



ASSAM ELECTRICITY REGULATORY COMMISSION

(AERC)

TARIFF ORDER

March 29, 2023

TRUE-UP for FY 2021-22,

APR for FY 2022-23,

REVISED ARR and Tariff for FY 2023-24

FOR

Assam Power Generation Corporation

Limited (APGCL)

Petition No. 16/2022

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List of Abbreviations

A&G	Administrative and General
ABITA	Assam Branch of Indian Tea Association
ADB	Asian Development Bank
AEGCL	Assam Electricity Grid Corporation Limited
AERC	Assam Electricity Regulatory Commission
AFC	Annual Fixed Charges
AGCL	Assam Gas Company Limited
APC	Auxiliary Power Consumption
APDCL	Assam Power Distribution Company Limited
APGCL	Assam Power Generation Corporation Limited
APM	Administered Pricing Mechanism
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ASEB	Assam State Electricity Board
CAG/C&AG	Comptroller and Auditor General
CC	Combined Cycle
CERC	Central Electricity Regulatory Commission
COD	Date of Commercial Operation
CPI	Consumer Price Index
DTR	Distribution Transformer
EPC	Engineering Procurement and Construction
ERP	Enterprise Resource Planning
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

HRSG	Heat Recovery Steam Generator
IoWC/IWC	Interest on Working Capital
Kcal	kilo calorie
KLHEP	Karbi Langpi Hydro Electric Project
kW	kilo Watt
kWh	kilo Watt Hour
LED	Light Emitting Diode
LRPP	Lakwa Replacement Power Project
LTPS	Lakwa Thermal Power Station
MCLR	Marginal Cost of Funds based Lending Rate
MMBTU	Million Metric British Thermal Unit
MMSCMD	Million Metric Standard Cubic Meter per Day
MOPNG	Ministry of Petroleum and Natural Gas
MSHEP	Myntriang Small Hydro Electric Project
MU	Million Units
MW	Mega Watt
MYT	Multi Year Tariff
NAPAF	Normative Annual Plant Availability Factor
NRPP	Namrup Replacement Power Project
NTI	Non-Tariff Income
NTPS	Namrup Thermal Power Station
O&M	Operation and Maintenance
OC	Open Cycle
OEM	Original Equipment Manufacturer
OIL	M/s Oil India Limited
PAF	Plant Availability Factor
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor
PoC	Point of Connection
R&M	Repairs and Maintenance
RoE	Return on Equity
SAC	State Advisory Committee
SBI	State Bank of India
SCM	Standard Cubic Meter

SHR	Station Heat Rate
SLDC	State Load Despatch Centre
TVS	Technical Validation Session
WHRU	Waste Heat Recovery Unit
WPI	Wholesale Price Index

ASSAM ELECTRICITY REGULATORY COMMISSION

Guwahati

Present

Shri K.S. Krishna, Chairperson

Shri S.N Kalita, Member

Shri A Bhattacharyya, Member

Petition No. 16/2022

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

ORDER

(Passed on March 28, 2023)

- (1) APGCL filed Petition for approval of Truing up for FY 2021-22, Annual Performance Review (APR) for FY 2022-23, Revised Aggregate Revenue Requirement (ARR) for FY 2023-24 and determination of Tariff for FY 2023-24 for NTPS, LTPS, KLHEP, LRPP & NRPP as per the AERC (Terms and Conditions for determination of Multi-Year Tariff) Regulations, 2018 (MYT Regulations, 2018) and AERC (Terms and Conditions for determination of Multi-Year Tariff) Regulations, 2021 (MYT Regulations, 2021) as applicable on November 30, 2022. The same was registered as Petition No. 16/2022.
- (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 13, 2022.
- (3) The Commission held an Admissibility Hearing on December 14, 2022 and admitted the Petition (Petition No. 16/2022) vide Order dated December 14, 2022, 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 21, 2023. The notice was published in two (2) leading newspapers and short notice was published in five (3) leading newspapers of the State, as shown in the Table below:

Date	Name of Newspaper	Content Published
20.12.2022	The Assam Tribune	Public Notice in English
21.12.2022	Dainik Janambhumi	Public Notice in Assamese
21.12.2022	Dainik Jugasankha	Public Notice in English
21.12.2022	Purbanchal Prahari	Public Notice in English
21.12.2022	Thekar (Karbi)	Short Notice in English

A short small advertisement also published in three (3) news papers stating that copy of the petition is made available on the website.

Date	Name of Newspaper	Content Published
23.12.2022	The Assam Tribune	Public Notice in English
23.12.2022	Dainik Jugasankha	Public Notice in English
23.12.2022	Purbanchal Prahari	Public 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) A Technical Validation Session (TVS) was conducted on December 15, 2022. The Commission sought more clarifications on the Petition from APGCL vide letter dated December 15, 2022. The replies to the second set of queries were submitted by APGCL on January 11, 2022.
- (8) In response to the Commission's letter dated December 13, 2023, APGCL submitted their replies to data gaps on December 30, 2022.

- (9) The Petitions were also discussed in the 31st and 32nd Meeting of the State Advisory Committee (SAC) (constituted under Section 87 of the Electricity Act, 2003) held on January 30, 2023 and February 9, 2023 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 28, 2023 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 True-up for FY 2021-22, APR for FY 2022-23, Revised ARR for FY 2023-24 and determined the tariff for FY 2023-24, as detailed in subsequent Chapters of 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, 2022 and shall continue until replaced by any subsequent Order of the Commission.
- (14) Accordingly, the Petition 16 of 2022 stands disposed of.

Sd/-
(A. Bhattacharyya)
Member, AERC

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

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

1 INTRODUCTION

1.1 Constitution of the Commission

- 1.1.1 The Assam Electricity Regulatory Commission (hereinafter referred to as the AERC or the Commission) was established under the Electricity Regulatory Commissions Act, 1998 (14 of 1998) on February 28, 2001. The first proviso of Section 82(1) of the Electricity Act, 2003 (hereinafter referred as the Act or the EA, 2003) has ensured continuity of the Commission under the EA 2003.
- 1.1.2 The Commission is mandated to exercise its powers and functions vested under Sections 61, 62, 86 and 181 of the EA 2003 and all the other powers enabling it in this behalf, to determine the ARR and Tariff of Assam Power Generation Corporation Limited (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 guided by the following:
- a) The principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;
 - b) That the electricity generation, transmission, distribution and supply are conducted on commercial principles;
 - c) That factors which would encourage efficiency, economical use of the resources, good performance, optimum investments, and other matters which the State commission considers appropriate for the purpose of this Act;
 - d) The interests of the consumers are safeguarded and at the same time, the

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

1.3 Background

- 1.3.1 APGCL is the successor corporate entity of erstwhile Assam State Electricity Board (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 EA 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. APGCL is a Company incorporated with the main object of generation of electricity in the State of Assam and is a Generating Company under the various provisions of the Act.
- 1.3.2 APGCL owns and operates the generating stations previously owned by 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.
- 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 Multi Year Tariff Regulations, 2021

1.5.1 The Commission, in exercise of the powers conferred under Section 61 read with Section 181(2) (zd) of the Act, notified the AERC (Terms and Conditions for determination of Multi Year Tariff) Regulations, 2021 (herein after referred as “MYT Regulations, 2021”) on September 18, 2021. 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, 2022 onwards up to March 31, 2025. These Regulations are applicable to all existing and future Generating Companies, Transmission Licensees and Distribution Licensees within the State of Assam.

1.5.2 Regulation 4.2 of the MYT Regulations, 2021, specifies the MYT framework for the Control Period from FY 2022-23 to FY 2024-25, as reproduced below:

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

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

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

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

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

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

(vi) Annual Performance review vis-à-vis the approved forecast and categorization of variation in performance as those caused by factors beyond the control of the

applicant (uncontrollable items) shall be undertaken by the Commission;

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

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

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

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

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

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

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

1.6 Procedural History

- 1.6.1 As per Regulation 4.2 of the MYT Regulations, 2021, APGCL is required to file an application for true-up for previous year, i.e., FY 2020-21, APR for FY 2021-22, ARR for the Control Period from FY 2022-23 to FY 2024-25, and tariff for FY 2022-23 on or before November 30, 2021.

- 1.6.2 APGCL filed the Petition for approval of Truing up for FY 2021-22, APR for FY 2022-23, Revised ARR for FY 2023-24 and determination of Tariff for FY 2023-24 as per MYT Regulations, 2018 and MYT Regulations, 2021 as applicable, on November 30, 2022. The same was registered as Petition No. 16/2022.
- 1.6.3 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 13, 2022.
- 1.6.4 The Commission held an Admissibility Hearing on December 14, 2022 and admitted the Petition (Petition No. 16/2022) vide Order dated December 14, 2022, subject to submission of additional information as sought for.
- 1.6.5 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.
- 1.6.6 Accordingly, a Public Notice was issued by the APGCL inviting objections/suggestions from stakeholders to be submitted on or before January 21, 2023. The notice was published in two (2) leading newspapers and short notice was published in five (3) leading newspapers of the State, as shown in the Table below:

Date	Name of Newspaper	Content Published
20.12.2022	The Assam Tribune	Public Notice in English
21.12.2022	Dainik Janambhumi	Public Notice in Assamese
21.12.2022	Dainik Jugasankha	Public Notice in English
21.12.2022	Purbanchal Prahari	Public Notice in English
21.12.2022	Thekar (Karbi)	Short Notice in English

A short small advertisement also published in three (3) news papers stating that copy of the petition is made available on the website.

Date	Name of Newspaper	Content Published
23.12.2022	The Assam Tribune	Public Notice in English
23.12.2022	Dainik Jugasankha	Public Notice in English
23.12.2022	Purbanchal Prahari	Public Notice in English

- 1.6.7 A copy of the Petition and other relevant documents were also directed to be made available to the consumers and other interested Parties at the office of the Managing Director of APGCL. A copy of the Petition was also made available on the websites of the Commission and APGCL.
- 1.6.8 A Technical Validation Session (TVS) was conducted on December 15, 2022. The Commission sought more clarifications on the Petition from APGCL vide letter dated December 15, 2022. The replies to the second set of queries were submitted by APGCL on January 11, 2022.
- 1.6.9 In response to the Commission's letter dated December 13, 2023, APGCL submitted their replies to data gaps on December 30, 2022.
- 1.6.10 The Petitions were also discussed in the 31st and 32nd Meeting of the State Advisory Committee (SAC) (constituted under Section 87 of the Electricity Act, 2003) held on January 30, 2023 and February 9, 2023 at Bidyut Niyamak Bhawan, Six Mile, Guwahati.
- 1.6.11 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 28, 2023 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.
- 1.6.12 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 True-up for FY 2021-22, APR for FY 2022-23, Revised ARR for FY 2023-24 and determined the tariff for FY 2023-24, as detailed in subsequent Chapters of this Order.
- 1.6.13 All the written representations submitted to the Commission and oral submissions made before the Commission in the Hearing and the responses of APGCL have been carefully considered while issuing this Tariff Order. The major issues raised by different consumers and consumer groups along with the response of APGCL and

views of the Commission are elaborated in **Chapter 3** of this Order.

1.7 State Advisory Committee Meeting

1.7.1 Two SAC meetings were convened on January 30 and February 09, 2023 and members were briefed on the Tariff Petition of APGCL. The Minutes of the SAC meeting are appended to this Order as **Annexure 1**.

