 2020-21. Since the number of days for planned shutdown is within the industry norms as elaborated in the True-up Chapter, the Commission has considered the planned shutdown as submitted by APGCL during FY 2020-21.

6.7.5 Accordingly, the Commission worked out the weighted average SHR for NTPS to be approved in APR for FY 2020-21.

6.7.6 The Commission observed that the SHR claimed for LTPS has been lower than the normative SHR specified in the Regulations. For the purpose of APR, the Commission has considered the SHR of LTPS as submitted by APGCL for FY 2020-21. However, the Commission shall be considering the normative SHR at the time of Truing-up of FY 2020-21 and accordingly shall be working out the sharing of losses/(gains) on account of higher/lower SHR with respect to the normative.

6.7.7 The Commission has considered normative SHR for LRPP in FY 2020-21 since the SHR estimated by APGCL for LRPP is almost in line with the normative SHR. The following Table shows the SHR approved by the Commission for APR of FY 2020-21:

**Table 62: Gross Station Heat Rate (kcal/kWh) considered in APR for FY 2020-21**

Sl. No.	Station	Tariff Order dated March 7, 2020	APGCL's submission	Approved in APR
1	NTPS	3900	4608.42	3917
2	LTPS	3200	2981.15	2981
3	LRPP	2150	2153.00	2150

## 6.8 Fuel Cost

6.8.1 APGCL submitted that as per Regulation 10.2 of the MYT Regulations, 2018, Fuel Price and GCV are uncontrollable items. The actual values of Fuel Price and GCV are shown in the table below:

**Table 63: Actual Plant-wise GCV and Price as submitted by APGCL for FY 2020-21**

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	9147	4757	3535	4146
2	LTPS	9419	6646	4922	5784

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)
3	LRPP	9419	6642	4922	5782

6.8.2 APGCL submitted that for H1 of FY 2020-21, it has considered the weighted average GCV and price of gas on the basis of actuals, while for projecting fuel cost of H2 of FY 2020-21, the actual fuel price for October 2020 has been considered.

6.8.3 Accordingly, APGCL estimated the fuel cost of Rs.37.37 Crore for NTPS for FY 2020-21 as shown in the following Table:

**Table 64: Total Fuel Cost for NTPS for FY 2020-21 as submitted by APGCL (Rs. Crore)**

Particulars	Unit	Tariff Order dtd. March 07, 2020	April - Sep (actual)	Oct -March (estimated)	FY 2020-21 estimated
Gross Generation	MU	173.73	88.92	84.81	173.73
Heat Rate	kcal/kWh	3900.00	5316.84	3900.00	4608.42
GCV of gas	kcal/SCM	9132.69	9147.27	9147.27	9147.27
Overall Heat	Giga Cal.	677547.00	472773.11	330759.00	800620.51
Gas consumption	M. SCM	74.19	51.68	36.16	87.53
Price of Gas	Rs. /1000 SCM	6257.52	4757.43	3535.02	4146.22
<b>Total cost of Gas</b>	<b>Rs. Crore</b>	<b>46.42</b>	<b>24.59</b>	<b>12.78</b>	<b>37.37</b>

6.8.4 Similarly, APGCL estimated the fuel cost of Rs. 71.29 Crore for LTPS and Rs. 67.40 Crore for LRPP for FY 2020-21 as shown in the following Tables:

**Table 65: Total Fuel Cost for LTPS for FY 2020-21 as submitted by APGCL (Rs. Crore)**

Particulars	Unit	Tariff Order dtd. March 07, 2020	April - Sep (actual)	Oct -March (estimated)	FY 2020-21 estimated
Gross Generation	MU	425.74	183.63	212.28	395.92
Heat Rate	kcal/kWh	3200.00	2762.30	3200.00	2981.15
Overall Heat	Giga. cal.	9328.96	9419.27	9419.27	9419.27
GCV of gas	kcal/SCM	1362368.00	507250.04	679311.36	1180291.01
Gas consumption	M. SCM	146.04	53.85	72.12	125.31
Price of Gas	Rs. /1000 SCM	8553.56	6645.79	4921.91	5783.85



Particulars	Unit	Tariff Order dtd. March 07, 2020	April - Sep (actual)	Oct -March (estimated)	FY 2020-21 estimated
<b>Total cost of Gas</b>	<b>Rs. Crore</b>	<b>124.91</b>	<b>35.79</b>	<b>35.50</b>	<b>71.29</b>

**Table 66: Total Fuel Cost for LRPP for FY 2020-21 as submitted by APGCL (Rs. Crore)**

Particulars	Unit	Tariff Order dtd. March 07, 2020	April - Sep (actual)	Oct -March (estimated)	FY 2020-21 estimated
Gross Generation	MU	519.40	228.06	291.34	519.40
Heat Rate	kcal/kWh	2150.00	2155.99	2150.00	2153.00
Overall Heat	Giga cal.	9328.96	9419.27	9419.27	9419.27
GCV of gas	kcal/SCM	1116700.82	491685.79	626390.89	1118266.32
Gas consumption	M. SCM	119.70	52.20	66.50	118.72
Price of Gas	Rs. /1000 SCM	8853.56	6642.19	4921.91	5782.05
<b>Total cost of Gas</b>	<b>Rs. Crore</b>	<b>102.39</b>	<b>34.67</b>	<b>32.73</b>	<b>67.40</b>

### Commission's Analysis

- 6.8.5 The Commission in Tariff Order dated March 7, 2020 had approved the Fuel Cost for NTPS, LTPS and LRPP for FY 2020-21 based on approved performance parameters and latest GCV and price of Fuels available at that time.
- 6.8.6 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.
- 6.8.7 The Commission has verified the weighted average GCV and price of gas as per fuel bills submitted by APGCL for April 2020 to September 2020. The Commission observed that the GCV and fuel price is in line with the submission of APGCL for H1 of FY 2020-21. Accordingly, the Commission has considered the GCV and fuel prices as submitted by APGCL for estimation of fuel cost in APR of FY 2020-21.
- 6.8.8 The GCV and landed price of gas considered by the Commission for projection of fuel cost is shown in the following Table:

**Table 67: GCV and Landed Price of Gas for FY 2020-21 considered by the Commission**

Station	Particulars	Approved for APR
NTPS	GCV of Gas (kcal/SCM)	9147.00

Station	Particulars	Approved for APR
	Price of Gas (Rs. /1000SCM)	4146.00
LTPS and LRPP	GCV of Gas (kcal/SCM)	9419.27
	Price of Gas (Rs. /1000SCM)	5782.05

6.8.9 The Commission has estimated the fuel cost for NTPS, LTPS and LRPP based on approved performance parameters and GCV of gas and landed price of gas as discussed in the above Section. The fuel cost provisionally approved by the Commission for NTPS, LTPS and LRPP for FY 2020-21 for APR purposes is shown in the following Table:

**Table 68: Fuel Cost considered by the Commission in APR for FY 2020-21**

S. No.	Particulars	Unit	NTPS	LTPS	LRPP
1	Gross Generation	MU	173.73	395.92	519.40
2	Heat Rate	kcal/kWh	3917	2981	2150.00
3	Overall Heat	Giga cal.	680541.82	1180237.52	1116718.60
4	GCV of gas	kcal/SCM	9147	9419	9419
5	Gas consumption	M. SCM	74.40	125.30	118.56
6	Price of Gas	Rs./1000 SCM	4146	5782.05	5782.05
7	<b>Total Cost of Gas</b>	<b>Rs. Crore</b>	<b>30.85</b>	<b>72.45</b>	<b>68.55</b>

## 6.9 O&M Expenses

6.9.1 APGCL submitted that the Commission in the Tariff Order dated March 7, 2020 had approved O&M expenses of Rs. 55.17 Crore for NTPS, Rs 60.26 Crore for LTPS, Rs. 30.34 Crore for KLHEP and Rs. 21.30 Crore for LRPP for FY 2020-21, which works out to total of Rs. 167.07 Crore.

6.9.2 Based on the effective capacity, APGCL claimed the O&M Expenses for Rs. 36.06 Crore for NTPS, Rs. 37.26 Crore for LTPS, Rs. 30.34 Crore for KLHEP and Rs. 21.30 Crore for LRPP, which works out to total of Rs. 124.96 Crore.

### Commission's Analysis

6.9.3 The Commission in the Tariff Order dated March 07, 2020 has computed O&M Expenses on normative basis as per MYT Regulations, 2018 for FY 2020-21. The

Commission had considered an escalation of 6.30% on approved values of FY 2019-20.

6.9.4 The Commission in the APR for FY 2020-21 has computed the normative O&M Expenses in accordance with Regulation 50.1 of the MYT Regulations, 2018. The normative O&M expenses approved in the True-up of FY 2019-20 have been escalated by 6.30% to compute the normative O&M expenses for FY 2020-21 as shown in the table below:

**Table 69: Normative O&M expenses for FY 2020-21 considered in APR (Rs. Crore)**

Station	Tariff Order dated 07 March 2020	Tariff Order dated 07 March 2020 considering effective capacity	APGCL's Submission (effective capacity)	Approved Normative O&M (full capacity)
NTPS	55.17	20.08	36.06	54.98
LTPS	60.26	24.31	37.26	60.05
KLHEP	30.34	30.34	30.34	30.24
LRPP	21.30	21.30	21.30	21.30

6.9.5 The O&M expenses for LRPP have been estimated based on the O&M norm of Rs. 30.54 Lakh/MW, which has been derived after escalating O&M norm of Rs. 28.73 Lakh/MW considered in Truing-up of FY 2019-20 by 6.30% as specified in the MYT Regulations, 2018 the total O & M is Rs 21.30 Cr for FY 2020-21.

## 6.10 Capital Expenditure and Capitalisation

6.10.1 APGCL submitted that the Commission in the Tariff Order dated March 7, 2020 has approved the Capital Investment Plan for FY 2020-21. Further, APGCL has revised the schemes and corresponding outlay of the generating stations for FY 2020-21 and has claimed the following Capital Expenditure in the APR for FY 2020-21:

**Table 70: Capital Expenditure plan as submitted by APGCL for FY 2020-21 (Rs. Crore)**

Station	Particulars	APGCL's submission
NTPS	Capital Expenditure	6.22
	Capitalisation	6.22
LTPS	Capital Expenditure	12.01
	Capitalisation	12.01
KLHEP	Capital Expenditure	21.22

Station	Particulars	APGCL's submission
	Capitalisation	21.22

### Commission's Analysis

6.10.2 The Commission in the Tariff Order dated March 7, 2020 had approved the capital expenditure and capitalisation for the existing generating stations.

6.10.3 The Commission has already discussed the Capital Expenditure claimed by APGCL in detail in the Chapter on Revised Capital Expenditure for FY 2020-21 and FY 2021-22 of this Order

6.10.4 **The Commission shall however, revisit the Capital Expenditure for approval at the time of Truing-up of FY 2020-21.**

6.10.5 APGCL submitted in the data gaps reply that the Capital Expenditure of Rs. 2.55 Crore with respect to MSHEP has been inadvertently included in the Capital Expenditure of KLEP and should therefore be reduced from the total Capital Expenditure. The Commission has therefore, reduced the Capital Expenditure of KLHEP to that extent as compared to the amount claimed in the Petition.

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

**Table 71: Capital Expenditure and Capitalisation as considered by the Commission for FY 2020-21 (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP*
Capital Expenditure	6.22	12.01	18.67*
Capitalisation	6.22	12.01	18.67*

*\*Note: Rs. 2.55 Crore reduced with respect to MSHEP as submitted by APGCL*

6.10.7 As regards the funding of Capitalisation for NTPS, LTPS and KLHEP, the Commission has considered funding as proposed by APGCL. The following Table shows the funding of above capitalisation as proposed by APGCL:

**Table 72: Funding of Capitalisation as considered by the Commission for FY 2020-21 (Rs. Crore)**

<b>Particulars</b>	<b>NTPS</b>	<b>LTPS</b>	<b>KLHEP</b>
Loan	1.47	7.37	13.90
Equity	-	-	-
Grant	4.75	4.64	4.77
<b>Total Capitalisation</b>	<b>6.22</b>	<b>12.01</b>	<b>18.67</b>

6.10.8 APGCL has not proposed any Capital Expenditure and Capitalisation for LRPP in FY 2020-21. The Commission has therefore, not considered any capitalisation for LRPP in FY 2020-21.

### **6.11 Depreciation**

6.11.1 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. 1.45 Crore for NTPS, Rs. 11.26 Crore for LTPS, Rs. 20.55 Crore for KLHEP and Rs. 2.63 Crore for LRPP for FY 2020-21.

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

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

6.11.3 As per Regulation 32 of the MYT Regulations, 2018, the total depreciation during the life of the asset shall not exceed 90% of the original cost of Asset. The Commission has computed the depreciation separately for assets added under each asset head in each year. The Commission has disallowed the depreciation in excess of 90% of the original cost of asset under different asset heads.

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

6.11.5 The depreciation provisionally approved in the APR for FY 2020-21 is given in the Table below:

**Table 73: Station-wise depreciation considered for APR for FY 2020-21(Rs. Crore)**

Station	Particulars	Tariff Order dated 07 March 2020	APGCL's Submission	Approved after APR
NTPS	Depreciation	2.08	1.58	1.64
	Less: Depreciation Funded by Grants	0.20	0.13	0.14
	<b>Net Depreciation</b>	<b>1.87</b>	<b>1.45</b>	<b>1.50</b>
LTPS	Depreciation	18.46	13.07	17.76
	Less: Depreciation Funded by Grants	2.50	1.81	2.51
	<b>Net Depreciation</b>	<b>15.97</b>	<b>11.26</b>	<b>15.25</b>
KLHEP	Depreciation	24.83	23.07	23.95
	Less: Depreciation Funded by Grants	2.64	2.52	2.64
	<b>Net Depreciation</b>	<b>22.19</b>	<b>20.55</b>	<b>21.31</b>
LRPP	Depreciation	12.23	13.47	13.72
	Less: Depreciation Funded by Grants	9.89	10.84	11.04
	<b>Net Depreciation</b>	<b>2.34</b>	<b>2.63</b>	<b>2.68</b>

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

## **6.12 Interest on Loan Capital**

6.12.1 APGCL submitted that it has computed the Interest on long-term Loan on normative basis for FY 2020-21. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2020-21. The interest rate has been considered as the expected weighted average rate of interest for FY 2020-21. APGCL has claimed the Interest on Loan of Rs. 0.08 Crore for NTPS, Rs. 0.00 Crore for LTPS, Rs. 19.62 Crore for KLHEP and Rs. 3.54 Crore for LRPP for FY 2019-20.

### **Commission's Analysis**

6.12.2 In the Tariff Order dated March 7, 2020, the Commission has approved Interest and finance charges on normative basis for FY 2020-21 as per MYT Regulations, 2018. For the APR, the Commission has considered the same approach and provisionally approved the Interest and finance charges on normative basis.

6.12.3 The closing net normative loan for FY 2019-20 as approved in this Order has been considered as opening net normative loan for FY 2020-21. The addition of loan has been considered equal to debt portion of capitalised works as approved in this Order. The loan repayment has been considered equivalent to Depreciation approved in this Order. As per MYT Regulations, 2018, weighted average rate of interest shall be computed based on actual outstanding loan as on April 1, 2020. The Commission has computed the weighted average interest rate of 10.15% for FY 2020-21.

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

**Table 74: Interest on Loan Capital considered for APR for FY 2020-21 (Rs. Crore)**

Station	Particulars	Tariff Order dated 07 March 2020	APGCL Submission	Approved in APR
NTPS	Net Normative Opening Loan	4.04	0.79	0.77
	Addition of normative loan during the year	3.04	1.47	1.47
	Normative Repayment during the year	1.87	1.45	1.50
	Net Normative Closing Loan	5.21	0.81	0.73
	Interest Rate	10.34%	10.15%	10.15%
	Interest on Loan Capital	0.48	0.08	0.08
	Interest and Finance Charges	0.00	-	0.00
	<b>Total Interest on Loan Capital</b>	<b>0.48</b>	<b>0.08</b>	<b>0.08</b>
LTPS	Net Normative Opening Loan	0.00	0.00	0.00
	Addition of normative loan during the year	20.91	7.37	7.37
	Normative Repayment during the year	15.97	11.26	15.25
	Net Normative Closing Loan	4.94	0.00	0.00
	Interest Rate	10.34%	10.15%	10.15%
	Interest on Loan Capital	0.26	-	0.00
	Interest and Finance Charges	0.00	-	0.00
	<b>Total Interest on Loan Capital</b>	<b>0.26</b>	<b>-</b>	<b>0.00</b>
KLHEP	Net Normative Opening Loan	204.2	195.24	195.30
	Addition of normative loan during the year	20.9	16.45	13.90
	Normative Repayment during the year	22.19	20.55	21.31
	Net Normative Closing Loan	202.91	191.14	187.89
	Interest Rate	10.34%	10.15%	10.15%
	Interest on Loan Capital	21.05	19.62	19.45
	Interest and Finance Charges	0.00	-	0.00

Station	Particulars	Tariff Order dated 07 March 2020	APGCL Submission	Approved in APR
	<b>Total Interest on Loan Capital</b>	<b>21.05</b>	<b>19.62</b>	<b>19.45</b>
LRPP	Net Normative Opening Loan	30.66	36.21	29.78
	Addition of normative loan during the year	0.00	0.00	0.00
	Normative Repayment during the year	2.34	2.63	2.68
	Net Normative Closing Loan	28.32	33.57	27.10
	Interest Rate	10.34%	10.15%	10.15%
	Interest on Loan Capital	3.05	3.54	2.89
	Interest and Finance Charges	0.00	-	0.00
	<b>Total Interest on Loan Capital</b>	<b>3.05</b>	<b>3.54</b>	<b>2.89</b>

### 6.13 Return on Equity (RoE)

6.13.1 APGCL submitted the RoE at a rate of 15.5% in accordance with the MYT Regulations, 2018. APGCL submitted that there has been no addition in Equity in FY 2020-21. Further, it submitted that the actual tax paid is being claimed separately. APGCL has estimated the RoE for FY 2020-21 same as approved in Tariff Order March 7, 2020. APGCL claimed RoE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs. 10.64 Crore for KLHEP, and Rs. 2.44 Crore for LRPP for FY 2019-20 for the purpose of APR.

#### Commission's Analysis

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

**Table 75: Return on Equity considered by the Commission for FY 2020-21 (Rs. Crore)**

Station	Particulars	Tariff Order dated 07 March 2020	APGCL Submission	Approved in APR
NTPS	Opening Equity for year	55.00	55.00	55.00
	Closing Equity for year	55.00	55.00	55.00



Station	Particulars	Tariff Order dated 07 March 2020	APGCL Submission	Approved in APR
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>8.53</b>	<b>8.53</b>	<b>8.53</b>
LTPS	Opening Equity for year	143.08	143.08	143.08
	Closing Equity for year	143.08	143.08	143.08
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>22.18</b>	<b>22.18</b>	<b>22.18</b>
KLHEP	Opening Equity for year	68.65	68.65	68.65
	Closing Equity for year	68.65	68.65	68.65
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>10.64</b>	<b>10.64</b>	<b>10.64</b>
LRPP	Opening Equity for year	15.31	15.73	15.74
	Closing Equity for year	15.31	15.73	15.74
	Rate of Return (%)	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>2.37</b>	<b>2.44</b>	<b>2.44</b>

## 6.14 Interest on Working Capital (IoWC)

6.14.1 APGCL submitted that the Commission in Tariff Order dated March 7, 2020 had approved IoWC of Rs.15.34 Crore for FY 2020-21. As against this, APGCL has estimated IoWC of Rs. 12.61 Crore for FY 2020-21 based on the revised parameters. APGCL has considered the Rate of Interest of 10.00%, which is equal to the normative interest rate of three hundred (300) basis points above the average SBI MCLR (One-Year Tenor) prevalent during the last available six months.

### Commission's Analysis

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

6.14.3 The rate of Interest has been considered equivalent to normative interest rate of three hundred (300) basis points above the average SBI MCLR (One-year tenor) prevalent during the last available six months for the determination of tariffs, i.e, interest rate has been considered as 10.00%.

6.14.4 For the purpose of APR, IoWC provisionally approved by the Commission for FY 2020-21 is shown in the following Table:

**Table 76: Interest on Working Capital considered for APR for FY 2020-21(Rs. Crore)**

Station	Particulars	Tariff Order dated 07 March 2020	APGCL's Petition	Approved in APR
NTPS	Fuel Cost for one month	4.24	3.11	7.74
	O&M Expenses for one month	1.67	3.01	4.58
	Maintenance Spares-30% of O&M	6.02	10.82	16.49
	Receivables for two months	11.76	12.67	26.10
	Total Working Capital Requirement	23.70	29.61	54.92
	Rate of interest	11.22%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>2.66</b>	<b>2.96</b>	<b>5.49</b>
LTSP	Fuel Cost for one month	10.41	5.94	9.50
	O&M Expenses for one month	2.03	3.11	5.00
	Maintenance Spares-30% of O&M	7.29	11.18	18.02
	Receivables for two months	30.84	21.09	34.86
	Total Working Capital Requirement	50.56	41.31	67.38
	Rate of interest	11.22%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>5.67</b>	<b>4.13</b>	<b>6.74</b>
KLHEP	O&M Expenses for one month	2.53	2.53	2.52
	Maintenance Spares-15% of O&M	4.55	9.10	4.54
	Receivables for two months	16.04	12.99	13.00
	Total Working Capital Requirement	23.12	24.62	20.05
	Rate of interest	11.22%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>2.59</b>	<b>2.46</b>	<b>2.01</b>
LRPP	Fuel Cost for one month	8.53	5.62	5.71
	O&M Expenses for one month	1.78	1.78	1.78
	Maintenance Spares-30% of O&M	6.39	6.39	6.39
	Receivables for two months	22.64	16.75	16.84
	Total Working Capital Requirement	39.34	30.53	30.72
	Rate of interest	11.22%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>4.41</b>	<b>3.05</b>	<b>3.07</b>

## 6.15 Non-Tariff Income

6.15.1 APGCL submitted that the Commission had approved Non-Tariff Income of Rs. 22.09 Crore for FY 2020-21 in the Tariff Order dated March 7, 2020. 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 and Nil for LRPP, totalling Rs. 22.09 crore.

### Commission's Analysis

6.15.2 The Commission observed that the Non-Tariff Income claimed in FY 2020-21 is significantly lower as compared to the actual Non-Tariff Income earned in FY 2019-20. The Commission queried APGCL in this regard to which APGCL replied that majority of the Non-Tariff Income is interest on fixed deposit, which may not be recovered in ensuing years as APGCL proposes to liquidate the fixed deposits in FY 2020-21. Further, APGCL submitted that the interest rates have also reduced. The Commission has therefore, considered the submission of APGCL.

6.15.3 For the purpose of APR, the Commission provisionally approves the Non-Tariff income for FY 2020-21 as submitted by APGCL, as shown in the following Table:

**Table 77: Non-Tariff Income considered for APR for FY 2020-21 (Rs. Crore)**

Station	Tariff Order dated 07 March 2020	APGCL's Estimation	Approved for APR
NTPS	7.13	7.13	7.13
LTPS	9.22	9.22	9.22
KLHEP	5.75	5.75	5.75
LRPP	0.00	0.00	0.00
<b>Total</b>	<b>22.09</b>	<b>22.09</b>	<b>22.09</b>

## 6.16 Impact of AERC (Payment of Fees, etc.) Regulations, 2020

6.16.1 APGCL submitted that the Commission has notified the new AERC (Payment of Fees etc.) Regulations, 2020, which has led to a substantial increase in the Filing Fees of APGCL payable to AERC. In this regard, APGCL has claimed Rs 0.30 Crore for NTPS, LTPS and LRPP in FY 2020-21.

6.16.2 The Commission has accordingly allowed additional expenses for Petition Filing fees of Rs. 0.30 Crore for NTPS, LTPS and LRPP in FY 2020-21.

## 6.17 Other Expenses

### 6.17.1 Special R&M Expenses

6.17.1.1 APGCL submitted that the Commission in its Order dated 7 March, 2020, had approved Special R&M for Unit II of KLHEP, Unit 7 of LTPS, and Unit I of KLHEP. However, no work has been undertaken in FY 2020-21.

### Commission's Analysis

6.17.1.2 The Commission has accordingly not considered any expenditure for Special R&M during FY 2020-21 in line with the submission of APGCL.