2 Summary of APGCL's Petition

2.1 Background

2.1.1 APGCL submitted the Petition on November 30, 2022 seeking approval for Truing up for FY 2021-22, APR for FY 2022-23, Revised ARR for FY 2023-24 and determination of Tariff for FY 2023-24 (Petition No.16/2022). The Generation Tariff is to be recovered from the Assam Power Distribution Company Limited (APDCL), who is the sole buyer of power from APGCL.

2.2 True-up for FY 2021-22

2.2.1 APGCL submitted the True-up for NTPS, LTPS, LRPP, KLHEP and NRPP for FY 2021-22. APGCL submitted that the True-up for FY 2021-22 is based on the audited accounts and in line with the provisions on true-up of various costs as specified under Regulation 10 of the MYT Regulations, 2018. The summary of ARR and Revenue Gap/(Surplus) claimed by APGCL for FY 2021-22 is shown in the following Table:

Table 1: True-up ARR for FY 2021-22 as submitted by APGCL (Rs. Crore)

Sl. No.	Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP	Total APGCL
I	POWER GENERATION (MU)						
	Gross Generation	157.10	406.52	407.25	510.11	490.56	1971.54
	Net Generation	148.16	368.21	405.21	492.26	466.03	1879.88
	Auxiliary Consumption, Loss %	5.69%	9.42%	0.50%	3.50%	5.00%	4.6%
I	Fixed Charges						
	Operation & Maintenance Expenditure	23.46	43.79	32.25	22.64	30.20	152.34
	Increase in AERC Tariff Filing Fees	0.10	0.10	0.00	0.10	0.00	0.30
	Interest & Finance Charges	0.05	0.01	17.80	2.35	51.75	71.96
	Interest on working Capital	2.45	5.12	3.12	4.40	5.68	20.77
	Depreciation	1.35	13.74	22.47	13.56	29.74	80.87
	Return on Equity	8.90	23.05	23.94	12.50	32.49	100.87
	Income taxes	4.01	13.56	7.23	8.70	11.81	45.31
	Special R&M	0.00	0.00	5.76	0.00	0.00	5.76

Sl. No.	Particulars	NTPS	LTPS	KLHE P	LRPP	NRPP	Total APGCL
	Capacity Building	0.04	0.08	0.08	0.00	0.00	0.20
	Less: Other Income	-6.58	-26.97	-11.84	0.00	0.00	-45.39
II	Total Fixed Charges	33.79	72.47	100.81	64.25	161.67	432.99
III	Fuel Cost	34.04	78.24	0.00	88.93	60.89	262.10
IV	Total Revenue Requirement	67.83	150.71	100.81	153.17	222.56	695.09
V	Incentive for generation for FY 2021-22			2.07			2.07
VII	Total Cost	67.83	150.71	102.88	153.17	222.56	697.16
VIII	Revenue from Sale of Power	51.22	172.99	92.20	111.01	150.66	578.08
IX	Revenue Gap (+) / Surplus(-)	16.61	-22.28	10.68	42.16	71.90	119.07
X	Per unit tariff (Rs./kWh)	4.58	4.09	2.54	3.11	4.78	3.71

2.2.2 APGCL has claimed Revenue Gap of Rs. 119.07 Crore for FY 2021-22 in the true-up.

2.3 Annual Performance Review for FY 2022-23

2.3.1 APGCL has claimed the ARR after APR for FY 2022-23 based on its estimations, as detailed in the table below:

Table 2: ARR after APR for FY 2022-23 as submitted by APGCL (Rs. Crore)

Sl. No.	Particulars	NTPS*	LTPS*	KLHEP	LRPP	NRPP	Total APGCL
I	POWER GENERATION (MU)						
	Gross Generation	177.56	487.20	397.77	503.34	449.05	2014.92
	Net Generation	168.69	452.90	395.78	485.72	426.60	1929.70
	Auxiliary Consumption, Loss %	4.99%	7.04%	0.50%	3.50%	5.0%	4.2%
II	Fixed Charges						
	Operation & Maintenance Expenditure	21.35	42.67	35.01	30.27	44.79	174.09
	Increase in AERC Tariff Filing Fees	0.10	0.10	0.00	0.10	0.00	0.30
	Interest & Finance Charges	0.06	0.07	15.19	0.94	48.08	64.34
	Interest on working Capital	4.49	12.16	3.59	10.67	10.99	41.91

Sl. No.	Particulars	NTPS*	LTPS*	KLHEP	LRPP	NRPP	Total APGCL
	Depreciation	1.42	14.13	22.93	13.56	42.08	94.12
	Return on Equity	8.90	23.05	23.94	12.50	34.70	103.07
	Income taxes	0	0	0	0	0	0.00
	Special R&M	2.58	24.50	28.08	32.72	18.50	106.38
	Capacity Building	0.00	0.00	0.00	0.00	0.00	0.00
	Less: Other Income	-7.13	-9.22	-5.75	0.00	0.00	-22.10
III	Total Fixed Charges	31.77	107.46	122.99	100.76	199.14	562.11
IV	Fuel Cost	116.05	323.03		290.15	214.28	943.50
V	Total Revenue Requirement	147.81	430.49	122.99	390.91	413.42	1505.61
VI	Total Cost	147.81	430.49	122.99	390.91	413.42	1505.61
VII	Revenue from Sale of Power	83.60	283.60	98.17	237.02	235.43	937.83
VIII	Revenue Gap (+) / Surplus(-)	64.21	146.89	24.81	153.89	177.99	567.79
IX	Per unit tariff (Rs./kWh)	8.76	9.51	3.11	8.05	9.69	7.80

2.3.2 APGCL submitted that it has not considered the Revenue Gap for FY 2022-23 in the tariff for FY 2023-24 since the figures for FY 2022-23 are estimated and subjected to True-up. APGCL further submitted that it shall consider the same at the time of True-up Petition for FY 2022-23.

2.4 Capital Investment Plan for FY 2022-23 to FY 2023-24

2.4.1 APGCL has proposed year wise revised capital expenditure during the period from 2022-23 to 2023-24 of APGCL is as given below:

Table 3: Capital Investment Plan for FY 2022-23 to FY 2023-24 as submitted by APGCL (Rs. Crore)

Existing Projects	FY 2022-23 (in Crores)			FY 2023-24 (in Crores)		
	Equity	Loan	Grant	Equity	Loan	Grant
R&M Cost including Mandatory Spare – A						
NTPS		2.59			3.85	
LTPS		15.47			67.74	
KLHEP		17.3			46.39	
LRPP		0.1			8.2	

	FY 2022-23 (in Crores)		FY 2023-24 (in Crores)	
NRPP		0		23.65
Sub Total – A		35.46		149.82
ERP Implementation – B			20.78	4.17
Grand Total (A+B)		35.46	20.78	149.82

2.5 Revised ARR at Effective capacity and Tariff for FY 2023-24

2.5.1 APGCL has submitted the revised ARR at Effective capacity and Tariff for FY 2023-24 as detailed in the Table below:

Table 4: Revised ARR at Effective Capacity and Tariff as submitted by APGCL (Rs. Crore)

Sl. No.	Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP	Total APGCL
I	POWER GENERATION (MU)						
	Gross Generation	179.58	425.74	390.00	519.40	732.69	2247.40
	Net Generation	171.50	402.32	388.05	501.22	696.05	2159.14
	Auxiliary Consumption, Loss %	4.50%	5.50%	0.5%	3.50%	5.0%	3.9%
II	Fixed Charges						
	Operation & Maintenance Expenditure	23.09	44.91	36.85	31.86	47.15	183.86
	Increase in AERC Tariff Filing Fees	0.10	0.10	0.00	0.10	0.00	0.30
	Interest & Finance Charges	0.24	2.77	15.97	0.12	44.76	63.86
	Interest on working Capital	5.00	12.33	3.23	11.92	13.69	46.17
	Depreciation	1.52	15.90	24.13	13.78	42.70	98.03
	Return on Equity	8.90	23.05	23.94	12.50	34.70	103.07
	Income taxes	0	0	0	0	0	0.00
	Special R&M	0.8	26.05	0	9.37	74	110.22
	Capacity Building	0	0	0	0	0	0.00
	Less: Other Income	-7.13	-9.22	-5.75	0.00	0	-22.10
III	Total Fixed Charges	32.52	115.88	98.36	79.65	257.00	583.41
IV	Fuel Cost	131.93	320.17		349.07	274.37	1075.54
V	Total Revenue Requirement	164.45	436.06	98.36	428.72	531.37	1658.95
VI	Total Cost	164.45	436.06	98.36	428.72	531.37	1658.95
VII	Per unit tariff (Rs./kWh)	9.59	10.84	2.53	8.55	7.63	7.68

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

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

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

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

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

3.1.4 The Commission held Hearing at the Conference Hall of Assam Bidyut Niyamak Bhawan Six Mile, Guwahati on February 28, 2023.

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

3.1.6 The objections/suggestions made by the objectors and responses of the petitioner are briefly dealt with in this Chapter. The major issues raised by the objectors are discussed below along with the response of the Petitioner (APGCL) and views of the Commission.

3.1.7 While all the objections /suggestions have been given due consideration by the Commission, only, major responses/ objections received on the Petitions and also those raised during the course of Hearing have been grouped and addressed issue wise, in order to avoid repetition.

Issue 1: Plant Availability Factor (PAF)

Stakeholders' Comments

ABITA requests Commission to allow only the PAF norms specified in the Tariff Regulations, 2018. Variations in PAF due to uncontrollable factors may be permitted only under Regulation 11 and 2.1 (33) of the Tariff Regulations after detailed prudence check. Accordingly, Hon`ble Commission is requested to allow recovery of fixed charges pro-rata to actual PAF achieved by each generating

FINER mentioned that the Commission vide Order dated March 2019 has approved the norms for each of the above operational parameters. Furthermore, in line with the Tariff Regulations 2018, the parameters which are controllable in nature shall be governed by the norms approved by the Commission. The deviation on account of variation wrt norms shall not be given effect to in the tariff. The Commission is requested to kindly approve the operational parameters based on the norms as approved in the Order dated March 2019 as shown above.

Response of APGCL

APGCL humbly submits to the Commission that it has claimed PAF only as per norms and relevant Regulation 2.1 (33) of the AERC MYT Regulations 2018 in the True-up Petition and has provided necessary certificates from SLDC for the same. as per norms and relevant Regulation 2.1 (33) of the AERC MYT Regulations 2018 in the True-up Petition. Further, APGCL has not claimed any relaxations on account of the high APC of its thermal stations. The higher APC of its thermal stations LTPS and NTPS is on account of their intrinsic issues which have already been intimated to the Commission.

Commission's View

PAF have been calculated as per provisions in the MYT Regulations, 2018 and 2021. The performance of APGCL and analysis of the Commission are discussed in the subsequent chapters of this Order.

Issue 2: Gross Station Heat Rate (GSHR)

Stakeholders' Comments

ABITA requests Commission not to pass on the performance inefficiencies of APGCL to the end consumers. APGCL has submitted reasons such lower gas supply, evacuation constraints and aged unit/ auxiliaries led to higher than normative SHR. ABITA requests

Hon`ble Commission to consider the SHR as per approved norms for FY 2021-22 or actual whichever is lower.