### 6.17.2 Capacity Building

6.17.2.1 APGCL submitted that the Commission had approved Capacity Building expenses of employees of Rs. 0.30 Crore for FY 2020-21 in the Tariff Order dated March 7, 2020. APGCL has considered the Capacity Building expenses of employees of Rs 0.10 Crore for NTPS, Rs 0.10 Crore for LTPS and Rs 0.10 Crore for KLHEP, totalling Rs. 0.30 Crore.

**Table 78: Other expenses submitted by APGCL for APR for FY 2020-21 (Rs. Crore)**

Other expenses	Tariff Order		Estimated for APR	
	Special R&M	Capacity Building	Special R&M	Capacity Building
NTPS	0.00	0.10	0.00	0.10
LTPS	13.00	0.10	0.00	0.10
KLHEP	15.10	0.10	0.00	0.10
LRPP	-	-	-	-

### Commission's Analysis

6.17.3 Since the amount claimed by APGCL is in line with the amount approved in Tariff Order dated March 07, 2020, the Commission has allowed the capacity building charges of Rs 0.30 Crore in APR for FY 2020-21.

## 6.18 Summary of APR for FY 2020-21

6.18.1 The summary of station-wise ARR after APR for FY 2020-21 is shown in the following Table:

**Table 79: ARR for Existing Generation Stations for FY 2020-21 considered by the Commission in APR (Rs. Crore)**

Sr. No	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order dated 07 March 2020	APGCL's Submission	Approved for APR	Tariff Order dated 07 March 2020	APGCL's Submission	Approved for APR	Tariff Order dated 07 March 2020	APGCL's Submission	Approved for APR	Tariff Order dated 07 March 2020	APGCL's Submission	Approved for APR
<b>A</b>	<b>Annual Fixed Charges</b>												
1	Operation & Maintenance Expenditure	55.17	55.17	54.98	60.26	60.26	60.05	30.34	30.34	30.24	21.30	21.30	21.30
	Increase in AERC Tariff Filing Fees	0	0.10	0.10	0	0.10	0.10	0.00	0.00	0.00	0.00	0.10	0.10
2	Interest & Finance Charges	0.48	0.08	0.08	0.26	0.00	0.00	21.05	19.62	19.45	3.05	3.54	2.89
3	Interest on working Capital	2.66	2.96	5.49	5.67	4.13	6.74	2.59	2.46	2.01	4.41	3.05	3.07
4	Depreciation	1.87	1.45	1.50	15.97	11.26	15.25	22.19	20.55	21.31	2.34	2.63	2.68
5	Return on Equity	8.53	8.53	8.53	22.18	22.18	22.18	10.64	10.64	10.64	2.37	2.44	2.44
6	Special R&M	0.00	0.00	0.00	13.00	0.00	0.00	15.10	0.00	0.00	0.00	0.00	0.00
7	Capacity Building	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-	-	-
8	Less: Other Income	7.13	7.13	7.13	9.22	9.22	9.22	5.75	5.75	5.75	0.00	0.00	0.00
9	<b>Total Fixed Charges</b>	<b>61.68</b>	<b>61.26</b>	<b>63.65</b>	<b>108.22</b>	<b>88.81</b>	<b>95.20</b>	<b>96.27</b>	<b>77.96</b>	<b>77.99</b>	<b>33.47</b>	<b>33.07</b>	<b>32.48</b>
10	<b>Fuel Cost</b>	<b>46.30</b>	<b>37.37</b>	<b>30.85</b>	<b>124.91</b>	<b>71.26</b>	<b>72.45</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>102.39</b>	<b>67.40</b>	<b>68.55</b>
	<b>Total Revenue Requirement</b>	<b>107.98</b>	<b>98.63</b>	<b>94.50</b>	<b>233.13</b>	<b>160.08</b>	<b>167.65</b>	<b>96.27</b>	<b>77.96</b>	<b>77.99</b>	<b>135.86</b>	<b>100.47</b>	<b>101.03</b>
	<b>Net Revenue Requirement</b>	<b>107.98</b>	<b>98.63</b>	<b>94.50</b>	<b>233.13</b>	<b>160.08</b>	<b>167.65</b>	<b>96.27</b>	<b>77.96</b>	<b>77.99</b>	<b>135.86</b>	<b>100.47</b>	<b>101.03</b>

## 6.19 Net ARR for Effective Capacity

6.19.1 The Commission has considered the Net ARR computed on the effective capacity of NTPS and LTPS based on the actual retirement of Units as submitted by APGCL.

6.19.2 The Commission has considered the effective capacity of 78.12 MW for NTPS on account of retirement of Units 4 and 5, which were de-commissioned in August 2020. Further, the effective capacity of LTPS has been considered at 97.20 MW in line with the effective capacity considered in FY 2019-20. Accordingly, the Commission has computed the Net ARR at effective capacity.

6.19.3 The Commission has computed the Net ARR for APR of FY 2020-21 after adjusting for effective capacity for NTPS and LTPS, as shown in the following Table:

**Table 80: APR for Existing Generating Stations for FY 2020-21 as approved by the Commission at Effective Capacity (Rs. Crore)**

Particulars	NTPS	LTPS
<b>Total Fixed Cost approved on installed capacity</b>	70.57	104.22
Reduction in fixed cost due to Decommissioning	24.44	32.98
<b>Total Fixed Cost approved at effective Capacity</b>	<b>46.14</b>	<b>71.24</b>
Add: Capacity Building Charges	0.10	0.10
Add: AERC Filing Fees	0.10	0.10
Less Non-Tariff Income	7.13	9.22
<b>Total Fixed Cost approved for effective capacity</b>	<b>39.21</b>	<b>62.22</b>
Add: Fuel Cost	30.85	72.45
<b>Net ARR approved for effective capacity</b>	<b>70.06</b>	<b>134.67</b>

## 6.20 Revenue from Sale of Power

6.20.1 APGCL has estimated total Revenue from Sale of Power for APR as Rs. 420.48 Crore for FY 2020-21. The revenue projected by APGCL is based on the actual revenue earned during H1 of FY 2020-21 and revenue estimated in H2 of FY 2020-21. APGCL has also considered the adjustments made in fuel purchase bills during H1 of FY 2020-21.

### Commission's Analysis

6.20.2 For the purpose of APR for FY 2020-21, the Commission has considered the revenue

from Fixed Charges equal to Fixed Charges approved by the Commission for FY 2020-21 in the Tariff Order dated March 7, 2020. Accordingly, the Commission has considered the revenue from Fixed Charges of Rs. 19.67 Crore for NTPS, Rs. 60.11Crore for LTPS, Rs. 48.13 Crore for KLHEP, and Rs 33.47 Crore for LRPP, which works out to total revenue from Fixed Charges of Rs. 161.38 Crore for FY 2020-21.

6.20.3 As regards the revenue from Energy Charges, the Commission has considered energy charge per unit as approved in Tariff Order dated March 7, 2020 for each of the stations. The Commission has, based on the net generation considered in APR of FY 2020-21, computed the energy charges to be recovered in FY 2020-21. Accordingly, revenue from Energy Charges works out to Rs. 306.78Crore for FY 2020-21.

6.20.4 Thus, the Commission has worked out revenue of Rs. 468.16 Crore for FY 2020-21for the purpose of APR.

## 6.21 Revenue Gap/(Surplus) for FY 2020-21

6.21.1 APGCL has estimated Revenue Surplus of Rs. 39.49 Crore for FY 2020-21. APGCL submitted that since the figures for FY 2020-21are estimated and are subject to True-up, it has not considered the Revenue Gap/(Surplus)for recovery during FY 2020-21, as the same shall be considered at the time of True-up of FY 2020-21.

### Commission's Analysis

6.21.2 For computation of Revenue Gap/(Surplus), the Commission has considered the ARR at effective capacity for NTPS and LTPS as derived in the previous Section of this Chapter. For KLHEP and LRPP, entire fixed costs have been considered for computation of Revenue Gap/(Surplus).

6.21.3 Accordingly, the Commission has computed the Revenue Gap/(Surplus) for FY 2020-21 as shown in the following Table:

**Table 81: Revenue Gap/Surplus after APR for FY 2020-21(Rs.Crore)**

Sr. No.	Particulars	Approved after APR
1	ARR for NTPS	70.06
2	ARR for LTPS	134.67
3	ARR for KHEP	77.99
4	ARR for LRPP	101.03
<b>5</b>	<b>Combined ARR</b>	<b>383.75</b>
6	Less: Revenue from sale of Power	468.16
<b>7</b>	<b>Revenue Gap/(Surplus)</b>	<b>(84.41)</b>

6.21.4 The APR reveals a Revenue Surplus of Rs. 84.41Crore for FY 2020-21. It is only indicative in the absence of Audited Annual Accounts for FY 2020-21. Hence, this is not carried forward. It will be considered only after Truing up process for FY 2020-21, after the Audited Annual Accounts are made available.



## **7 Revised ARR for FY 2021-22**

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### **7.1 Introduction**

- 7.1.1 This Chapter deals with the determination of revised ARR for 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 Petitions for approval of revised ARR for FY 2021-22 for existing stations, i.e., NTPS, LTPS, LRPP and KLHEP. The Commission has determined the Station-wise revised ARR for NTPS, LTPS, LRPP and KLHEP for FY 2021-22 in accordance with the MYT Regulations, 2018 as discussed in subsequent sections of this Chapter.

### **7.2 Effective Capacity for FY 2021-22**

- 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 generation capacity from existing Stations for FY 2021-22. In the Petition, APGCL had projected that NRPP would be operational from April 1, 2021.
- 7.2.2 As per earlier submission of APGCL, NRPP had completed its 14 days reliability run on May 22, 2020 and the 72 hours Trial run in CC mode at 100% Gas turbine for declaration of commercial operation date (COD) was completed on May 23, 2020. However, on May 28, 2020, the Generator stator winding has been damaged resulting in delaying the whole operation process for the next six months. The Commission sought a report from APGCL in this regard. APGCL in their report revealed that they have decided to replace the damaged stator winding with a new one. They expected the delivery of the new stator by February 2021. APGCL in their recent submission mentioned that NRPP would commence operation by April 15, 2021. It is expected that only two Units totalling 43.5 MW of NTPS will run post commissioning of NRPP, based on availability of fuel with one 21 MW GT and 22.5 MW Unit-6 of NTPS. For the purpose of approval of ARR, the Commission has considered the re-commissioning of NRPP and effective capacity for NTPS as submitted by APGCL. However, considering the delay by APGCL in commissioning of NRPP as compared to the planned date of commissioning, the Commission has conservatively considered the date of commissioning of NRPP as July 01, 2021.

7.2.3 Further, post commissioning of LRPP on April 26, 2018, only 4 Units (5,6,7 & 8) of LTPS totalling 97.2 MW are running. Unit 2 and 3 have already been decommissioned as recorded in the Tariff Order dated March19, 2018.

7.2.4 The effective capacity considered by the Commission for FY 2021-22 is as shown in the following Table:

**Table 82: Effective Installed Capacity for Existing Generating Stations post commissioning of LRPP and NRPP**

Station	Units Operational	Capacity of Units (MW)	Total Capacity (MW)
NTPS	2,3, and 6	Unit 2 or 3 =21 MW Unit 6(WHRU)=22.5 MW	21+22.5=43.5 MW
LTPS	5,6,7 and 8	Unit 5, 6 and 7=20 MW each Unit 8(WHRU)=37.2 MW	(20*3) +37.2=97.2 MW
LRPP	All Units are operational (7Nos)	9.965 MW each for all 7 Units	9.965*7=69.76 MW
NRPP	All Units are operational (2 Nos)	Unit 1 =62.25 Unit2(WHRU)= 36.15	62.25+36.15=.98.4 MW (With effect from July 01, 2021)
KLHEP(Hydro)	All Units are operational (2 Nos)	50 MW each	50*2=100 MW

### 7.3 Gas Supply Position for FY 2021-22

7.3.1 APGCL in the present Petition submitted that the supply of gas was erratic during FY 2020-21. The Commission sought the details of gas availability and gas allocation to each Station considering the commissioning of NRPP. In this regard, APGCL submitted the following details:

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

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

Commission also notes that the position of gas availability prior to commissioning of NRPP is lower than the expected availability. In FY 2019-20, only 0.37 MMSCMD gas was made available for NTPS against the contracted capacity of 0.66 MMSCMD. The lower availability of gas would not only affect the generation from NTPS but also NRPP.