FINER mentioned that the Commission vide Order dated March 2019 has approved the norms for each of the above operational parameters. Furthermore, in line with the Tariff Regulations 2018, the parameters which are controllable in nature shall be governed by the norms approved by the Commission. The deviation on account of variation wrt norms shall not be given effect to in the tariff.

The Commission is requested to kindly approve the operational parameters based on the norms as approved in the Order dated March 2019 as shown above.

Response of APGCL

APGCL humbly submits to the Commission that it has claimed the normative SHR based on running hours under OC and CC mode of operation for its existing gas based thermal plants as per AERC MYT Regulations 2018 and has provided necessary documents for the same.

Commission's Views

The Commission has approved GSHR as per norms specified in the MYT Regulations, 2018 and 2021. The details are given in the relevant Chapters of this Order.

Issue 3: Auxiliary Power Consumption

Stakeholders' Comments

ABITA mentioned that APC is defined as a Controllable parameter in the Tariff Regulations. Therefore, ABITA humbly requests Hon`ble Commission to allow the APC as per the norms specified in the Tariff Regulations, 2018. Otherwise, unjustified increase in APC would burden the consumers with higher tariff.

FINER also mentioned that the Commission vide Order dated March 2019 has approved the norms for each of the above operational parameters. Furthermore, in line with the Tariff Regulations 2018, the parameters which are controllable in nature shall be governed by the norms approved by the Commission. The deviation on account of variation wrt norms shall not be given effect to in the tariff.

The Commission is requested to kindly approve the operational parameters based on the norms as approved in the Order dated March 2019 as shown above.

CAC Submitted that NTPS exceeded its target by 1.19%; LTPS BY 3.92% and the balance stations kept its auxiliary energy Consumption within the target fixed by AERC. The

remedial measures undertaken by APGCL to bring the consumption within the target needs to be intimated to AERC.

Response of APGCL

APGCL humbly submits to the Commission that APGCL has not claimed any relaxations on account of the high APC of its thermal stations. The higher APC of its thermal stations LTPS and NTPS is on account of their intrinsic issues which have already been intimated to the Commission.

Commission's View

For the purpose of trueing up for FY 2021-22, auxiliary consumption has been approved as per norms specified in the MYT Regulations, 2018 and 2021. The sharing of efficiency gains/losses has been done in accordance with the MYT Regulations, 2018. Thus, the impact of any inefficiency is not passed on to the consumers in full. The Commission approved normative auxiliary consumption for the MYT period under consideration as specified in the MYT Regulations, 2021. The details are available in the relevant Chapters of this Order.

Issue 4: Depreciation

Stakeholders' Comments

ABITA submitted that APGCL has submitted depreciation of Rs. 72.13 Cr. as against the approved depreciation of Rs. 75.42 Cr. in 2022 Order. ABITA requests Commission to compute the depreciation based on actual capitalization for FY 2021-22 in line with the provisions of the Tariff Regulations, 2018 and the practice adopted in previous Tariff Orders.

FINER submitted that opening balance of GFA considered by the Petitioner for NTPS and LTPS is not in line with the GFA balances approved by the Commission for the FY 2020-21 True up. In such regard, the Petitioner's claim of opening GFA is flawed and ought to be disregarded.

It is humbly submitted that the Petitioner has not associated its claims of additional capitalization with the specific Regulation of the Tariff Regulations 2018. Mere claims in reference to the Audited Accounts do not hold good. In such regard, the Commission is requested that the additional capitalization should not be considered for the True up of FY 2021-22.

Furthermore, the Commission in its Order dated March 2022 has depicted that the Petitioner was in receipts of grants towards the funding of the Capital Cost. In such regard,

the reference may be drawn to the Table 32 of the Commission's Order dated March 2022. In line with the same, the Respondent humbly submits that the depreciation on grants be adequately deducted (based on the same approved in the True up of FY 2020-21) from the allowable depreciation for the True up of FY 2021-22.

Response of APGCL

APGCL humbly submits that it has submitted the detailed depreciation calculation to the Commission. APGCL further submits that it has calculated depreciation as per the Audited Annual Accounts of APGCL for the FY 2021-22 and as per Regulations.

Commission's View

The Commission has allowed the Depreciation after necessary prudence check and in accordance with the applicable MYT Regulations as discussed in the relevant Chapters of this Order.

Issue 5: Interest and Finance Charges

Stakeholders' Comments

ABITA submitted that APGCL has proposed Interest & Finance charges of Rs. 79.05 Cr. as against approved amount of Rs. 71.57 Cr. in 2022 Order, ABITA has computed the Interest and Finance Charges in line with the methodology adopted by Commission in previous tariff orders.

CAC submitted that The normative interest claimed by APGCL for FY 21-22 is Rs.54.99 Crs against actual interest of Rs.27.2943 Crs recorded in the balance sheet. It is an effect of MYT regulation advantageous to APGCL unlike the account of Gas consumption which APGCL has prayed for payment as per actual.

Response of APGCL

APGCL humbly submits to the Commission that it has considered interest on loan capital on normative basis for FY 2021-22. It has considered normative loan portfolio and the repayment which was equal to the depreciation for FY 2021-22.

The interest rate has been considered as the weighted average rate of actual interest rate applicable to APGCL for FY 2021-22.

Commission's View

APGCL as well as the Commission have not considered penal interest in computation of weighted average interest rate for FY 2021-22. The Commission has allowed the Interest and Finance charges after necessary prudence check and in accordance with the applicable MYT Regulations as discussed in the relevant Chapters of this Order.

Issue 6: Operation and Maintenance expenses

Stakeholders' Comments

ABITA mentioned that APGCL has submitted O&M expenses for true-up based on the Tariff Regulations, 2018 as per which there is no separate approval of Employee, A&G and R&M expenses. APGCL has submitted O&M expenses as per Regulations 50.1 of the Tariff Regulations, 2018.

CAC mentioned that in the table 38 of the petition where expenses are on normative basis. However, APGCL says that it is as per actual. Whether this actual amount is as per the payment made or it is too on normative basis needs to be clarified.

Response of APGCL

APGCL humbly submits to the Commission that it has claimed approved normative O&M expenses for existing plants except NRPP as per order of 21st March 2022 on effective capacity. For NRPP, APGCL has claimed the actual O&M cost of Rs. 30.20 Cr, which was incurred for 259 working days in the FY 2021-22, as per the Order No. AERC 781/2021/48 dated 20-08-2022.

On CAC comment APGCL submits that it has claimed the normative O&M cost for all of its existing plants except NRPP for FY 2021-22. It has claimed actual O&M cost for NRPP as per the Commission's Order dated 20.08.2022.

Commission's View

The Commission has allowed O&M expenses after necessary prudence check and in accordance with the MYT Regulations, 2018. The details regarding computation of O&M are discussed in the relevant Chapters of this Order.

Issue 7: Interest on Working Capital (IoWC)

Stakeholders' Comments

ABITA submitted that APGCL has proposed interest on working capital of Rs. 13.28 Cr. as against Rs. 15.13 Cr. approved in the 2021 Order. Based on the revised O&M, receivables, the interest on working capital computed is tabulated below.

FINER mentioned that the respondent humbly pleads that in line with the submissions made in the preceding sections, the allowable Interest on Working Capital is Rs. 19.53 Crore.

CAC submitted that, loWc has been computed on normative basis and in the audited balance sheets all the financial costs have been clubbed up without any separate head of interest on working capital paid by APGCL

Response of APGCL

APGCL humbly submits that it has claimed normative interest on working capital considering the fuel cost, O&M expense, maintenance spares, receivables, and the interest rate as per Tariff Regulations 2018.

Commission's View

The Commission has approved loWC on normative basis for each Generating Station as per the MYT Regulations, 2018. The detailed ruling of the Commission for loWC is given in in the relevant chapters.

Issue 8: Fuel Cost

Stakeholders' Comments

ABITA and FINER requested the Commission that APGCL has claimed Rs. 261.76 Cr. towards fuel cost for true-up of FY 2021-22 as against Rs. 227.23 Cr. approved by Commission in the 2022 Order. ABITA has reviewed the computations and submitted fuel cost of Rs. 217.27. Cr

CAC submitted that APGCL claimed Excessive Fuel Cost for 2022-23:

APR envisaged APDCL's generation target of 2014.92 MU against AERC's target of 2262.92MU. The total revenue requirement at the existing Tariff has been fixed at Rs. 748.93 Crs against which APGCL has claimed Rs.1517.78 Crs. It is more than 200%. In no way it matches with the rise of WPI index for 2022-23 or with CPI associated for fixed cost explained below.

Response of APGCL

APGCL humbly submits to the Commission that it has claimed fuel cost as per norms and actual price of gas for the FY 2021-22 and the details of the same have been submitted to the Commission.

APGCL also submits that the overall impact in increase of net revenue requirement for FY 2022-23 was because of increase in gas price from US \$ 2.90 /MMBTU (Oct'21) to US \$ 8.57/MMBTU (Oct'22) which is an increase of around 200%.

Commission's View

The Commission has approved Fuel Cost based on approved performance parameters in this Order and GCV and fuel prices as submitted by APGCL for estimation of fuel cost in APR and MYT period. The details are discussed in the subsequent Chapters.

Issue 9: Capital Cost

Stakeholders' Comments

FINER mentioned that the The Petitioner has claimed additional capitalization for the FY 2021-22 for NRPP amounting to Rs. 94.90 Crore against Rs. 77.71 Crore approved by the Commission vide Order dated March 2022.

The Commission vide such Order has noted that the Petitioner's claim of project cost has overshoot the DPR estimate of project cost by Rs. 23.58 Crore. The relevant extract from such Order

is reproduced below:

.....

In view of the above, it is humbly submitted that the Commission based on the above Order has already noted the undertaking of APGCL that the impact of time overrun would not be passed onto the consumers of the state. Therefore, the claim of additional capitalization is limited to the hard cost of DPR and should therefore be considered for the true up of FY 2021-22. Moreover, the Petitioner has not provided any documentary evidence to substantiate for the increased cost beyond what has been recognized by the Commission. In view of the aforesaid, the additional capitalization should be limited Rs. 77.71 Crore only with funding as considered by the Commission in the Order dated March 2022.

Response of APGCL

APGCL humbly submits that the additional expenditure of ₹ 94.90 Crore post COD of NRPP is on account of the actual capital expenditure as per the Annual Accounts of APGCL. APGCL also humbly submits that there was an increase of Rs. 24.24 Crore in project cost till FY 2021-22 compared to the approved DPR excluding IDC value. The increase in project cost excluding IDC was because of following additional expenses.

Particulars	Amount in ₹ Cr
Employee Cost Capitalisation till FY 2021-22	10.77
Entry Tax	0.56
A&G and Contingency	12.91
Total	24.24

Further, the funding of the additional capitalisation of Rs. 94.90 Cr has been computed as per AERC Regulation 2018. The detailed computation has been submitted to Commission.

Commission's views

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

Issue 10: Non-Tariff Income

Stakeholders' Comments

ABITA and FINER submitted that the APGCL has submitted non-Tariff income of Rs. 30.72 Cr. As per Income Statement for FY 2021-22, the total income from other sources is Rs. 45.39 Cr. Out of this total non-tariff income, APGCL has deducted Rs. 14.67 Cr. written off as sundry credit balance relating to transportation charges bill between APGCL and AGCL. ABITA requests Commission to check the prudence of numbers submitted by APGCL and audited accounts for FY 2021-22 and reduce this income from total cost to arrive at Annual Fixed Cost of APGCL.