- 7.3.3 As stated earlier, the Commission has assumed the commissioning of NRPP from July 01, 2021, as compared to the expected date of commissioning submitted by APGCL (i.e., April 15, 2021), considering the gap in events as planned and as actually implemented by APGCL. The Commission has taken this conservative approach mainly for the purpose of projecting power purchase quantum and cost from NRPP in power purchase cost of APDCL for FY 2021-22.
- 7.3.4 The Commission is of the opinion that projecting power purchase cost of APDCL with an earlier date of commissioning of NRPP, while the actual commissioning may be at a later date, would lead to a deficit in power purchase projections. The Commission accordingly has taken a conservative estimate for projecting utilization of gas for NTPS.
- 7.3.5 The commissioning date of NRPP considered by the Commission is solely for the purpose of power purchase projections of APDCL. APGCL at all times have to ensure that NRPP gets commissioned by April 15, 2021 as planned and once commissioned, the utilisation of gas supply should be maximised for running NRPP at full capacity, as NRPP is more efficient than NTPS. After commissioning of NRPP, only balance supply of gas shall be used for operation of NTPS.
- 7.3.6 As regards the gas supply position of LTPS and LRPP, the Commission notes that after commissioning of LRPP, 0.54 MMSCMD of gas is allocated to LRPP and the remaining gas is utilised for generation from LTPS. APGCL has not been able to source gas as per contracted capacity for LTPS and LRPP in past years. The lower generation of LTPS on account of non-availability of gas will reflect in the recovery of Fixed Charges for LTPS, as the same is linked to Availability, which in turn requires availability of gas.
- 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 FY 2021-22, the Commission has considered the present gas availability as submitted by APGCL in its

Petition.

### Plant Availability Factor (%)

7.3.8 APGCL in its Petition has submitted the Availability for existing Stations for FY 2021-22 as shown in the following Table:

**Table 83: Plant Availability factor as projected by APGCL for FY 2021-22**

Station	Tariff Order dated 01 March 2019	Projected by APGCL
NTPS	50%	38.11%
LTPS	50%	50.00%
KLHEP	85%	85.00%
LRPP	85%	85.00%

7.3.9 APGCL submitted that due to the problem of low gas supply and frequent forced shutdown of the aged Units/auxiliaries, APGCL will not be able to achieve the NAPAF at NTPS.

### Commission's Analysis

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

7.3.11 In the present Order, the Commission has not disallowed any fixed charges for NTPS. However, any adjustment for fixed charges shall be considered at the time of truing up if NRPP is commissioned in FY 2021-22 as projected.

**Table 84: Plant Availability factor as approved by Commission for FY 2021-22**

Station	Tariff Order dated 1 March 2019	Projected by APGCL	Approved by Commission
NTPS	50%	38.11%	50.00%
LTPS	50%	50.00%	50.00%
KLHEP	85%	85.00%	85.00%
LRPP	85%	85.00%	85.00%

## 7.4 Plant Load Factor (%)

7.4.1 APGCL projected the PLF (%) for existing Stations for FY 2021-22 as shown in the following Table:

**Table 85: Plant Load Factor (%) as projected by APGCL**

Station	Tariff Order dated 01 March 2019	APGCL's Submission
NTPS	50.00 %	38.11%
LTPS	66.00 %	50.00 %
KLHEP	44.50%	44.50%
LRPP	90.00 %	90.00 %

### Commission's Analysis

7.4.2 The MYT Regulations, 2018 specifies the Normative PLF for availing Incentive as 50% for NTPS, 66% for LTPS, 44.50% for KLHEP, and 90% for LRPP. Hence, the Commission approves PLF for Incentive for NTPS, LTPS, LRPP as specified in the MYT Regulations, 2018. The incentive for Thermal Stations shall be computed at time of Truing up for FY 2021-22.

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

7.4.4 For the purpose of projection of Generation, the Commission has considered the PLF as projected by APGCL.

## 7.5 Auxiliary Consumption (%)

7.5.1 APGCL submitted the Auxiliary Consumption for existing Stations for FY 2021-22 as per MYT Regulations, 2018, as shown in the following Table:

**Table 86: Auxiliary Consumption as projected by APGCL**

Station	Tariff Order dated 01 March 2019	APGCL's Submission
NTPS	4.50%	4.50%
LTPS	5.50%	5.50%
KLHEP	0.50%	0.50%
LRPP	3.50%	3.50%

### Commission's Analysis

7.5.2 Regulation 47.3 (i) & (ii) of the MYT Regulations, 2018 specifies the Auxiliary Consumption of 4.50% for NTPS, 5.50% for LTPS, and 3.50% for LRPP. Further, Regulation 49.1 of MYT Regulations, 2018 specifies the Auxiliary Consumption of 0.50% for KLHEP.

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

### 7.6 Gross Generation and Net Generation

7.6.1 APGCL projected the Gross Generation and Net Generation for existing Generating Stations for FY 2021-22 as shown in the following Table:

**Table 87: Gross Generation and Net Generation as projected by APGCL for FY 2021-22**

Station	Gross Generation (MU)		Net Generation (MU)	
	Tariff Order dated 01 March 2019	APGCL's Submission	Tariff Order dated 01 March 2019	APGCL's Submission
NTPS	173.73	145.21	165.91	138.68
LTPS	425.74	425.74	402.32	402.32
KLHEP	390.00	390.00	388.05	388.05
LRPP	519.40	519.40	501.22	501.22

## Commission's Analysis

7.6.2 It is observed that APGCL has considered Gross Generation based on the effective capacity of the plants. On scrutiny, the same are found justifiable. Accordingly, the Gross Generation as proposed by APGCL for NTPS, LTPS, LRPP and KLHEP is considered. The Commission has considered net generation after considering the Normative Auxiliary Consumption approved in ARR for FY 2021-22.

7.6.3 The Commission has computed the Net Generation based on above estimated Gross Generation and approved Auxiliary Consumption for FY 2021-22. The Gross Generation and Net Generation approved by the Commission for FY 2021-22 is shown in the following Table:

**Table 88: Gross and Net Generation as approved by Commission for FY 2021-22**

Station	Gross Generation (MU)	Net Generation (MU)
NTPS	145.21	138.68
LTPS	425.74	402.32
KLHEP	390.00	388.05
LRPP	519.40	501.22
<b>Total</b>	<b>1480.35</b>	<b>1430.27</b>

## 7.7 Station Heat Rate

7.7.1 APGCL, in its Petition, has projected SHR for existing Stations for FY 2021-22 as shown in the following Table:

**Table 89: Station Heat Rate (kcal/kWh) as submitted by APGCL for FY 2021-22**

Station	Tariff Order dated 01 March 2019	APGCL's Submission
NTPS	3900	3900
LTPS	3200	3200
LRPP	2150	2150

## Commission's Analysis

7.7.2 The Commission has approved the SHR of 3900 kcal/kWh for NTPS, 3200 kcal/kWh for LTPS and 2150 kcal/kWh for LRPP for FY 2021-22, as approved in the MYT Order.

## 7.8 Fuel Cost

7.8.1 APGCL has considered the following GCV and gas price for projecting fuel cost for FY 2021-22. APGCL has considered the gas price as notified for October 2020 for projecting fuel cost for FY 2021-22:

**Table 90: GCV and Landed Price of Gas for FY 2021-22 claimed by APGCL**

Station	Particulars	Claimed by APGCL
NTPS	GCV of Gas (kcal/SCM)	9147.27
	Price of Gas (Rs. /1000SCM)	3537.22
LTPS & LRPP	GCV of Gas (kcal/SCM)	9419.27
	Price of Gas (Rs. /1000SCM)	4923.31

7.8.2 Based on the above GCV and gas prices, APGCL has projected the fuel cost for FY 2021-22 as shown in the following Table:

**Table 91: Projected Landed Cost of Gas for FY 2021-22 as calculated by APGCL (Rs. Crore)**

Particulars	Unit	NTPS	LTPS	LRPP
Gross Generation	MU	145.21	425.74	519.40
Heat Rate	kcal/kWh	3900	3200	2150
Overall Heat	G. cal.	566330.35	1362368	1116710
GCV of gas	kcal/SCM	9147.27	9419.27	9419.27
Gas consumption	M. SCM	61.91	144.64	118.56
Price of Gas	Rs. /1000 SCM	3537.22	4923.31	4923.31
<b>Total cost of Gas</b>	<b>Rs. Crore</b>	<b>21.90</b>	<b>71.21</b>	<b>58.37</b>

### Commission's Analysis

7.8.3 In the MYT Order, the Commission had approved the Fuel cost for NTPS, LTPS and LRPP for FY 2021-22 based on approved performance parameters and latest GCV and price of fuels available at that time. For the purpose of approving the fuel cost for FY 2021-22, the Commission has adopted the same approach and approves the Fuel cost based on performance parameters approved in this Order and latest fuel price and GCV.

7.8.4 The Commission has considered the GCV of gas and landed price of gas based on prices notified for the month of October 2020 as submitted by APGCL, as shown in the



following Table:

**Table 92: GCV and Landed Price of Gas for FY 2021-22 considered by the Commission**

Station	Particulars	Approved by the Commission
NTPS	GCV of Gas (kcal/SCM)	9147.27
	Price of Gas (Rs. /1000SCM)	3537.22
LTPS & LRPP	GCV of Gas (kcal/SCM)	9419.27
	Price of Gas (Rs. /1000SCM)	4923.31

7.8.5 The Commission has projected the fuel cost for NTPS, LTPS and LRPP based on approved Performance parameters, GCV of gas and landed price of gas. The fuel cost projected by the Commission for NTPS, LTPS and LRPP for FY 2021-22 is shown in the following Table:

**Table 93: Fuel Cost approved by the Commission for FY 2021-22**

S. No.	Particulars	Unit	NTPS	LTPS	LRPP
1	Gross Generation	MU	145.21	425.74	519.40
2	Heat Rate	kcal/kWh	3,900.00	3,200.00	2,150.00
3	GCV of gas	kcal/SCM	9,147.27	9,419.27	9,419.27
4	Overall Heat	G. cal.	566319	1,362,368	1116700.82
5	Gas consumption	M. SCM	61.91	144.64	118.55
6	Price of Gas	Rs. /1000 SCM	3537.22	4923.31	4923.31
7	<b>Total Cost of Gas</b>	<b>Rs. Crore</b>	<b>21.90</b>	<b>71.21</b>	<b>58.37</b>

## 7.9 O&M Expenses

7.9.1 APGCL has claimed O&M expenses for FY 2021-22 as approved by the Commission in the Tariff Order dated March 1, 2019, i.e., Rs. 58.44Crore for NTPS, Rs 63.83 Crore for LTPS, Rs. 32.14 Crore for KLHEP, and Rs. 22.64 Crore for LRPP.

### Commission's Analysis

7.9.2 The Commission in the Tariff Order dated March 1, 2019 has approved O&M Expenses on normative basis as per the MYT Regulations, 2018 for FY 2021-22. The Commission has now computed normative O&M expenses by applying escalation factor of 6.30%, on normative O&M Expenses for FY 2020-21 as approved in the APR,

as shown in the following Table:

**Table 94: Normative O&M Expenses for FY 2021-22 (Rs. Crore)**

Station	Tariff Order dated 01 March 2019	Tariff Order dated 7 March 2020 considering effective capacity	APGCL's Submission (effective capacity)	Normative O&M Approved by the Commission (full capacity)
NTPS	58.44	21.27	21.35	58.44
LTPS	63.83	43.63	39.61	63.83
KLHEP	32.14	32.14	32.25	32.14
LRPP	22.64	22.64	22.64	22.64

## 7.10 Capital Expenditure and Capitalisation

7.10.1 APGCL submitted that the Commission in the Tariff Order dated March 1, 2019 has approved the Capital Investment Plan for FY 2021-22. APGCL has revised the schemes and corresponding outlay of the generating stations for FY 2021-22 and has claimed the following Capital Expenditure in the ARR for FY 2021-22:

**Table 95: Capital Expenditure plan as submitted by APGCL for FY 2021-22 (Rs. Crore)**

Station	Particulars	Tariff Order dated 01 March 2019	APGCL's submission
NTPS	Capital Expenditure	2.66	4.70
	Capitalisation	2.66	4.70
LTPS	Capital Expenditure	16.73	10.59
	Capitalisation	16.73	10.59
KLHEP	Capital Expenditure	3.39	5.69
	Capitalisation	3.39	5.69

### Commission's Analysis

7.10.2 The Commission in the Tariff Order dated March 01, 2019 had approved the capital expenditure and capitalisation for the existing generating stations.