Response of APGCL

APGCL has revised the claim of other income from 30.72 Cr to 45.39 Cr for FY 2021-22. The justification for the same has been submitted to Commission in the TVS query response.

Commission's views

The Commission noted the views of the respondents as well as replies of the Petitioner. The Commission has discussed the same in the relevant Chapter while allowing Non-Tariff Income.

Issue 11: RETURN ON EQUITY

Stakeholders' Comments

ABITA submitted that accordingly, the loan and grant converted into equity are just book adjustments, reflected in equity pending allotment as "Other Equity". These Other Equity has not taken the colour of actual equity" and therefore cannot be treated as regulated equity for computation of return on equity.

For NRPP station, APGCL has considered Opening Equity of Rs. 195.37 Cr and Closing Equity of Rs. 223.84 Cr. ABITA would like to bring to the notice of Commission, the actual equity of Rs. 455.86 Cr. as per audited financials for 2021-22. Further, APGCL in its previous MYT petition submitted reconciliation statement of expenses as per audited accounts for 2021-22 (Annexure-I Additional submissions, PDF page number 222 of 569). As per this reconciliation statement, the total opening and closing equity of four projects namely NTPS, LTPS, KLHEP and LRPP mentioned is Rs. 282.47 Cr. Therefore, the balance equity corresponding to NRPP project as per audited accounts comes to Rs. 173.39 Cr.

FINER also submitted that Petitioner for all the 5 plants is not in line with the Equity balances approved by the Commission for the True up of FY 2020-21. This is evident from the table No. 36 of the Order of the Commission dated March 2022. In such regard, the Petitioner's claim of opening Equity is flawed and ought to be disregarded.

Based on submissions made in the Capex section, the additions to equity for NRPP is allowable at 30% of the Rs. 77.71 Crore only against the petitioner's contention of Rs. 93.93 Crore. In view of the above, the allowable Return on Equity as per Objector's assessment is as under

CAC mentioned that APGCL includes the ROE in the fixed cost of its production like the other utilities the equities of the units were fictitious one created through conversion of loans to equities. Later on, government loans and grants were sanctioned which too are being converted to equities. At present such conversion (As directed by GOA) has exceeded by 30% of the GFA (Gross fixed asset) of the companies for which only Rs. 441.16 Crs could be converted against Rs.919.44 Crs proposed by the Govt. An estimated equity of Rs. 441.16 Crs @ 15.5% would fetch Rs. 68.355 Crs; But APGCL has shown Rs.32.49 Crs in its true up petition in this head. APGCL should clarify on it.

Response of APGCL

APGCL humbly submits to the Commission that as APGCL is a PSU of GOA and GOA has converted its existing loans & Grants till 31ST March 2021 to equity, the same is reflected in APGCL's audited accounts for FY 2021-22. APGCL has claimed the equity base for determination of return on equity from FY 2021-22 and onwards based on its Audited Accounts only. Further, the matter of "Other Equity" has been explained in detail in the note No. 41 of the Audited Accounts of APGCL for the FY 2021-22.

APGCL further submits that it has claimed the return on equity as per AERC MYT Regulation 2018 for FY 2021-22. As per Regulation, the ratio of normative loan and equity depends on the project cost / GFA of concern plant/project so it shall not be compared with other plants. Further, the details of computation have been submitted to commission.

Further, APGCL has claimed the 30% of the revised additional capital expenditure of Rs. 94.90 Cr for NRPP in FY 2021-22 on account of the actual capital expenditure as per the Audited Annual Accounts of APGCL.

Commission's views

The Commission has allowed the Return on Equity after necessary prudence check and in accordance with the MYT Regulations, 2018 as discussed in the relevant Chapters of this Order.

Issue 12: Overall Performance of NTPS and NRPP

Stakeholders' Comments

CAC submitted that Apparently the gas consumption of the units is evaluated on the basis of SHR approved by AERC inconformity with MYT regulation but not on the real time measurement basis. Undoubtedly APGCL deserves credit for running the machines which have outlived its lives in the meantime. Even with the higher gas consumption the unit cost is Rs.3.26 which is much lower than the price of other suppliers as well as of power exchanges. Therefore, for the best interest of the consumers, the claim of APGCL on expenditures for 2021-21 could be accepted even with higher SHR.

At the same time, APGCL should clarify whether there is real time measurement during the gas consumption of the unit or whether there is any monitoring device to ascertain the quality of gas supply as per the standard of the contract. Any subjective citation like inadequacies in the flow of standard gas causing generation loss could be accepted only with incorporation of the above mutual mechanism. SHR calculations on normative basis is continuing for 2223 above. If the WHU of NTPS is inoperative the SHR of NTPS escalates. Therefore, real time gas metering is to be done to know exact situation. Therefore, it would be futile to predict the operation of NTPS for 2022-23 or afterward right

now because it is theoretical only and the real picture would come after the true up of 22-23 only.

For NRPP Against a targeted production of 503.17 MU units fell short of its target by 13.39MU. The unit achieved normative value on percentage of availability, yet the Target fixed could not be met. Gross SHR too was claimed on the normative basis, yet the fuel price has been claimed on actual. SHR when operated as a combined cycle is always better than when it operates as on open cycles. Even the hours of operation are also mentioned. A deterioration of standard of gas supply and part loading of units might cause a higher SHR for which a scientific metering & analysis of gas is absolutely necessary to find out the actual SHR. Such a progressive approach needs to be adopted by APGCL to find out the causes of higher SHR (actual) first of all followed by path correction of operation of units. For a supposedly modern plant such arrangement should be there.

CAC mentioned that on Auxiliary Power Consumption (APC) NTPS exceeded its target by 1.19%; LTPS BY 3.92% and the balance stations kept its auxiliary energy Consumption within the target fixed by AERC. The remedial measures undertaken by APGCL to bring the consumption within the target needs to be intimated to AERC.

Response of APGCL

APGCL submits that the claims for the True-up of FY 2021-22 at normative values. Increasing the normative Heat Rate of the old units of NTPS will help to recover the full expenditure incurred by NTPS as much as possible. As such, APGCL too most humbly submits to the Commission to increase the normative SHR of NTPS.

APGCL obtains the gas analysis report from the supplier periodically. Moreover, Gas chromatograph will be installed at NRPP very soon and it will provide the information on gas quality for both NTPS and NRPP at site as well.

For NRPP APGCL submits that it has claimed the operating parameters of NRPP is as per the Norms of AERC Regulation, 2018.

On APC APGCL submits to the Commission that APGCL always takes necessary measures to reduce the high auxiliary consumption. Since NTPS & LTPS are old power stations compared to the LRPP & NRPP, therefore auxiliary consumption of NTPS & LTPS is high due to their intrinsic issues which have already been intimated to the Commission.

Commission's views

Noted.

Issue 13: Overall Performance of LTPS and LRPP

Stakeholders' Comments

CAC submitted that the old 15MW turbine units have already been decommissioned and old powerhouse is lying idle. Akin to NTPS efforts need to be made if energy could be produced from these units also for which gas supply chain is to be established first of all and a DPR with commercial feasibility on this matter needs to be made by APGCL by engaging its own engineering force. (2) As to the normative PLF fixed by AERC could not be met by LTPS having 3x20 MW turbines and the 1x37 MW WHU. Consequently, the targeted production of 425.74 MU could not be met. Instead, 406.52 MU were produced by the plant. The reason is given as more auxiliary power consumption. Yet there is hardly any mention of the measures taken by APGCL to reduce such losses.

For LRPP CAC mentioned that AERC fixed 519.4 MU target for the plant against which the plant produced 510.11 MU. Due to lower PLF than 90% assured the actual production was less marginally. For this plant also SHR has been claimed on normative basis but not on actual.

Response of APGCL

APGCL submits that-

1. Lakwa Replacement Power Plant (LRPP) is more efficient which was commissioned at LTPS by replacing the 4X15 MW units of PH-1 after completion of their useful life.
2. LTPS has achieved normative PAF for the FY 2021-22. Higher APC of LTPS is on account of its intrinsic issues like power consumption by its four numbers of gas compressors. The issue has already been intimated to the Commission.

APGCL also submits that LRPP has achieved normative PAF in the FY 2021-22. Further, APGCL submits that the claims for the True-up of FY 2021-22 at normative values as per AERC.

Commission's views

Noted.

Issue 14: Overall Performance of KLHEP

Stakeholders' Comments

CAC submitted the Production Schedule of KLHEP: KLHEP maintains its head to operate two turbines for five months continuously and one for the rest period. An estimated 500 MU could be produced by it. It has sent 405.21 MU against target of 388 MU in the FY 21-22. Therefore, a field study is necessary to assess the optimum capacity of the unit first of

all. The annual production schedule should be intimated to APDCL ahead of time to include its generated energy in the power procurement plan of APDCL. The cost per unit of the plant is Rs.2.72 for 407.25 MU. With more generation from the present 407.25 MU to 450 MU the cost could be brought down to Rs. 2.4 per unit.

Response of APGCL

APGCL submits to the Commission that the design gross energy of KLHEP is 390 MU and the station generates power at optimum level depending on the availability of water each year.

Commission's views

The Commission has approved all the technical parameters after a proper prudence check of all the technical parameters as per the MYT Regulations, 2018. The detailed ruling of the Commission for generation loss for KLHEP is given in in the relevant Chapters.

Issue 15: Income Tax

Stakeholders' Comments

FINER submitted that In line with the first proviso to regulation 35, the Respondent humbly submits that the Commission may kindly conduct a due prudence check in respect of the gains accrued to the generating company on account of efficiency gains and incentives. The tax component towards the same may be deducted after due prudence check.

Response of APGCL

APGCL humbly submits that the actual income tax paid was Rs. 45.31 Crore for FY 2021-22. The documentary evidence has been submitted to the Commission including Plantwise computation for the actual tax paid for FY 2021-22.

Commission's views

The Commission has allowed the income tax after necessary prudence check and in accordance with the MYT Regulations, 2018 as discussed in the relevant Chapters of this Order.

Issue 16: Capacity Building

Stakeholders' Comments

The Petitioner has claimed an aggregate Rs. 0.20 Crore towards Capacity building for the FY 2021-22. While the Respondent appreciates the initiatives taken by the Licensee to

build the capacity of its manpower but is also appreciable that no provision of Tariff Regulations 2018 allows expenses towards Capacity building explicitly. The same is ought to be recognized under O&M Expenses as per regulations as well as accounting purposes. Recognition of Capacity building expenses over and above the allowable O&M Expenses is not appropriate. The Respondent humbly submits that such expenses be not allowed in addition to the allowable O&M Expenses. Hence, the Petitioner's claim towards O&M Expenses merits disallowance.

Response of APGCL

APGCL humbly submits that the Commission had approved an amount of Rs. 0.40 Cr towards capacity building for FY 2021-22 in the order dated February 2021. Inline to the same, APGCL has claimed the actual capacity building expenses of Rs. 0.20 Cr for FY 2021-22.

Commission's views

Noted.