7.10.3 The Commission has already discussed the Capital Expenditure claimed by APGCL in detail in the Chapter on Revised Capital Expenditure for FY 2020-21 and FY 2021-22.

**7.10.4 The Commission shall however, revisit the Capital Expenditure for approval at the time of Truing-up of FY 2021-22.**

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

**Table 96: Capital Expenditure and Capitalisation as considered by the Commission (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP
Capital Expenditure	4.70	10.59	5.69
Capitalisation	4.70	10.59	5.69

7.10.6 The Commission has considered the funding of Capitalisation for NTPS, LTPS and KLHEP, as proposed by APGCL, as shown in the following Table:

**Table 97: Funding of Capitalisation as considered by the Commission (Rs. Crore)**

Particulars	NTPS	LTPS	KLHEP
Loan	1.90	7.10	2.10
Equity	-	-	-
Grant	2.80	3.49	3.59
<b>Total Capitalisation</b>	<b>4.70</b>	<b>10.59</b>	<b>5.69</b>

## 7.11 Depreciation

7.11.1 APGCL submitted that it has projected the depreciation in accordance with MYT Regulations, 2018, and based on approved GFA and proposed capital additions during FY 2021-22. APGCL has not considered the depreciation on assets funded through Grants/Subsidies as per Regulation 32 of MYT Regulations, 2018.

7.11.2 APGCL projected the Depreciation of Rs. 1.42 Crore for NTPS, Rs. 11.32 Crore for LTPS, Rs. 20.44 Crore for KLHEP and Rs. 2.63 Crore for LRPP for FY 2021-22.

### Commission's Analysis

7.11.3 The Commission has considered the opening GFA for FY 2021-22 equivalent to the closing GFA for FY 2020-21 as approved in this Order. The Commission has computed depreciation as per scheduled rates specified in the MYT Regulations, 2018.

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

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

7.11.5 Further, in line with the approach adopted in the Tariff Order and as specified in Regulation 32 of the MYT Regulations, 2018, the Commission has not considered the depreciation on assets funded through Grants/ capital subsidy, for FY 2021-22.

**Table 98: Depreciation for FY 2021-22 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order dated 01 March 2019	APGCL's Submission	Approved by Commission
NTPS	Depreciation	2.50	1.58	1.64
	Less: Depreciation on assets funded by Grants	0.25	0.16	0.16
	<b>Net Depreciation</b>	<b>2.25</b>	<b>1.42</b>	<b>1.48</b>
LTPS	Depreciation	19.33	13.24	18.10
	Less: Depreciation on assets funded by Grants	2.75	1.92	2.68
	<b>Net Depreciation</b>	<b>16.58</b>	<b>11.32</b>	<b>15.43</b>
KLHEP	Depreciation	25.62	23.11	24.32
	Less: Depreciation on assets funded by Grants	3.10	2.66	2.84
	<b>Net Depreciation</b>	<b>22.52</b>	<b>20.44</b>	<b>21.48</b>
LRPP	Depreciation	13.60	13.47	13.72
	Less: Depreciation on assets funded by Grants	10.85	10.84	11.04
	<b>Net Depreciation</b>	<b>2.75</b>	<b>2.63</b>	<b>2.68</b>

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

## 7.12 Interest on Loan

7.12.1 APGCL has computed the Interest on loan as per the methodology specified in the MYT Regulations, 2018. APGCL submitted that the opening normative loan as on April 1, 2021 has been taken as the base and the additions during the period have been considered to arrive at the normative loan for FY 2021-22. APGCL estimated the Interest on Loan of Rs. 0.10 Crore for NTPS, Rs. 0.00 Crore for LTPS, Rs. 18.21 Crore for KLHEP, and Rs. 3.23 Crore for LRPP.

## Commission's Analysis

7.12.2 In the MYT Order, the Commission has approved Interest and finance charges on normative basis for FY 2021-22 as per Regulation 34 of the MYT Regulations, 2018. For the ARR, the Commission has considered the same approach and approved the Interest and finance charges on normative basis.

7.12.3 The closing net normative loan for FY 2020-21 as approved in this Order has been considered as opening net normative loan for FY 2021-22. 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 1<sup>st</sup> of April. Since FY 2021-22 is yet to commence, the Commission has considered the weighted average interest rate of 10.15% as approved in APR of FY 2020-21.

7.12.4 The Interest on loan capital approved by the Commission for FY 2021-22 is shown in the following Table:

**Table 99: Interest on Loan Capital for FY 2021-22 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order dated 01 March 2019	APGCL's Submission	Approved by Commission
NTPS	Net Normative Opening Loan	12.22	0.81	0.73
	Addition of normative loan during the year	1.78	1.90	1.90
	Normative Repayment during the year	2.25	1.42	1.48
	Net Normative Closing Loan	11.75	1.29	1.16
	Interest Rate	10.10%	10.01%	10.15%
	<b>Interest on Loan Capital</b>	<b>1.21</b>	<b>0.10</b>	<b>0.10</b>
LTPS	Net Normative Opening Loan	0.00	0.00	0.00
	Addition of normative loan during the year	15.55	7.10	7.10
	Normative Repayment during the year	16.58	11.32	15.43
	Net Normative Closing Loan	0.00	0.00	0.00
	Interest Rate	10.10%	10.01%	10.15%
	<b>Interest on Loan Capital</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
KLHEP	Net Normative Opening Loan	194.87	191.14	187.89
	Addition of normative loan during the year	2.17	2.10	2.10

Station	Particulars	Tariff Order dated 01 March 2019	APGCL's Submission	Approved by Commission
	Normative Repayment during the year	22.52	20.44	21.48
	Net Normative Closing Loan	174.51	172.79	168.51
	Interest Rate	10.10%	10.01%	10.15%
	<b>Interest on Loan Capital</b>	<b>18.66</b>	<b>18.21</b>	<b>18.09</b>
LRPP	Net Normative Opening Loan	29.30	33.57	27.10
	Addition of normative loan during the year	0.00	0.00	0.00
	Normative Repayment during the year	2.75	2.63	2.68
	Net Normative Closing Loan	26.55	30.94	24.42
	Interest Rate	10.10%	10.01%	10.15%
	<b>Interest on Loan Capital</b>	<b>2.82</b>	<b>3.23</b>	<b>2.62</b>

### 7.13 Return on Equity

7.13.1 APGCL has computed the RoE on average equity for the year at rate of return of 15.5% as per the MYT Regulations, 2018. Against approved RoE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs.10.64 Crore for KLHEP, and Rs 2.50 Crore for LRPP, APGCL has projected RoE of Rs. 8.53 Crore, Rs. 22.18 Crore, Rs. 10.64 Crore, and Rs. 2.44 Crore, respectively, for FY 2020-21.

#### Commission's Analysis

7.13.2 The Commission has approved the RoE 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. The approved RoE at 15.50% is shown in the Table below:

**Table 100: Return on Equity for FY 2021-22 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order dated 01 March 2019	APGCL Submission	Approved by The Commission
NTPS	Opening Equity	55.00	55.00	55.00
	Closing Equity	55.00	55.00	55.00
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>8.53</b>	<b>8.53</b>	<b>8.53</b>
LTPS	Opening Equity	143.08	143.08	143.08
	Closing Equity	143.08	143.08	143.08

Station	Particulars	Tariff Order dated 01 March 2019	APGCL Submission	Approved by The Commission
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>22.18</b>	<b>22.18</b>	<b>22.18</b>
KLHEP	Opening Equity	68.65	68.65	68.65
	Closing Equity	68.65	68.65	68.65
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>10.64</b>	<b>10.64</b>	<b>10.64</b>
LRPP	Opening Equity	16.10	15.73	15.74
	Closing Equity	16.10	15.73	15.74
	Rate of Return	15.50%	15.50%	15.50%
	<b>Return on Equity</b>	<b>2.50</b>	<b>2.44</b>	<b>2.44</b>

## 7.14 Interest on Working Capital (IoWC)

7.14.1 APGCL has computed the IoWC as per provisions of the MYT Regulations, 2018 for existing generating Stations for FY 2021-22, and has considered the rate of interest as 10.00%. APGCL has projected IoWC of Rs. 1.70 Crore for NTPS, Rs. 4.57 Crore for LTPS, Rs 2.75 Crore for KLHEP, and Rs. 2.89 Crore for LRPP for FY 2021-22.

### Commission's Analysis

7.14.2 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 SBI MCLR (One-Year Tenor) prevalent during the last available 6 months for the determination of tariff, which works out to 10.00%.

7.14.3 IoWC approved by the Commission for FY 2021-22 is shown in the following Table:

**Table 101: Interest on Working Capital for FY 2021-22 as approved by the Commission (Rs. Crore)**

Station	Particulars	Tariff Order dated 01 March 2019	APGCL's Estimation	Approved by Commission
NTPS	Fuel Cost for one month	4.23	1.82	6.58
	O&M Expenses for one month	1.77	1.78	4.87
	Maintenance Spares-30% of O&M	6.38	6.40	17.53

Station	Particulars	Tariff Order dated 01 March 2019	APGCL's Estimation	Approved by Commission
	Receivables for two months	13.43	6.95	24.32
	Total Working Capital Requirement	25.82	16.96	53.30
	Rate of interest	11.50%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>2.97</b>	<b>1.70</b>	<b>5.33</b>
LTPS	Fuel Cost for one month	9.65	5.93	8.68
	O&M Expenses for one month	3.64	3.30	5.32
	Maintenance Spares-30% of O&M	13.09	11.88	19.15
	Receivables for two months	33.12	24.55	36.94
	Total Working Capital Requirement	59.49	45.67	70.09
	Rate of interest	11.50%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>6.84</b>	<b>4.57</b>	<b>7.01</b>
KLHEP	O&M Expenses for one month	2.68	2.69	2.68
	Maintenance Spares-15% of O&M	4.82	9.68	4.82
	Receivables for two months	13.46	15.11	15.17
	Total Working Capital Requirement	20.96	27.48	22.67
	Rate of interest	11.50%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>2.41</b>	<b>2.75</b>	<b>2.27</b>
LRPP	Fuel Cost for one month	7.91	4.86	4.86
	O&M Expenses for one month	1.89	1.89	1.89
	Maintenance Spares-30% of O&M	6.79	6.79	6.79
	Receivables for two months	21.67	15.38	15.29
	Total Working Capital Requirement	38.26	28.93	28.83
	Rate of interest	11.50%	10.00%	10.00%
	<b>Interest on Working capital</b>	<b>4.40</b>	<b>2.89</b>	<b>2.88</b>

## 7.15 Impact of AERC (Payment of Fees, etc.) Regulations,2020

7.15.1 APGCL submitted that the Commission has notified the new AERC (Payment of Fees, etc.) Regulations, 2020, which has led to a substantial increase in the Filing Fees of APGCL payable to AERC. In this regard APGCL has claimed Rs 0.30 Crore for NTPS, LTPS and LRPP for FY 2021-22.

### Commission's Analysis

7.15.2 The Commission accordingly has allowed additional expenses for Petition Filing fees of Rs. 0.30 Crore for NTPS, LTPS and LRPP for FY 2021-22.



## 7.16 Other Expenses

### 7.16.1 Special R&M Expenses

7.16.1.1 APGCL claimed the following Special R&M expenses to be incurred in FY 2021-22:

**Table 102: Special R&M Expenses claimed by APGCL in FY 2021-22 (Rs. Crore)**

Name of Work	Total Amount Approved	Projection of APGCL	Remarks
Overhauling of Unit 2 of NTPS	8.20	0.00	No projection
Overhauling of LTPS Unit -7 in FY2020-21	0.00	15.00	The overhauling has been shifted to FY2021-22. Thus, the amount for Special R&M Rs. 15 Cr approved for FY20-21 is being claimed in FY2021- 22
Overhauling of LTPS Unit -6 in FY2022-23	15.00	0.00	The overhauling plan for LTPS Unit 6 will be revised in FY2021-22
Overhauling of Gas Compressor of GC #6 of LTPS	0.00	3.00	APGCL will be undertaking the overhauling of Gas Compressor on priority basis. The order for the Overhauling is expected to be completed in FY2020-21 with the works being undertaken in FY2021- 22 The overhauling is expected to reduce the auxiliary consumption which will help the operational performance of the plant.
Capital Overhauling of 50MW Francis type Fuji make Generator Turbine Unit-II - KLHEP	0.00	12.00	"Due to the delay in the overhauling of KLHEP Unit 1, the Overhauling of Unit 2 will be undertaken in FY2021-22 with the revised schedule to be provided in the APR for FY2021-22. However, the order for the Work is expected to be given in FY20-21. Out of the total Rs. 27.1 Crore approved by the Hon'ble Commission APGCL had already received Rs 15.10 Crores from the Government of Assam. Hence, we are claiming the remaining approved amount

### Commission's Analysis

7.16.1.2 The Commission observed that special R&M claimed by APGCL in FY 2021-22 is due to deferment of overhauling of its old Units, which could not be pursued in either FY2019-20 or FY 2020-21. The Commission had already accorded approval for

special R&M in FY 2019-20 and FY 2020-21 for Unit-7 of LTPS and Unit-II of KLHEP. However, APGCL could not carry out the same in the respective years. Accordingly, no expenses were claimed in FY 2019-20 or FY 2020-21.

7.16.1.3 The Commission is of the view that Special R&M has been allowed by the Commission in order to improve the performance parameters of the stations. Deferment of Special R&M would affect the performance of the plant. However, the Commission has not been allowing any relaxation in norms on account of performance parameters in its Tariff Orders as claimed by APGCL, therefore, the impact of deterioration of performance parameters due to deferment of special R&M shall be to APGCL's account.

7.16.1.4 The Commission has therefore, considered Special R&M of Rs. 18.00 Crore for LTPS and Rs. 12.00 Crore for KLHEP in ARR of FY 2021-22.

### 7.16.2 Capacity Building

7.16.2.1 APGCL submitted that the Commission had approved Capacity Building expenses of employees of Rs. 0.39 Crore for FY 2021-22 in the Tariff Order dated March 1, 2019. As against this, APGCL submitted the Capacity Building expenses of employees of Rs 0.13 Crore for NTPS, Rs 0.13 Crore for LTPS and Rs 0.13 Crore for KLHEP, totalling Rs. 0.39 Crore.

**Table 103: Capacity Building submitted by APGCL for ARR of FY 2021-22 (Rs. Crore)**

Stations	Approved in Tariff Order dated March 1, 2019	APGCL Submission
NTPS	0.13	0.13
LTPS	0.13	0.13
KLHEP	0.13	0.13
LRPP	-	-

### Commission's Analysis

7.16.2.2 For the purpose of ARR, based on APGCL's submission, the Commission has approved Rs 0.39 Crore as the capacity building charges claimed for FY 2021-22. The Commission has retained the same amount as approved in MYT Order dated March 01, 2019.

### 7.17 Non-Tariff Income

7.17.1 APGCL has projected the Non-Tariff Income for existing Generating stations for FY 2021-22 as Rs. 7.13 Crore for NTPS, Rs. 9.22 Crore for LTPS, Rs. 5.75 Crore for KLHEP and Rs. 0.00 Crore for LRPP.

## Commission's Analysis

7.17.2 The Commission has considered the Non-Tariff Income in ARR of FY 2021-22 same as that approved in APR of FY 2020-21, as shown in the following Table:

**Table 104: Other Income approved for FY 2021-22 (Rs. Crore)**

Station	Approved in Tariff Order dated 01 March 2019	APGCL's Estimation	Approved by the Commission
NTPS	7.13	7.13	7.13
LTPS	9.22	9.22	9.22
KLHEP	5.75	5.75	5.75
LRPP	0.00	0.00	0.00

## 7.18 Summary of ARR for FY 2021-22

7.18.1 Based on the above analysis, the station-wise ARR approved for FY 2021-22 for existing Stations is summarised in the Table below:

Table 105: Summary of ARR for FY 2021-22 as approved by the Commission (Rs. Crore)

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order dated 01 March 2019	APGC L's Submission	Approved by Commission	Tariff Order dated 01 March 2019	APGCL's Submission	Approved by Commission	Tariff Order dated 01 March 2019	APGC L's Submission	Approved by Commission	Tariff Order dated 01 March 2019	APGC L's Submission	Approved by Commission
<b>A</b>	<b>Annual Fixed Charges</b>												
1	Operation & Maintenance Expenditure	58.44	58.44	58.44	63.83	63.83	63.83	32.14	32.25	32.14	22.64	22.64	22.64
2	Increase in AERC Tariff Filing Fees	0	0.10	0.10	0	0.10	0.10	0	-	0.00	0.00	0.10	0.10
3	Interest & Finance Charges	1.21	0.11	0.10	0.01	0.00	0.00	18.66	18.21	18.09	2.82	3.23	2.62
4	Interest on working Capital	2.97	1.70	5.33	6.84	4.57	7.01	2.41	2.75	2.27	4.40	2.89	2.88
5	Depreciation	2.25	1.42	1.48	16.58	11.32	15.43	22.52	20.43	21.48	2.75	2.63	2.68
6	Return on Equity	8.53	8.53	8.53	22.18	22.18	22.18	10.64	10.64	10.64	2.50	2.44	2.44
7	Special R&M	8.20	0.00	0.00	15.00	18.00	18.00	0.00	12.00	12.00	0.00	0.00	0.00
8	Capacity Building	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.00	0.00	0.00
9	Less: Other Income	7.13	7.13	7.13	9.22	9.22	9.22	5.75	5.75	5.75	0.00	0.00	0.00
10	<b>Total Fixed Charges</b>	<b>74.61</b>	<b>63.29</b>	<b>66.97</b>	<b>115.34</b>	<b>110.91</b>	<b>117.46</b>	<b>80.76</b>	<b>90.67</b>	<b>91.00</b>	<b>35.11</b>	<b>33.94</b>	<b>33.36</b>
<b>B</b>	<b>Fuel Cost</b>	<b>46.30</b>	<b>21.90</b>	<b>21.90</b>	<b>115.81</b>	<b>71.21</b>	<b>71.21</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>94.93</b>	<b>58.37</b>	<b>58.37</b>
<b>C</b>	<b>Total Revenue Requirement</b>	<b>120.91</b>	<b>85.19</b>	<b>88.87</b>	<b>231.15</b>	<b>182.12</b>	<b>188.67</b>	<b>80.76</b>	<b>90.67</b>	<b>91.00</b>	<b>130.04</b>	<b>92.30</b>	<b>91.73</b>
<b>D</b>	<b>Incentive for generation</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order dated 01 March 2019	APGC L's Submission	Approved by Commission	Tariff Order dated 01 March 2019	APGCL's Submission	Approved by Commission	Tariff Order dated 01 March 2019	APGC L's Submission	Approved by Commission	Tariff Order dated 01 March 2019	APGC L's Submission	Approved by Commission
E	Incentive for secondary energy generation							0.00	0.00	0.00	0.00	0.00	0.00
F	Net Revenue Requirement	120.91	85.19	88.87	231.15	182.12	188.67	80.76	90.67	91.00	130.04	92.30	91.73

## 7.19 Net ARR for Effective Capacity

7.19.1 The Commission has considered the Net ARR computed on the effective capacity of NTPS and LTPS based on the expected retirement of Units as submitted by APGCL.

7.19.2 The Commission has considered the effective capacity of 43.5 MW for NTPS on account of Unit 2 (or Unit 3) and Unit 6 being operational in FY 2021-22 due to commissioning of NRPP. Further, the effective capacity has been considered for LTPS at 97.20 MW in line with the effective capacity considered for FY 2020-21. Accordingly, the Commission has computed the Net ARR for NTPS and LTPS at effective capacity, as shown in the Table below:

**Table 106: ARR for Existing Generating Stations for FY 2021-22 as approved by the Commission at Effective Capacity (Rs. Crore)**

<b>Particulars</b>	<b>NTPS</b>	<b>LTPS</b>
<b>Total Fixed Cost approved on installed capacity</b>	<b>73.87</b>	<b>108.45</b>
Deduction of Fixed cost due to Decommissioning	46.98	34.32
<b>Total Fixed Cost approved at effective Capacity</b>	<b>26.89</b>	<b>74.13</b>
Add: Capacity Building Charges	0.13	0.13
Add: AERC Filing Fees	0.10	0.10
Add: Special R&M	-	18.00
Less Non-Tariff Income	7.13	9.22
<b>Total Fixed Cost approved for effective capacity</b>	<b>19.99</b>	<b>83.14</b>
Add: Fuel Cost	21.90	71.21
<b>Net ARR approved for effective capacity</b>	<b>41.89</b>	<b>154.35</b>

## 8 Tariff for FY 2021-22

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

8.1.1 APGCL has computed the cumulative Revenue Gap/(Surplus) after True-up of FY 2019-20 as shown in the following Table:

**Table 107: Revenue Gap/(Surplus) as submitted by APGCL (Rs. Crore)**

Sr. No.	Particulars	Rs. Crore
1	Stand-alone Revenue Gap/(Surplus) for FY 2019-20	(15.26)
3	<b>Total</b>	<b>(15.26)</b>

### 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 of FY 2019-20 approved in this Order along with carrying/holding cost. No Revenue Gap/(Surplus) arising out of APR of FY 2020-21 has been proposed to be recovered through tariff in FY 2021-22, in accordance with the MYT Regulations, 2018.

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

**Table 108: Revenue Gap/(Surplus) for FY 2019-20 as approved by the Commission (Rs. Crore)**

Particulars	Submitted by APGCL	Approved after Truing up
<b>Truing up for FY 2019-20</b>		
ARR for NTPS	118.96	98.10*
ARR for LTPS	163.36	148.44*
ARR for LRPP	128.78	127.91
ARR for KLHEP	69.08	68.27
<b>Combined ARR</b>	<b>480.18</b>	<b>442.72</b>
Revenue from Sale of Power	495.44	495.44
<b>Revenue Gap/(Surplus)</b>	<b>(15.26)</b>	<b>(52.72)</b>
<b>Computation of carrying/(holding) cost on Revenue Gap/(Surplus) of FY 2019-20</b>		
Carrying /(holding) cost for FY 2019-20 (half Year)		(2.64)
Carrying /(holding) cost for FY 2020-21 (full Year)		(5.27)
Carrying /(holding) cost for FY 2021-22 (half Year)		(2.64)

Particulars	Submitted by APGCL	Approved after Truing up
Total		(10.54)
Cumulative Revenue Gap/(Surplus) along with Carrying/(Holding) Cost		(63.26)

\*Considering effective capacity

8.1.4 The Commission approves the Revenue Surplus of Rs. 63.26 Crore arising out of Truing up for FY 2019-20, including the holding cost. This amount is to be refunded to APDCL in 12 equal monthly instalments, viz., Rs 5.27 Crore per month during FY 2021-22, as adjustments in the monthly bill.

## 8.2 Fixed Charges and Energy Charges for FY 2021-22 for NTPS, LTPS and LRPP

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

**Table 109: Proposed Generation tariff as submitted by APGCL (Rs. Crore)**

Station	Particulars	FY 2021-22
NTPS	Annual Fixed Charges (Rs. Crore)	19.80
	Monthly Fixed Charges (Rs. Crore)	1.65
	Energy Charges (Rs. /kWh)	1.58
LTPS	Annual Fixed Charges (Rs. Crore)	76.09
	Monthly Fixed Charges (Rs. Crore)	6.34
	Energy Charges (Rs. /kWh)	1.77
LRPP	Annual Fixed Charges (Rs. Crore)	33.94
	Monthly Fixed Charges (Rs. Crore)	2.83
	Energy Charges (Rs. /kWh)	1.16

### Commission's Analysis

8.2.2 The Commission has determined the Tariff for FY 2021-22 for NTPS, LTPS and LRPP as under:

#### **Annual Fixed Charges**

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

8.2.4 Regulation 51.1 of the MYT Regulations, 2018 specifies that the NAPAF for full



recovery of Annual Fixed Charges shall be 50% for both NTPS and LTPS and 85% for LRPP.