4 Truing up of ARR for FY 2021-22

4.1 Methodology for Truing Up

- 4.1.1 The Commission approved the ARR for existing Generating Stations, viz., NTPS, LTPS, KLHEP, LRPP and NRPP for FY 2022-23 vide Order dated March 21, 2022.
- 4.1.2 APGCL has submitted Truing-up Petition for FY 2021-22 based on audited Annual Accounts and provisions of MYT Regulations, 2018. APGCL has sought true-up for FY 2021-22, with the Revenue Gap/(Surplus) to be recovered from APDCL during FY 2023-24.
- 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 2021-22 for existing Generating Stations, i.e., NTPS, LTPS, KLHEP, LRPP and NRPP based on the submissions of APGCL, audited Annual Accounts for FY 2021-22 and provisions of the MYT Regulations, 2018. Apart from the audited Accounts, APGCL, in its additional submission, submitted Station-wise reconciliation of expenses claimed in the Petition with audited Accounts for FY 2021-22 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 2021-22 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 2021-22

4.2.1 APGCL submitted the following installed and effective capacity for FY 2021-22.

Table 5: Installed and Effective Capacity for FY 2021-22 (MW)

Station	Installed Capacity (MW)	Revised Installed Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Actual Effective Capacity
NTPS	119.5	47.81	3	GT U# 2&3(21MW), 6 (22.50 MW-WHRU) - till 15.07.2021	47.81
				1 no of GT unit (21 MW), 6 (22.50 MW-WHRU) – after 15.07.2021	
LTPS	142.2	97.2	4	5,6,7(20 MW Each),8 (37.20 MW-WHRU)	97.2
KLHEP	100	100	2	1 (50), 2(50)	100
LRPP	69.755	69.755	7	1-7 (9.965 each)	69.755
NRPP	98.4	98.4	2	1(62.25, 2(36.15)	98.4

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 2021-22 as submitted by APGCL in the above Table except for NTPS whose weighted average effective capacity is considered as 49.60 MW as per documentary evidence. The Commission has accordingly reduced the fixed cost derived after Truing-up of FY 2021-22 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, LRPP and NRPP for FY 2021-22, as submitted by APGCL are shown in the Table below:

Table 6: Actual PAF/Capacity Index as submitted by APGCL

Station	Actual
NTPS	44.84%
LTPS	50.00%

Station	Actual
KLHEP	83.57%
LRPP	85.00%
NRPP	78.05%

4.3.2 APGCL submitted that it has considered 44.84% PAF for NTPS. APGCL submitted the following reasons for loss of generation impacting the PAF:

- a) During FY 2021-22 it has lost the opportunity to generate 19.39 MU of electricity due to grid disturbance and auto transformer constraint.
- b) APGCL mentioned that During FY 2021-22, it has lost the opportunity to generate 3.337 MU of electricity due to Grid disturbance. APGCL has claimed this Generation Loss due to uncontrollable factors.

4.3.3 The above event being uncontrollable in nature, APGCL has claimed availability lost for NTPS in FY 2021-22 due to this event. APGCL has also provided the SLDC certificate on generation loss of NTPS due to Grid Restrictions.

4.3.4 KLHEP and NRPP has achieved lower availability. For NRPP, APGCL mentioned that as per regulation 47.6 of the MYT Regulation 2018, the normative plant availability factor (PAF) of Gas turbine / combined cycle generating stations is 65% for the stabilization period of 90 days and for the rest of the period in FY 2021-22 is 85%. Hence, weighted normative plant availability factor for NRPP is 78.05% for FY 2021-22. Further, it has achieved the actual availability higher than 78.05%. Hence, it has claimed normative plant availability factor i.e 78.05%.

4.3.5 For LTPS 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 for FY 2021-22 for these stations.

Commission's Analysis

4.3.6 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 and NRPP, the Regulation specifies the normative availability of 85%.

4.3.7 As regards NTPS, SLDC has certified PAF of 44.00%. The difference of 0.84% in PAF between 40.84% claimed by APGCL and 40.00% 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.

4.3.8 APGCL submitted that NTPS had suffered due to frequent shutdowns of the old Units and auxiliaries of NTPS in FY 2021-22. 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 16.06 MU due to auto transformer constraints against NTPS for FY 2021-22.
- b) APGCL has suffered a loss of 3.34 MU pertaining to Grid disturbance and SLDC certificate confirms the same.

4.3.9 Based on the above analysis, the Commission has considered only 3.34 MU generation loss due to evacuation constraint, which translates to around 0.07% availability loss. Accordingly, Commission has considered actual availability of NTPS as 44.80% in FY 2021-22.

4.3.10 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, LRPP and KLHEP as per SLDC certificate.

4.3.11 For NRPP the Commission has calculated the weighted average plant availability factor as per the submitted data by APGCL.

4.3.12 The Commission has approved the actual PAF/Capacity Index for FY 2021-22 as shown in the following Table:

Table 7: PAF/Capacity Index as approved by the Commission for FY 2021-22

Station	Target Availability/Capacity Index (NAPAF) (%)	Approved (%)
NTPS	50%	44.80%
LTPS	50%	52.30%
KLHEP	85%	83.57%
LRPP	85%	91.20%
NRPP	85%	82.70%

4.3.13 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 and KLHEP are lower than NAPAF, the reduction of

fixed charges for NTPS and KLHEP have been considered in subsequent Sections.

4.3.14 Further, actual availability of other Generating Stations is higher than normative, hence, full recovery of fixed charges for FY 2021-22 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 PLF for FY 2021-22 is 50% and 66% for NTPS and LTPS, respectively. Against this, the actual PLF has been 37.05% and 45.76% 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 2021-22. The actual PLF for FY 2021-22 has been 44.50%; In case of LRPP, Regulation 47.2 of the Tariff Regulations, 2018 specifies the Normative PLF for Gas Engine is 90%, whereas the Gas based is 85% for newly commissioned plants. The actual PLF for LRPP and NRPP has been 84.59% and 80.59% respectively.

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 2021-22.

4.4.4 The Commission, therefore, approves the actual PLF of 36.16% for NTPS, 47.74% for LTPS, 46.49% for KLHEP, 83.48% for LRPP and 80.20% for NRPP for FY 2021-22, 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 and 85% for NRPP. The Commission notes that actual PLF for NTPS, LTPS, LRPP and NRPP for FY 2021-22 are 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.

4.5 Auxiliary Consumption

4.5.1 APGCL submitted the actual Auxiliary Consumption for FY 2021-22 and Auxiliary Consumption approved by the Commission in the Tariff Order dated March 21, 2022

as shown in the following Table:

Table 8: Auxiliary Consumption for FY 2021-22 as submitted by APGCL

Sl. No.	Station	Tariff Order dated March 07, 2020	Actual submitted by APGCL
1	NTPS	4.50%	5.69%
2	LTPS	5.50%	9.42%
3	KLHEP	0.50%	0.50%
4	LRPP	3.50%	3.50%
5	NRPP	5.00%	5.00%

4.5.2 APGCL submitted that the Auxiliary Consumption of NTPS and LTPS are higher than the approved Auxiliary Consumption in FY 2021-22. APGCL has submitted that it has lost 1.87 MU and 15.95 MU on net Generation due to higher auxiliary consumption.

4.5.3 In case of KLHEP, LRPP and NRPP the actual Auxiliary Consumption has been at par with the normative Auxiliary Consumption as specified in the Regulations.

Commission's Analysis

4.5.1 The Commission notes that actual Auxiliary Consumption for NTPS and LTPS are higher than the approved norms. APGCL, in its Petition, has submitted that it has lost 1.87 MU and 15.95 MU on net generation respectively due to higher auxiliary consumption than normative value.

4.5.2 For the purpose of truing up, the Commission has approved the Auxiliary Consumption for FY 2021-22 at the same level as approved in the Tariff Order dated February 15, 2021. 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.

4.5.3 The Auxiliary Consumption approved by the Commission for the Truing Up of FY 2021-22 is shown in the Table below:

Table 9: Auxiliary Consumption (%) as approved by the Commission in the truing up for FY 2021-22

Sl. No.	Station	Tariff Order dated March 7 2020	Approved after Truing up
1	NTPS	4.50%	4.50%
2	LTPS	5.50%	5.50%
3	LRPP	3.50%	3.50%
4	KLHEP	0.50%	0.50%
5	NRPP	5.00%	5.00%

4.6 Gross Generation and Net Generation

4.6.1 The actual Gross Generation and Net Generation submitted by APGCL for FY 2021-22 is shown in the following Table:

Table 10: Actual Gross and Net Generation for FY 2021-22 as submitted by APGCL (MU)

Sl. No.	Station	Actual Gross Generation	Actual Net Generation
1	NTPS	157.10	148.16
2	LTPS	406.52	368.21
3	LRPP	510.11	492.26
4	NRPP	490.56	466.03
	Total Thermal	1564.29	1474.66
4	KLHEP	407.25	405.21
	Total APGCL	1971.54	1879.87

Commission's Analysis

4.6.2 The Commission notes that actual Gross Generation and Net Generation submitted by APGCL for FY 2021-22 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 2021-22 is shown in the following Table:

Table 11: Gross and Net Generation for FY 2021-22 as approved by the Commission

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	157.10	150.03
2	LTPS	406.52	384.16
3	LRPP	510.11	492.26
4	NRPP	490.56	466.03
	Total Thermal	1564.29	1483.43
4	KLHEP	407.25	405.21
	Total APGCL	1971.54	1888.65

4.7 Station Heat Rate (SHR)

4.7.1 APGCL submitted that the Commission in the Tariff Order dated February 15, 2021 had approved SHR for NTPS, LTPS, LRPP and NRPP as 4300 kcal/kWh (O.C)/3900 kcal/kWh (C.C), 3900 kcal/kWh (O.C.) /3200 kcal/kWh (C.C.), 2150 kcal/kWh, and 2927 kcal/kwh (O.C)/1951 kcal/kwh (C.C) respectively.

4.7.2 The actual SHR was 5056.88 kcal/kWh for NTPS, 2457.05 kcal/kWh for LTPS, 2144.05 kcal/kWh for LRPP and 2126.80 kcal/kWh for NRPP as submitted by APGCL in its Petition.

Commission's Analysis

4.7.3 The Commission notes that actual SHR for NTPS is higher than the approved norms for FY 2021-22. 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 Regulation 47.4 provides for weighted average SHR for NTPS, NRPP and LTPS based on its operation in Open Cycle (OC) and Closed Cycle (CC) mode.

4.7.5 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 25 days 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”

- 4.7.6 In line with the above ruling, the Commission has considered the planned shutdown of 25 days for NTPS and NRPP during FY 2021-22 and has accordingly computed the SHR considering its operation in OC mode in line with the Regulations.
- 4.7.7 The Commission has considered the normative SHR as approved in Tariff Order dated February 15, 2021 for LRPP (only open cycle mode). The Commission has considered the SHR for LTPS same as submitted by APGCL, as the OC mode of operations has been limited to 25 days on account of planned shutdown. Being a controllable factor, the sharing of gains/losses has been computed in a subsequent Section of this Chapter.
- 4.7.8 The SHR approved by the Commission for NTPS, LTPS, LRPP and NRPP in the truing up for FY 2021-22 is shown in the following Table:

Table 12: Station Heat Rate (kcal/kWh) for FY 2021-22 as approved by the Commission

Sl. No.	Station	Tariff Order dated February 15, 2021	Actual submitted by APGCL	Approved after Truing up
1	NTPS	3900	5056.88	3927.40
2	LTPS with WHRU	3200	2457.05	3200.00
3	LRPP	2150	2144.05	2150.00
4	NRPP	1951	2026.80	2017.85

**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 February 15, 2021, had approved Fuel Cost of Rs. 21.90 Crore for NTPS, Rs. 71.21 Crore for LTPS, and Rs. 58.37 Crore for LRPP. As against this, APGCL has incurred actual fuel cost of Rs. 34.04 Crore for NTPS, Rs. 78.24 Crore for LTPS, and Rs. 88.93 Crore for LRPP. APGCL also submitted that the Commission in the Tariff Order dated March 21, 2022 had approved the fuel cost of 50.12 as against APGCL claimed a fuel cost of 60.89 Crore for NRPP APGCL has submitted the copies of month-wise fuel bills raised by APGCL’s suppliers for FY 2021-22 in its quarterly FPA reports.

Commission's Analysis

- 4.8.2 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, NRPP and LRPP.
- 4.8.3 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.
- 4.8.4 The Commission observed that there is no change in the weighted average GCV of LTPS and LRPP as compared to the average GCV submitted by APGCL in its Petition. The gas prices are also in line with the gas prices submitted by APGCL for FY 2021-22 for NTPS, LTPS, LRPP and NRPP.
- 4.8.5 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 13: Actual Weighted Average GCV and Landed Price of Gas for FY 2021-22 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	9196.05	9196.05	4765.23	4765.23
LTPS	9599.78	9599.78	5774.08	5774.08
LRPP	9269.58	9269.58	7515.95	7515.95
NRPP	9196.05	9196.05	5483.47	5483.47

- 4.8.6 The Commission has trued up the Fuel Cost based on the approved performance parameters and actual fuel price and GCV for FY 2021-22. The Commission has approved the Gross Generation for NTPS, LTPS, LRPP and NRPP 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 14: Normative Fuel Cost for FY 2021-22 as computed by the Commission

Sr. No.	Particulars	Derivation	Unit	NTPS	LTPS	LRPP	NRPP
1	Gross Generation	A	MU	157.10	406.52	510.11	490.56
2	Heat Rate	B	kcal/kWh	3,927.40	3,200.00	2,150.00	2,017.85
3	GCV of gas	C	kcal/SCM	9,196.05	9,599.78	9,269.58	9,196.05
4	Overall Heat	D=AxB	G. cal.	6,16,978.40	13,00,870.40	10,96,745.10	9,89,878.18
5	Gas consumption	E=D/C	M. SCM	67.09	135.51	118.32	107.64
6	Price of Gas	F	Rs./1000 SCM	4,765.23	5,774.08	7,515.95	5,483.47
7	Total cost of Gas	G=ExF/100	Rs. Crore	31.97	78.24	88.93	59.02
	Total Cost			31.97	78.24	88.93	59.02

4.8.7 On the above basis, normative Fuel Cost and actual Fuel Cost for FY 2021-22 for different thermal stations corresponding to actual gross generation are given in the Table below:

Table 15: Fuel Cost approved by the Commission in truing up for FY 2021-22 (Rs. Crore)

Station	Normative Fuel Cost submitted by APGCL	Normative Fuel Cost approved by Commission
NTPS	34.04	31.97
LTPS	78.24	78.24
LRPP	88.93	88.93
NRPP	60.55	59.02

4.8.8 The sharing of efficiency gains and losses on account of fuel cost has been discussed in a 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. 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

4.9.2 For the FY 2021-22, APGCL has claimed towards secondary charge for KLHEP as mentioned in below table.

Table 23: Secondary Charge of KLHEP for FY 2021-22

Sl. No.	Station	Capacity of KLHEP	Design Energy (net of Aux. Consumption)	Actual Energy Sent out	Excess over D.E.	Ex-bus energy eligible for incentive	Secondary charge (Rs. Cr)
	1	2	3	4	5	6	7= 1.204x 6/10
1	KLHEP	100	388.05	405.21	17.16	17.16	2.07

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 for FY 2021-22 is 405.21 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. Therefore, Commission approved 2.07 Crore as an incentive for secondary charge.

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 2021-22 are as shown in the Table below:

Table 16: O&M expenses for FY 2021-22 as claimed by APGCL (Rs. Crore)

Station	Approved normative O&M expenses in February 15, 2021	Approved O&M expenses at effective capacity in February 15, 2021	Normative O&M expenses approved in Tariff Order dated 21st March 2022	Normative O&M Expense Claimed in Trueup
NTPS	58.44	21.27	58.65	40.09
LTPS	63.83	43.63	64.06	64.06

Station	Approved normative O&M expenses in February 15, 2021	Approved O&M expenses at effective capacity in February 15, 2021	Normative O&M expenses approved in Tariff Order dated 21st March 2022	Normative O&M Expense Claimed in Trueup
KLHEP	32.14	32.14	32.25	32.25
LRPP	22.64	22.64	22.64	22.64
NRPP			22.12	30.20

4.10.2 The Station-wise details of head-wise actual O&M expenses (excluding O&M expenses of MSHEP of Rs. 0.61 Crore, Capacity Building of Rs. 0.2 Crore, and special R&M of Rs. 5.76 Crore) claimed for FY 2021-22 by APGCL are given in the Table below:

Table 17: Details of Actual O&M expenses claimed by APGCL for FY 2021-22 (Rs. Crore)

Station	Employee Cost	R&M	A&G	Total
NTPS	20.82	1.43	1.76	24.01
LTPS	32.01	7.88	4.77	44.66
KLHEP	23.78	3.97	4.99	32.74
LRPP	15.05	7.44	3.21	25.70
NRPP	23.63	2.95	3.61	30.20
Total	115.29	23.67	18.39	157.92

Commission's Analysis

4.10.1 In the Tariff Order dated March 21, 2021, the Commission had approved O&M Expenses for FY 2021-22 on normative basis as specified in Regulation 51.1 of MYT Regulations, 2018. In the Tariff Order, the Commission had had computed normative O&M expenses for FY 2021-22 by applying escalation factor of 6.30%, on normative O&M Expenses for FY 2021-21 approved in the APR.

4.10.2 APGCL, in its Petition in Case No. 03 of 2022, has prayed for amendment in Regulation 51.2(a) of the MYT Regulations, 2021. APGCL, in its justification, stated that the new NRPP plants have Advanced F Class machines. APGCL submitted that these Machines require extra care and precautions for sustaining high level of availability of the station and maintain higher efficiency. Therefore, APGCL prayed to

the Commission to escalate the figures of FY 2021-22 to arrive at the new figure for the MYT Control Period from FY 2022-23 to FY 2024-25. The Commission ruled that the figures submitted by APGCL are estimated and in the absence of actual O&M Cost which has been audited, it is not prudent to revise the norms only on the basis of submission of APGCL.

- 4.10.3 APGCL has now submitted the actual O&M Cost of NRPP for true up purposes and have requested the Commission to consider its actual O&M Cost as normative O&M cost for FY 2021-22, i.e., allow the actual O&M cost for NRPP without any sharing of efficiency gains/losses.
- 4.10.4 The Commission is of the opinion that minimum 3 years data on actual O&M Cost is required for considering revision in normative O&M Norms. The Commission is of the opinion that without actual trend analysis of O&M Cost it will not be prudent to revise the O&M Norms of NRPP. Hence, the Commission shall consider revision in the O&M norms of NRPP, while framing the MYT Regulations for the next Control Period, based on actual audited data for 3 years to be submitted by APGCL with all due justification.
- 4.10.5 However, the Commission notes that the actual O&M Cost of NRPP is considerably higher than the normative O&M Cost. The Commission has perused the data submitted by APGCL for justification of the higher O&M cost. Hence, the Commission allows the entire actual O&M Cost of NRPP to be passed through to the consumer as a one-time relief granted to it for this year only. APGCL is directed to practice thrift and minimise its O&M Cost in all its plants.
- 4.10.6 APGCL is also directed to submit the audited allocation of O&M expenses for all its plants from next year during the true up exercise.
- 4.10.7 The Commission has considered the normative O&M expenses for FY 2021-22 as that approved in the Tariff Order dated March 21, 2022, except for NRPP, wherein the actual O&M expenses have been considered, as explained above. The following Table shows the normative O&M expenses approved for FY 2021-22:

Table 18: Normative O&M Expenses approved for FY 2021-22 (Rs. Crore)

Station	Normative O&M Expenses approved in True-up
NTPS	58.44
LTPS	63.83
KLHEP	32.14
LRPP	22.64
NRPP	30.20

4.10.8 In the Petition, 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 of Rs. 157.92 Crore after excluding O&M expenses of MSHEP of Rs. 0.61 Crore, Capacity Building of Rs. 0.2 Crore, and special R&M of Rs. 5.76 Crore, which were included in the Audited Accounts of FY 2021-22. APGCL has claimed special R&M 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 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 as shown in the Table below:

Table 19: Actual O&M Expenses approved for FY 2021-22 (Rs. Crore)

Station	Tariff Order dated March 21, 2021	Actual amount claimed by APGCL for True up of FY 2021-22	Actual approved by the Commission for Sharing of (Gains) /Losses on account of controllable factors
NTPS	58.65	24.01	24.01
LTPS	64.06	44.66	44.66
KLHEP	32.25	32.74	32.74
LRPP	22.64	25.70	25.70
NRPP	22.12	30.20	30.20
Total	199.72	157.31	157.31

4.10.11 The Commission has considered the above actual O&M expenses (excluding Special R&M) for computation of sharing of (Gains)/Losses on account of O&M expenses, which is a controllable factor as specified in the Regulations.

4.11 Capitalisation

4.11.1 The following Table shows the Capitalisation as claimed by APGCL for FY 2021-22 in its True-up Petition:

Table 20: Capitalisation claimed for FY 2021-22 (Rs. Crore)

Station	Capitalisation claimed by APGCL
NTPS	0.51
LTPS	4.72
KLHEP	0.01
LRPP	2.38
NRPP	901.97
Total	909.59

Commission's Analysis

4.11.2 The Commission has scrutinized the amount of capitalization claimed by APGCL against each of the stations. The total capitalization of Rs. 909.59 Crore is also reflecting in the Audited Accounts of APGCL for FY 2021-22. The Commission however notes that APGCL has claimed total Rs. 901.97 Crore Capitalisation against NRPP, but the Commission has approved capital cost of NRPP on COD as 651.24 Crore and additional capitalisation Rs. 77.71 Crore for a total Capitalisation of 728.96 Crore in its Order dated March 21, 2022. The Commission notes that APGCL's claim of additional capitalisation of Rs. 94.90 Crore after COD is exceeding the original project cost of the NRPP as per DPR. The Commission noted that the increase in additional capitalisation is on account of time overrun hence, the Commission limited the additional capitalisation of NRPP to the hard cost approved in the DPR. The Commission, hence, approves the following capitalisation for FY 2021-22:

Table 21: Capitalisation approved for FY 2021-22 (Rs. Crore)

Station	Capitalisation	Capitalisation approved
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	claimed by APGCL	by Commission
NTPS	0.51	0.51
LTPS	4.72	4.72
KLHEP	0.01	0.01
LRPP	2.38	2.38
NRPP	901.97	728.96
Total	909.59	736.58

4.12 Funding of Capitalisation

4.12.1 APGCL submitted that the capitalisation of NTPS, LTPS, KLHEP, LRPP and NRPP is funded entirely through loans. Hence, no equity additions have been claimed by APGCL for FY 2021-22 against these stations.