8.2.5 The Fixed Charges for NTPS, LTPS and LRPP as approved by the Commission for FY 2021-22 is shown in the following Table:

**Table 110: Fixed Charges as approved for FY 2021-22 by the Commission (Rs. Crore)**

Generating Station	Annual Fixed Charges	Monthly Fixed Charges
NTPS	19.99	1.67
LTPS	83.14	6.93
LRPP	33.36	2.78

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, LTPS and LRPP as shown in the following Table:

**Table 111: Energy Charges for FY 2021-22 approved by the Commission (Rs. Crore)**

Station	Particulars	FY 2021-22
NTPS	Fuel Cost (Rs. Crore)	21.90
	Net Generation (MU)	138.68
	<b>Energy Charges (Rs. /kWh)</b>	<b>1.58</b>
LTPS	Fuel Cost (Rs. Crore)	71.21
	Net Generation (MU)	402.32
	<b>Energy Charges (Rs. /kWh)</b>	<b>1.77</b>
LRPP	Fuel Cost (Rs. Crore)	58.37
	Net Generation (MU)	501.22
	<b>Energy Charges (Rs. /kWh)</b>	<b>1.16</b>

## **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 112: Proposed Generation tariff for KLHEP as submitted by APGCL**

Station	Particulars	FY 2021-22
KLHEP	Capacity Charges (Rs. Crore)	45.34
	Energy Charges (Rs. /kWh)	1.17

### 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 2021-22 based on the applicable AFC and projected Availability as under:

**Table 113: Capacity Charges and Energy Charges approved by the Commission for KLHEP for FY 2021-22**

Particulars	FY 2021-22
Annual Fixed Charge (Rs. Crore)	91.00
<b>Capacity Charges (Rs. Crore)</b>	<b>45.50</b>
Design Energy (MU)	390.00
Auxiliary Consumption (%)	0.50%
Net Design Energy (MU)	388.05
<b>Energy Charge Rate (Rs. /kWh)</b>	<b>1.17</b>

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

### 8.4 Generation Tariff for FY 2021-22

8.4.1 The Commission approves the Generation Tariff for FY 2021-22 including past Revenue Gap/(Surplus) as shown in the following Table:

**Table 114: Generation Tariff for FY 2021-22 approved by the Commission**

Particulars	Particulars	FY 2021-22
NTPS	Annual Fixed Charges (Rs. Crore)	19.99
	Monthly Fixed Charges (Rs. Crore)	1.67
	Energy Charges (Rs. /kWh)	1.58
LTPS	Annual Fixed Charges (Rs. Crore)	83.14
	Monthly Fixed Charges (Rs. Crore)	6.93

Particulars	Particulars	FY 2021-22
	Energy Charges (Rs. /kWh)	1.77
LRPP	Annual Fixed Charges (Rs. Crore)	33.36
	Monthly Fixed Charges (Rs. Crore)	2.78
	Energy Charges (Rs. /kWh)	1.16
KLHEP	Capacity Charges (Rs. Crore)	45.50
	Energy Charge Rate (Rs. /kWh)	1.17

8.4.2 Since, the Commission has determined Station-wise Generation Tariff for FY 2021-22, the billing shall be done for each station separately on monthly basis in accordance with the provisions of MYT Regulations, 2018.

8.4.3 In addition to the above existing stations, APGCL has projected commissioning of NRPP in FY 2021-22. For NRPP, the Commission has already approved the provisional tariff as shown in the following Table:

**Table 115: Provisional Tariff for NRPP for FY 2021-22 as approved by the Commission**

Particulars	Particulars	FY 2021-22
NRPP	Annual Fixed Charges (Rs. Crore)	116.79
	Monthly Fixed Charges (Rs. Crore)	9.73
	Energy Charges (Rs. /kWh)	1.01

8.4.4 The above Tariff shall be made applicable only after commissioning of NRPP. The billing shall be done 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 2021-22 shall be effective from April 1, 2021 and shall continue until replaced/modified by an Order of the Commission.

Sd/-

**(S.N. Kalita)**

**Member, AERC**

Sd/-

**(B. Borthakur)**

**Member, AERC**

Sd/-

**(K. S. Krishna)**

**Chairperson, AERC**

## 9 Directives

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

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

### **Status of Directives issued in the Tariff Order dated 7<sup>th</sup> March, 2020**

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

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

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

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

#### **Status submitted by APGCL:**

APGCL submitted the status of the following ongoing and new projects as under:

- i.** 100 MW NRPP.
- ii.** 70 MW Amguri Solar Power Project
- iii.** 120 MW Lower KHEP
- iv.** 24 MW Borpani Middle-II SHEP
- v.** 2X800 MW Margherita Super Thermal Power Project
- vi.** 20 MW Namrup Solar Power Project
- vii.** Setting up of a solar plant at Bilasipara and Lakhimpur and Dhemaji.

#### **Commission's Views:**

The Commission notes with concern that there has been inordinate delay in commissioning of the NRPP Project and other ongoing projects. **APGCL must take all possible measures to ensure that the projects/schemes taken up are completed as per schedule.**

**APGCL should submit the detailed project-wise activity schedule with anticipated timelines within three months of issue of this Order, and submit quarterly progress reports vis-à-vis the activity schedule with justification for deviation in timelines and mitigation measures implemented by APGCL.**

**The impact of the delay in project commissioning by APGCL, in terms of increase in capital cost, will have to be borne by APGCL.**

**Regarding setting up of solar plants at Bilasipara, Lakhimpur and Dhemaji Districts, APGCL must persistently pursue the matter with the concerned State Government Offices to ensure that the requisite land is allotted.**

#### **Directive 2: Preventive Maintenance.**

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

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

#### **Status submitted by APGCL:**

APGCL submitted that they are taking up scheduled maintenance activities as per OEM guidelines and generating timely alerts (reminders) through Computerised Maintenance Management System (CMMS) apps for ensuring adequate preventive maintenance to avoid forced shutdowns.

#### **Commission's views:**

It is observed that APGCL has not complied with the above direction. The Commission has therefore, issued fresh directions in this Order to take measures to develop dedicated Maintenance Teams so as to facilitate preventive and scheduled maintenance of the turbines/plants on time.

#### **Directive 3 – Employee's Provident Fund**

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

**Status submitted by APGCL:** The matter is under progress.

**Commission's views:**

The Commission is deeply concerned that APGCL is yet to comply with the above direction.

**The Commission directs APGCL to comply with this direction within two months of issue of this Order.**

**Directive 4 – Special R&M**

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

**Status submitted by APGCL:**

APGCL submitted that it is earnestly pursuing to achieve the projected Special R&M activities for its power plants. However, the activities were hampered due to Covid-19 pandemic, which led to delay in completion of the same. APGCL requested the Commission to approve the proposed Special R&M activities for its power plants as submitted.

**Commission's views:**

The Commission is concerned that APGCL is yet to comply with the above direction. Special R&M are allowed by the Commission to improve performance parameters of the generating stations. Deferment of Special R&M affects the performance of the plants. The Commission has not been allowing any relaxation in norms on account of deterioration of performance parameters due to deferment of Special R&M and APGCL has to bear the price of lower generation and inefficiencies of their stations. Further, **it is reiterated that such Special R&M expenditure undertaken in a delayed manner will not be allowed as an expenditure in the subsequent year.**

**New Directives:**

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

**Directive 1: Procurement of gas**

- **APGCL should continue to pursue with its gas suppliers/ transporter to obtain**

the contracted quantum of gas on a regular basis and explore all viable sources to get additional allotments to overcome the generation problem.

- Further, APGCL should claim compensation, in case the Minimum Guaranteed Quantity (MGQ) and Quality are not met by Gas Supplier/Gas Transporter.

#### **Directive 2 – Capacity Building**

- The Commission directs APGCL to complete the recruitment process within the MYT Control Period, in line with the manpower planning study conducted for all 3 Companies. APGCL should submit the Report on manpower planning study within 1 month of issue of this Order.
- APGCL should submit the training calendar for its employees for FY 2021-22, duly approved by its Board, within 2 months of issue of this Order.

#### **Directive 3 – Preventive Maintenance**

- For reduction of auxiliary consumption and proper maintenance of the generation turbines and power plants, an appropriate mechanism of maintenance of these turbines and power plants is necessary. While outsourcing of manpower for maintenance of the power plants may be necessary from time to time, however, the Company should develop expertise among its own ground level technical persons.

**The Commission directs APGCL to take measures to develop its own dedicated Maintenance Teams so as to facilitate preventive and scheduled maintenance of the turbines/plants on time. APDCL should also plan proper training programmes for these Maintenance Teams as part of the Training Calendar to be submitted within 2 months of issue of this Order.**

- APGCL should consider incorporation of the Preventive Maintenance Module, as part of the ongoing ERP implementation, by acquiring the online data acquisition software/hardware, to ensure the required machine health. APGCL should submit its Report in this regard within 2 months of issue of this Order.

#### **Directive 4 – Special R&M**

- APGCL should carry out Special R&M within the approved period and for the station/ unit for which the expense has been approved.

- In case of any change in Special R&M Plan, the same has to be brought to the notice of the Commission for approval, failing which, the same shall not be allowed as expenditure in the subsequent year.

#### **Directive 5 – Coordination Committee**

It has been observed by the Commission that there are common issues relating to power generation, transmission, and distribution, which have been adversely affecting power supply to consumers and which can be resolved by effective coordination between the three Companies namely, APGCL, AEGCL and APDCL.

- The Commission, therefore, directs that a Coordination Committee be constituted consisting of senior Officers from APGCL, AEGCL, SLDC and APDCL for settlement of matters of common interests relevant to generation, evacuation of power and supply to consumers. The Committee shall be headed by the CGM, SLDC. This Coordination Committee shall meet as often as required, but at least once in every quarter of each year. The Minutes of Meeting of each Coordination Committee meeting shall be submitted to the Commission within 15 days of such meeting.
- The Commission directs that the Committee is to be constituted within 3 months of issue of this Order, and a report regarding its constitution shall be submitted to the Commission within 3 months of issue of this Order.

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/-

Sd/-

**(S.N. Kalita)**  
Member, AERC

**(B. Borthakur)**  
Member, AERC

**(K.S. Krishna)**  
Chairperson, AERC



# 10 Annexure 1: Minutes of the 27<sup>th</sup> Meeting of the State Advisory Committee

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**VENUE:** AERC Conference Hall.

**DAY/DATED:** Saturday, 19<sup>th</sup> December, 2020.

**LIST OF MEMBERS/SPECIAL INVITEES: At Annexure-1 (Enclosed)**

The 27<sup>th</sup> Meeting of State Advisory Committee (SAC) was chaired by the Hon'ble Chairperson, AERC, Shri S C Das, IAS, (Retd.)

The Hon'ble Chairperson, welcomed all members and invitees to the 27<sup>th</sup> meeting of SAC and thanked all members for their presence, even after postponing the meeting twice due to COVID and the demise of former CM Late Tarun Gogoi. Thereafter, Hon'ble Chairperson asked new members of SAC which had been notified vide No AERC.37/2002/Pt-VI/146 dated 5<sup>th</sup> August, 2020 to introduce themselves. Hon'ble Chairperson opined that all new members should advise the Commission regarding actions, schemes, etc for better functioning of the power sector in the State of Assam.

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

**Agenda: Confirmation of the Minutes of the 26<sup>th</sup> Meeting of SAC held on 13.02.2020.**

The draft Minutes of the 26<sup>th</sup> meeting of the Committee was circulated among the Members and Special Invitees in August 2019. Comments were received from a few members and these were incorporated in the minutes before finalizing. During the discussion Shri K Medhi, Secretary NESSIA advised the Commission to fix the timeline for every action to be taken.

The final minutes were confirmed and accepted by the members.

**Agenda: Action taken on the minutes of the 26<sup>th</sup> 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. Important points of the discussion are noted below-

The members of SAC enquired about the status of 250 MW Natural gas-based power station at Chandrapur and 725 MW Gas based Thermal power station at north bank of Brahmaputra.

APGCL in its action taken report informed that M/S TATA Consulting Engineers Limited has submitted the draft PFRs for setting up of these power stations.

Shri D.K Sarma, Member, SAC advised that there should be a comprehensive generation plan of APGCL so that it can cater to the growing load demand of the state. Hon'ble Chairperson said that Principal Secretary, Department of Power, GoA had already taken note of that.