Commission's Analysis

4.12.2 The Commission has considered the funding of approved capitalisation through loans for NTPS, LTPS, KLHEP, LRPP and NRPP as submitted by APGCL. The following Table shows the funding of capitalisation approved for FY 2021-22:

Table 22: Funding of Capitalisation approved for FY 2021-22 (Rs. Crore)

Station	Capitalisation approved by Commission	Loan	Equity	Grant
NTPS	0.51	0.51	0.00	0.00
LTPS	4.72	4.72	0.00	0.00
KLHEP	0.01	0.01	0.00	0.00
LRPP	2.38	2.38	0.00	0.00
NRPP	728.96	510.27	218.69	0.00
Total	736.58	517.89	218.69	0.00

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 2021-22:

Table 23: Details of Depreciation claimed by APGCL for FY 2021-22 (Rs. Crore)

Station	Particulars	Approved as per Order February15, 2021	True up Petition for FY 2021-22
NTPS	Depreciation	1.64	1.35
	Less: Depreciation on assets funded by Grants	0.16	0.00
	Net Depreciation	1.48	1.35
	Net Depreciation for Effective Capacity	0.54	
LTPS	Depreciation	18.10	13.74
	Less: Depreciation on assets funded by Grants	2.68	0.00
	Net Depreciation	15.43	13.74
	Net Depreciation for Effective Capacity	10.55	
KLHEP	Depreciation	24.32	22.47
	Less: Depreciation on assets funded by Grants	2.84	0.00
	Net Depreciation	21.48	22.47
	Net Depreciation for Effective Capacity	21.48	
LRPP	Depreciation	11.04	13.56
	Less: Depreciation on assets funded by Grants	2.68	0.00
	Net Depreciation	2.68	13.56
	Net Depreciation for Effective Capacity	13.72	
NRPP	Depreciation	34.22	29.74
	Less: Depreciation on assets funded by Grants	0.00	0.00
	Net Depreciation	34.22	29.74
	Net Depreciation for Effective Capacity	24.28	

Commission's Analysis

4.13.2 For the purpose of Truing up, the Commission has considered the approved Station-

wise Closing GFA of FY 2020-21 as the opening GFA for FY 2021-22.

4.13.3 The Commission has considered the actual capitalisation for NTPS, LTPS, KLHEP LRPP and LRPP based on audited accounts for FY 2021-22.

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 2021-22.

4.13.6 The station-wise depreciation approved by the Commission in the True-up for FY 2021-22 is shown in the following table:

Table 24: Depreciation for FY 2021-22 as approved by the Commission (Rs. Crore)

Station	Particulars	Tariff Order dated February,15 2021	APGCL's Petition	Approved after True up
NTPS	Depreciation	1.64	1.35	1.66
	Less: Depreciation on assets funded by Grants	0.16	0.00	0.03
	Net Depreciation	1.48	1.35	1.64
LTPS	Depreciation	18.10	13.74	18.43
	Less: Depreciation on assets funded by Grants	2.68	0.00	0.55
	Net Depreciation	15.43	13.74	17.88
KLHEP	Depreciation	24.32	22.47	23.40
	Less: Depreciation on assets funded by Grants	2.84	0.00	0.56
	Net Depreciation	21.48	22.47	22.84
LRPP	Depreciation	13.72	13.56	13.70

Station	Particulars	Tariff Order dated February,15 2021	APGCL's Petition	Approved after True up
	Less: Depreciation on assets funded by Grants	11.04	0.00	11.04
	Net Depreciation	2.68	13.56	2.66
NRPP	Depreciation	34.22	29.74	18.75
	Less: Depreciation on assets funded by Grants	0.00	0.00	0.00
	Net Depreciation	34.22	29.74	18.75

4.13.7 The detailed Station-wise computation of depreciation for NTPS, LTPS, LRPP, KLHEP and NRPP 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 2021-22 on normative basis. APGCL has considered the normative loan portfolio and the repayment has been considered equal to the depreciation for FY 2021-22. The interest rate has been considered as the weighted average actual interest rate applicable to APGCL at the beginning of FY 2020-21.

4.14.2 Accordingly, APGCL has claimed the Interest and Finance Charges of Rs. 21.95 Crore for FY 2020-21, which includes Interest and Charges of Rs. 0.10 Crore for NTPS, Rs. 0.18 Crore for LTPS, Rs. 18.78 Crore for KLHEP and Rs. 2.89 Crore for LRPP, as shown in the following Table:

Table 25: Interest Charges as submitted by APGCL for FY 2021-22 (Rs. Crore)

Station	Particulars	Approved as per order of February 2021	Claim for True Up
NTPS	Net Normative Opening Loan	0.73	0.87
	Addition of normative loan during the year	1.90	0.51
	Normative Repayment during the year	1.48	1.35
	Net Normative Closing Loan	1.15	0.02
	Avg. Normative Loan	0.94	0.87

Station	Particulars	Approved as per order of February 2021	Claim for True Up
	Interest Rate	10.15%	11.60%
	Interest on Loan Capital	0.10	0.05
	Add: Bank Charges	0.00	0.51
	Net Interest on Loan Capital	0.10	0.56
	Net Interest on Loan Capital for Effective Capacity	0.00	
LTPS	Net Normative Opening Loan	0	0.00
	Addition of normative loan during the year	7.1	4.72
	Normative Repayment during the year	15.43	13.74
	Net Normative Closing Loan	0.00	0.00
	Avg. Normative Loan	0.00	0.00
	Interest Rate	10.15%	11.60%
	Interest on Loan Capital	0.00	0.00
	Add: Bank Charges	0.00	1.03
	Net Interest on Loan Capital	0.00	1.03
	Net Interest on Loan Capital for Effective Capacity	0.00	
KLHEP	Net Normative Opening Loan	187.89	174.25
	Addition of normative loan during the year	2.10	0.01
	Normative Repayment during the year	21.48	22.47
	Net Normative Closing Loan	168.51	151.79
	Avg. Normative Loan	178.20	163.02
	Interest Rate	10.15%	11.60%
	Interest on Loan Capital	18.09	18.90
	Add: Bank Charges	0.00	1.06
	Net Interest on Loan Capital	18.09	19.96
	Net Interest on Loan Capital for Effective Capacity	18.09	
LRPP	Net Normative Opening Loan	27.10	27.10
	Addition of normative loan during the year	0	2.38
	Normative Repayment during the year	2.68	13.56
	Net Normative Closing Loan	24.42	15.92
	Avg. Normative Loan	25.76	21.51
	Interest Rate	10.15%	11.60%
	Interest on Loan Capital	2.62	2.49
	Add: Bank Charges	0.00	0.00
	Net Interest on Loan Capital	2.62	2.49

Station	Particulars	Approved as per order of February 2021	Claim for True Up
	Net Interest on Loan Capital for Effective Capacity	2.62	
NRPP	Net Normative Opening Loan		455.87
	Addition of normative loan during the year		66.43
	Normative Repayment during the year		29.74
	Net Normative Closing Loan		492.56
	Avg. Normative Loan		474.21
	Interest Rate		11.60%
	Interest on Loan Capital		54.99
	Add: Bank Charges		0.00
	Net Interest on Loan Capital		54.99
	Net Interest on Loan Capital for Effective Capacity (For 259 Days)		

Commission's Analysis

4.14.3 In the Tariff Order dated February 15, 2021, 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, 2021, shall be computed by deducting the cumulative repayment as admitted by the Commission up to March 31, 2021, from the gross normative loan. Accordingly, the Commission has computed the normative loan outstanding as on April 1, 2021 as shown in the following Table:

Table 26: Computation of Normative loan outstanding as on April 1, 2021 (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP
Gross Normative Loan	10.21	287.04	391.43
Less: Cumulative repayment (equal to accumulated depreciation)	9.34	210.52	217.18
Net Normative loan	0.87	0.00	174.25

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

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 10.91% for the purpose of truing up.

4.14.7 The interest on loan capital as approved by the Commission after true-up for FY 2021-22 is shown in the following Table:

Table 27: Interest on Loan Capital for FY 2021-22 as approved by the Commission (Rs. Crore)

Station	Particulars	Tariff Order dated February 15, 2021	APGCL's Petition	Approved after Truing up
NTPS	Net Normative Opening Loan	0.73	0.87	0.87
	Addition of normative loan during the year	1.90	0.51	0.51
	Normative Repayment during the year	1.48	1.35	1.64
	Net Normative Closing Loan	1.16	0.02	0.00
	Interest Rate	10.15%	11.60%	10.91%
	Interest on Loan Capital	0.10	0.05	0.05
	Interest and Finance Charges	0.00	0.51	0.00
	Total Interest Expenses	0.10	0.56	0.05
LTPS	Net Normative Opening Loan	0.00	0.00	0.00
	Addition of normative loan during the year	7.10	4.72	4.72
	Normative Repayment during the year	15.43	13.74	17.88
	Net Normative Closing Loan	0.00	0.00	0.00
	Interest Rate	10.15%	11.60%	10.91%
	Interest on Loan Capital	0.00	0.00	0.00
	Interest and Finance Charges	0.00	1.03	0.01
	Total Interest Expenses	0.00	1.03	0.01
KLHEP	Net Normative Opening Loan	187.89	174.25	174.25
	Loan Conversion into Equity*	0.00	0.00	27.72
	Revised Net Normative Opening Loan	0.00	0.00	146.54
	Addition of normative loan during the year	2.10	0.01	0.01
	Normative Repayment during the year	21.48	22.47	22.85
	Net Normative Closing Loan	168.51	151.79	123.71

Station	Particulars	Tariff Order dated February 15, 2021	APGCL's Petition	Approved after Truing up
	Interest Rate	10.15%	11.60%	10.91%
	Interest on Loan Capital	18.09	18.90	14.75
	Interest and Finance Charges	1.06	1.06	0.01
	Total Interest Expenses	19.96	19.96	14.76
LRPP	Net Normative Opening Loan	27.10	27.10	27.10
	Addition of normative loan during the year	0.00	2.38	2.38
	Normative Repayment during the year	2.68	13.56	2.79
	Net Normative Closing Loan	24.42	15.92	26.70
	Interest Rate	10.15%	11.60%	10.91%
	Interest on Loan Capital	2.62	2.49	2.94
	Interest and Finance Charges	0.00	0.00	0.00
	Total Interest Expenses	2.62	2.49	2.94
NRPP	Net Normative Opening Loan	455.87	455.87	455.87
	Addition of normative loan during the year	54.40	66.43	54.40
	Normative Repayment during the year	34.22	29.74	18.75
	Net Normative Closing Loan	476.05	492.56	491.52
	Interest Rate	10.91%	11.60%	10.91%
	Interest on Loan Capital	50.81	54.99	51.69
	Interest and Finance Charges	0.00	0.00	0.00
	Total Interest Expenses	50.81	54.99	51.69

*According to Loan Conversion due to Conversion of GoA Loan and Grant to Equity detailed in **Annexure 4**.

4.15 Return on Equity (RoE)

4.15.1 APGCL submitted that the Commission in the Tariff Order dated February 15, 2021 approved RoE separately for each Generating Station for FY 2021-22.