Regarding high cost of power from NEEPCO's Pare Hydro Electric Project and the expected high cost of power from NHPC's Subansiri Hydro Electric Project, the Hon'ble Chairperson and Hon'ble Member (Technical) advice GoA to take up the matter with MoP. Shri Subodh Sharma also advised APDCL to take up the matter with GoA, he also pointed out regarding high PoC charge on with Hon'ble Chairperson information the members that new regulation by CERC is going to be placed very soon.

Shri Subodh Sharma, Member, SAC advised APDCL to make a study on the Solar project and its commercial effect.

**Agenda: Presentation by Power Grid on NERPSIP Project.**

A brief presentation was made by M/s Power Grid Corporation of India Ltd. on North Eastern Region Power System Improvement Project (NERPSIP),

- Sanctioned Project Cost Rs.1473.80 Cr (Feb'14 price level)
- Revised Project Cost : Rs.1914.58 Cr.
- Funding of the Project : 50:50 (Govt. of India : World Bank)
- Expected Completion: Progressively till Dec'21

In the presentation, PGCIL has also submitted the present progress of EHV SS, Extn. & Aug. of Existing EHV Substations, EHV Transmission Lines, New 33/11kV Substations, Extn. of 33/11kV Substations and 33kV Line,

PGCIL highlighted certain RoW issues where they sought assistance for early completion of the line. Hon'ble Chairperson advised to take assistance from local administration to complete the projects.

**Agenda: Discussion on the approach to the Tariff determination by AEGCL, APGCL and APDCL.**

The three companies APDCL, APGCL, and AEGCL made a brief presentation on the tariff determination for the FY 2021-22. Salient features of the tariff determination as mentioned below –

**APDCL -**

Particulars	Proposed Recovery Amount
	(Rs. Crore)
a. Standalone Aggregate Revenue Requirement	6964.4
a1. Addl RoE on enhancement of equity	261.29
A. Net amount without addl RoE (a - a1)	6703.1
B. True up for FY 2019-20	250.14
C. Rebate from CPSU for COVID during FY 20-21	69.99
<b>Total (A+B-C):</b>	6883.25
Average Rate (Rs./kWh)	8.23
Proposed increase (%)	5%

**APGCL -**

Particulars for FY 2021-22	APGCL Projected
Gross Generation (MU)	1480.35
Auxiliary Consumption (%)	3.40%
Net Generation (MU)	1430.27
Total Fixed Charges (Rs. Crore)	220.52
Fuel Cost (Rs. Crore)	151.48
<b>Total Revenue Requirement (Rs. Crore)</b>	371.99
Fixed Charge Per Unit (INR / kWh)	1.54
Energy Charge Per Unit (INR / kWh)	1.06
Proposed Tariff (INR / kWh)	2.6

**AEGCL**

Aggregate Revenue Requirement	427.79
Net Aggregate Revenue Requirement	417.79
Transmission Charge (Rs./ kWh)	0.396

During the presentation of APGCL was asked to give a supplementary tariff petition incorporating estimated generation of NRPP.

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

MD, APDCL has mentioned that APDCL is going to hold a recruitment drive as the acute shortage of manpower is hampering its functions. Prof. M.P Bezbaruah and Sri Subodh Sharma advised APDCL to train the employees to multitask so that in case of future automation in meter reading and billing the same employees can be engaged in other functions.

Hon'ble Chairperson has emphasized on improving the power quality in the state of Assam and also informed the members that AERC has formulated power quality regulation which is available on the website.

Harsh Sutodia, Member, AIMO acknowledged the working of the power utilities during the pandemic situation and managing the power situation efficiently during this time. He advised APDCL in regards to ease the process of service connection to HT consumers. He mentioned that the power supply to the industries and tea gardens of Golaghat and Tinsukia has been unreliable during past months which will adversely affect the revenue of APDCL. In this regard, ABITA added that the progress of work of the dedicated tea garden feeder is very slow. Hon'ble Chairperson advised MD, APDCL to co-ordinate with ABITA to ensure early completion of tea garden dedicated feeders so that power supply to tea gardens become reliable.

The meeting ended with a vote of thanks from and to the Chair.

**Sd/-**

**Secretary,**

**Assam Electricity Regulatory Commission**

**LIST OF MEMBERS, SPECIAL INVITEES AND OFFICERS PRESENT.**

**Members**

1. Shri Subhash Ch.Das, IAS (Retd.), Chairperson, AERC
2. Smt. Bulbuli Borthakur, Member (Law), AERC
3. Shri Satyendra Nath Kalita, Member (Technical), AERC
4. Shri Neeraj Verma, IAS, Principal Secretary, GoA, Deptt. Of Power (Elec)
5. Shri Probin Ch Bora, Joint Secretary, Department of Food, Civil Supplies & Consumer Affairs, GoA
6. Shri Subodh Sarma, Power Engineer
7. Shri Champak Barua, Former – Member (Technical), APDCL
8. Shri Dilip Sarma, Former Executive Director, Power Grid
9. Shri Uttpal Kr Sharma, representative from Senior Engineers Forum, Guwahati
10. Shri Abhijit Sharma, Secretary, ABITA
11. Shri Harsh Sutodiya, EC Member, AIMO, Assam
12. Shri J N Baruah, General Secretary, AASSIA, Assam
13. Shri Saurabh Agarwal, Chairperson, FINER
14. Shri Sailen Baruah, President, NESSIA
15. Shri Kumud Ch Medhi, General Secretary, NESSIA
16. Shri M P Bezbaruah, Professor, Guwahati
17. Shri A B Kandali, Associate Professor, JEC

**Special Invitees**

1. Sri Rakesh Agarwal, IAS, MD, APDCL
2. Shri Dhruvajyoti Hazarika, MD, AEGCL
3. Shri Balbir Singh, Sr.GM,PGCIL
4. Shri Somiran Das, Sr.DGM,PGCIL

**Officers from APDCL, AEGCL & APGCL**

1. Shri Chandan Sharma, CGM, SLDC, AEGCL
2. Shri Deepankar Deka, CGM (O&M), AEGCL

3. Shri P K Saikia, CGM (PP&D), AEGCL
4. Shri A K Nath, GM (HQ), AEGCL
5. Shri G K Bhuyan, GM, AEGCL
6. Shri Suresh Kaimal, DGM (F&A), AEGCL
7. Shri H S Mohan, DGM,SLDC, AEGCL
8. Shri A J Choudhury, AGM (HQ), AEGCL
9. Shri Ashok Kalita, CGM (Gen), APGCL
10. Shri A Bhuyan, CGM (PP&I), APGCL
11. Shri J P Choudhury,CGM (NRE), APGCL
12. Mrs Lipika Das, AGM, APGCL
13. Mrs Pinki Deb, AM(F&A),APGCL
14. Shri Prodyut Kr Nath, JM, APGCL
15. Shri Nilmadhab Deb, AGM (F&A), APDCL

## Annexure 2- Station Wise Depreciation

### Depreciation for NTPS (Rs. Crore)

Sr. No.	Particulars	FY 2019-20			FY 2020-21			FY 2021-22		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	9.71	-	-	9.71	-	-	9.71	-	-
2	Building	11.18	-	0.37	11.18	-	0.37	11.18	-	0.37
3	Hydraulic works	0.04	-	0.00	0.04	-	0.00	0.04	-	0.00
4	Other civil works	26.82	0.74	0.91	25.53	0.94	0.94	26.47	0.35	0.96
5	Plant & machinery- Gas	96.37	0.41	0.11	96.78	-	0.12	96.78	0.78	0.14
6	Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-
7	Lines & cables	1.95	-	0.10	1.95	-	0.10	1.95	-	0.10
8	Vehicle	0.55	-	-	0.45	-	-	0.45	-	-
9	Furniture	1.13	0.06	0.01	1.18	-	0.01	1.18	-	0.01
10	Other office equipment	1.29	0.19	0.09	1.48	-	0.09	1.48	0.46	0.05
11	Roads on land belonging to others	-	-	-	-	-	-	-	-	-
12	Capital spares at Generating Stations	41.46	-	-	41.46	-	-	41.46	-	-
13	<b>Total</b>	<b>190.50</b>	<b>1.40</b>	<b>1.59</b>	<b>189.76</b>	<b>0.94</b>	<b>1.64</b>	<b>190.70</b>	<b>1.58</b>	<b>1.64</b>

### Depreciation for LTPS (Rs. Crore)

Sr. No.	Particulars	FY 2019-20			FY 2020-21			FY 2021-22		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	4.75	-	-	4.75	-	-	4.75	-	-
2	Building	32.21	-	1.08	32.21	0.04	1.08	32.25	2.00	1.11
3	Hydraulic works	-	-	-	-	-	-	-	-	-
4	Other civil works	42.75	0.44	1.44	43.19	0.63	1.47	43.82	-	1.48
5	Plant & machinery- Gas	272.55	2.75	14.46	275.31	5.85	14.69	281.15	4.37	14.96
6	Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-
7	Lines & cables	9.29	-	0.49	9.29	-	0.49	9.29	-	0.49
8	Vehicle	0.24	-	-	0.24	-	-	0.24	-	-
9	Furniture	0.46	0.14	0.01	0.60	-	0.01	0.60	-	0.01
10	Other office equipment	0.33	0.05	0.02	0.37	0.33	0.03	0.71	0.35	0.04
11	Roads on land belonging to others	-	-	-	-	-	-	-	-	-
12	Capital spares at Generating Stations	114.93	-	-	114.93	-	-	114.93	-	-
13	<b>Total</b>	<b>477.51</b>	<b>3.38</b>	<b>17.50</b>	<b>480.89</b>	<b>6.85</b>	<b>17.76</b>	<b>487.74</b>	<b>6.72</b>	<b>18.10</b>



**Depreciation for KLHEP (Rs. Crore)**

Sr. No.	Particulars	FY 2019-20			FY 2020-21			FY 2021-22		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	4.40	-	-	4.40	-	-	4.40	-	-
2	Building	17.35	-	0.58	17.35	-	0.58	17.35	0.40	0.58
3	Hydraulic works	162.42	0.04	8.58	162.46	-	8.58	162.46	-	8.58
4	Other civil works	102.75	-	3.43	102.75	1.00	3.45	103.74	0.10	3.47
5	Plant & machinery- Gas	-	-	-	-	-	-	-	-	0.00
6	Plant & machinery- Hydel	175.60	0.01	9.27	175.61	4.20	9.38	179.81	-	9.49
7	Lines & cables	32.57	-	1.72	32.57	10.73	2.00	43.30	0.70	2.29
8	Vehicle	0.29	-	-	0.29	-	-	0.29	-	0.02
9	Furniture	0.05	0.07	0.01	0.12	-	0.01	0.12	-	0.01
10	Other office equipment	0.10	0.01	0.01	0.11	-	0.01	0.11	-	0.01
11	Roads on land belonging to others	0.28	-	0.01	0.28	-	0.01	0.28	-	0.01
12	Capital spares at Generating Stations	18.76	-	-	18.76	-	-	18.76	0.50	-
13	<b>Total</b>	<b>514.58</b>	<b>0.13</b>	<b>23.60</b>	<b>514.71</b>	<b>15.92</b>	<b>24.02</b>	<b>530.63</b>	<b>1.70</b>	<b>24.45</b>

### Depreciation for LRPP (Rs. Crore)

Sr. No.	Particulars	FY 2019-20			FY 2020-21			FY 2021-22		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	-	-	-	-	-	-	-	-	-
2	Building	-	-	-	-	-	-	-	-	-
3	Hydraulic works	-	-	-	-	-	-	-	-	-
4	Other civil works	24.36	-	0.81	24.36	-	0.81	24.36	-	0.81
5	Plant & machinery- Gas	233.65	10.73	12.62	244.38	-	12.90	244.38	-	12.90
6	Plant & machinery- Hydel	-	-	-	-	-	-	-	-	-
7	Lines & cables	-	-	-	-	-	-	-	-	-
8	Vehicle	-	-	-	-	-	-	-	-	-
9	Furniture	-	-	-	-	-	-	-	-	-
10	Other office equipment	-	-	-	-	-	-	-	-	-
11	Roads on land belonging to others	-	-	-	-	-	-	-	-	-
12	Capital spares at Generating Stations	-	-	-	-	-	-	-	-	-
13	<b>Total</b>	<b>258.01</b>	<b>10.73</b>	<b>13.43</b>	<b>268.75</b>	<b>-</b>	<b>13.72</b>	<b>268.75</b>	<b>-</b>	<b>13.72</b>