4.15.2 APGCL has submitted that The Cabinet Meeting of the Government of Assam (GOA) held on 24th December 2021 had approved the conversion of GOA Loan and Grant to APGCL into Equity. Hence, APGCL has considered 30% of approved closing GFA of FY 2020-21 as opening equity base for FY 2021-22 for determination of return on equity

4.15.3 APGCL has claimed the RoE of Rs. 8.90 Crore for NTPS, Rs. 23.05 Crore for LTPS, Rs. 23.94 Crore for KLHEP, Rs 12.50 Crore for LRPP and Rs 32.49 Crore for NRPP.

Commission's Analysis

- 4.15.4 The Commission has approved the RoE in accordance with Regulation 33 of the MYT Regulations, 2018.
- 4.15.5 The Commission has considered Equity addition in opening equity for FY 2021-22 of Rs. 2.42 Crore in NTPS, Rs. 5.61 Crore in LTPS, Rs. 86.31 Crore in KLHEP, Rs. 54.66 Crore in LRPP due to conversion of GOA Loan and Grant to APGCL into Equity. The detailed computation of Equity conversion is provided in **Annexure 4**.
- 4.15.6 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 2021-22. The addition to Equity has been considered in line with the equity approved in funding of capitalisation, as elaborated in this Chapter.
- 4.15.7 The Commission has considered the rate of Return on Equity at 15.5% as specified in Regulation 33.2 of MYT Regulations, 2018.

Table 28: Return on Equity approved by the Commission for FY 2021-22 (Rs. Crore)

Station	Particulars	Approved as per order of Feb 2021	Claim for True Up	Approved after True-Up
NTPS	Opening Equity	55.00	57.42	57.42
	Closing Equity	55.00	57.42	57.42
	Rate of Return	15.5%	15.5%	15.5%
	Return on Equity	8.53	8.90	8.90
LTPS	Opening Equity	143.08	148.69	148.69
	Closing Equity	143.08	148.69	148.69
	Rate of Return	15.5%	15.5%	15.5%
	Return on Equity	22.18	23.05	23.05
KLHEP	Opening Equity	68.65	154.42	154.42
	Closing Equity	68.65	154.42	154.42
	Rate of Return	15.5%	15.5%	15.5%
	Return on Equity	10.64	23.94	23.94
LRPP	Opening Equity	15.74	80.63	80.63
	Closing Equity	15.74	80.63	80.63
	Rate of Return	15.5%	15.5%	15.5%
	Return on Equity	2.44	12.50	12.50
NRPP	Opening Equity	195.37	195.37	195.37
	Addition during year	23.31	28.47	23.31
	Closing Equity	218.68	223.84	218.68
	Rate of Return	15.5%	15.5%	15.5%
	Return on Equity	32.09	32.49	32.09

4.16 Interest on Working Capital (IoWC)

4.16.1 APGCL submitted that the Commission in the Tariff Order dated February 15, 2021 approved IoWC of Rs.17.49 Crore for FY 2021-22. As against this, APGCL has claimed normative IoWC of Rs. 13.28 Crore for FY 2021-22 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. 3.16 Crore for NTPS, Rs. 4.36 Crore for LTPS, Rs. 2.79 Crore for KLHEP, and Rs 2.97 Crore for LRPP.

Commission's Analysis

4.16.3 The Commission has computed IoWC in accordance with Regulation 36.1of 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).

4.16.5 The average SBI MCLR for FY 2020-21 has been 7.05%. Hence, the Commission has accordingly considered the interest rate of 10.05% (7.05% +3.00%) for computation of IoWC. The IoWC approved by the Commission after true-up for FY 2021-22 is shown in the following Table:

Table 29: IoWC as approved by the Commission for FY 2021-22 (Rs. Crore)

Station	Particulars	Approved as per order of Feb 2021	Claim for True Up	Approved after True up
NTPS	Fuel Cost for one month	6.58	2.84	3.68
	O&M Expenses for one month	4.87	1.96	4.87
	Maintenance Spares-30% of O&M	17.53	7.04	17.53
	Receivables for two months	24.32	11.30	8.54
	Total Working Capital Requirement	53.30	23.14	34.62
	Rate of interest	10.00%	10.58%	10.00%
	Interest on Working capital	5.33	2.45	3.46
LTPS	Fuel Cost for one month	8.68	6.52	6.83
	O&M Expenses for one month	5.32	3.65	5.32
	Maintenance Spares-30% of O&M	19.15	13.14	19.15
	Receivables for two months	36.94	25.12	28.83
	Total Working Capital Requirement	70.09	48.42	60.13
	Rate of interest	10.00%	10.58%	10.00%
	Interest on Working capital	70.1	5.12	6.01
KLHEP	O&M Expenses for one month	2.68	2.69	2.68
	Maintenance Spares-30% of O&M	4.82	9.68	4.82
	Receivables for two months	15.17	17.15	15.37
	Total Working Capital Requirement	22.67	29.51	22.87
	Rate of interest	10.00%	10.58%	10.00%
	Interest on Working capital	2.27	3.12	2.29
LRPP	Fuel Cost for one month	4.86	7.41	7.55
	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	15.29	25.53	18.50
	Total Working Capital Requirement	28.83	41.62	34.73
	Rate of interest	10.00%	10.58%	10.00%
	Interest on Working capital	2.88	4.40	3.47

Station	Particulars	Approved as per order of Feb 2021	Claim for True Up	Approved after True up
NRPP	Fuel Cost for one month	4.32	5.07	5.21
	O&M Expenses for one month	1.84	2.52	2.52
	Maintenance Spares-30% of O&M	6.64	9.06	9.06
	Receivables for two months	32.59	37.09	25.11
	Total Working Capital Requirement	45.39	53.74	41.90
	Rate of interest	10.00%	10.58%	10.00%
	Interest on Working capital	4.54*	5.68	4.19

*Approved as per Order of March 2022

4.17 Capacity Building

4.17.1 APGCL submitted that the Commission had approved Capacity Building expenses of Rs. 0.40 Crore for FY 2021-22 in the Tariff Order dated 15th February, 2021 for its employees. The Commission had approved Rs 0.13 Crore for NTPS, LTPS and KLHEP, totalling Rs. 0.40 Crore.

4.17.2 APGCL has claimed Capacity Building Expenses of Rs. 0.20 Crore, i.e., Rs. 0.04 Crore for NTPS, 0.08 Crore for LTPS and KLHEP in the Truing-up for FY 2021-22.

Table 30: Capacity building submitted by APGCL for Truing-up of FY 2021-22 (Rs. Crore)

Station	Approved in Tariff Order dated February 15, 2021	APGCL Submission
NTPS	0.13	0.04
LTPS	0.13	0.08
KLHEP	0.13	0.08
LRPP	-	-
NRPP	-	-
Total	0.40	0.20

Commission's Analysis

4.17.3 APGCL submitted the detailed list of activities undertaken by APGCL for capacity building during FY 2021-22 and claimed expenses of Rs. 0.20 Crore.

4.17.4 The Commission therefore, approves the actual capacity building charges of Rs. 0.20 Crore as submitted by APGCL, i.e., Rs. 0.04 crore for NTPS, 0.08 Crore for LTPS and KLHEP in the Truing-up for FY 2020-21

4.18 Special R&M Expenses

4.18.1 APGCL submitted that Special R&M works were undertaken in FY 2021-22 as shown

in the Table below:

Table 31: Special R&M Expenses incurred by APGCL in FY 2021-22 (Rs. Crore)

Work Name	Approved as per Tariff Order dated February 2021	Claim in FY 2021-22	Remarks
Major Overhauling of KLHEP - Unit 1	0	1.84	It was first time approved for FY 2018-19 with amount of Rs. 25.90 Crore in Tariff Order dated 19th March 2019. Further, It was planned to be executed in January 2020. But due to impact of COVID, the work was completed in February 2021. Hence, APGCL had claimed Rs. 24.24 Crore in True-up of FY 2020-21. The Commission had allowed the same in tariff order dated 21 st March 2022. Rest pending amount of Rs. 1.84 Crore related to overhauling of U#1 was booked in annual account of FY 2021-22. Hence, APGCL has claimed the same amount in FY 2021-22.
Overhauling of LTPS Unit -7	15	0	Work has been shifted in FY 2022-23. The same was approved by Commission in Tariff Order dated 21 st March 2022.
Overhauling of Gas Compressor of GC #6 of LTPS	3	0	Work has been executed and completed in FY 2022-23. Hence, it will be claimed in FY 2022-23
Capital Overhauling of 50MW Francis type Fuji make Generator Turbine Unit-II – KLHEP	12	0	Work has been shifted for FY 2022-23. The same was approved by Commission in Tariff Order dated 21 st March 2022.
Additional Capital Investment for Renovation work of damaged assets due to Landslide for KLHEP Plant	0	3.92	Work was planned and executed in FY 2021-22 and few pending was completed in first quarter of FY 2022-23. Hence, APGCL has claimed Rs. 3.92 Crore for FY 2021-22 and rest amount of Rs. 8.08 Crore will be claimed for FY 2022-23.

Commission's Analysis

4.18.2 The Commission observed that Special R&M Expenses for KLHEP Unit I has been carried out in FY 2021-22. Also, emergency renovation work Rs. 3.92 Crore in FY 2021-22 due to Landslide in KLHEP is approved. APGCL claimed a cumulative of

Rs 5.76 Crore for the same. The overhauling of LTPS Unit 7 is proposed to be carried out in FY 2022-23. Capital Overhauling of KLHEP Unit II has been shifted to FY 2022-23.

4.18.3 The Commission has therefore, considered Special R&M Expenses of Rs 5.76 Crore on account of overhauling and renovation work of KLHEP Unit I for FY 2021-22.

4.19 Non-Tariff Income

4.19.1 APGCL submitted that the Commission in the Tariff Order dated February 15, 2021 approved Non-Tariff Income of Rs. 22.09 Crore. As against this, APGCL has claimed Non-Tariff Income of Rs. 30.72 Crore as per audited accounts for the purpose of True-up. As per audited accounts for FY 2021-22, the total other income appeared as Rs. 45.39 Crore. However, due to written off amount of sundry credit balances relating to TC bills between APGCL and AGCL for expenses of Rs. 14.67 Crore, APGCL has claimed Rs. 30.72 crore as NTI for FY 2021-22.

4.19.2 The Station-wise Non-Tariff Income submitted by APGCL is shown in the following Table:

Table 32: Non-Tariff Income as claimed by APCGL for True-up for FY 2021-22 (Rs. Crore)

Station	Approved as per Tariff Order February15, 2021	True up Petition for FY 2021-22
NTPS	7.13	6.58
LTPS	9.22	12.30
KLHEP	5.75	11.84
LRPP	0.00	0.00
NRPP	0.00	0.00
Total	22.09	30.72

Commission's Analysis

4.19.3 On query of the Commission, APGCL have submitted that the amount of Rs. 14.67 Crore which was reduced from the NTI for being sundry expenses written back as per Audited Account of FY 2021-22 was considered as an expense in the past tariff order of LTPS. The Commission is of the opinion that as it was considered an expense in past Tariff Order of APGCL and it is not being paid to AGCL as per

reconciliation now it should be treated as APGCL's Income. Hence, it is appropriate to consider Rs. 14.67 Crore other income – sundry expense written back as NTI now.

4.19.4 For the purpose of Truing up for FY 2021-22, the Commission has thus considered the actual Non-Tariff Income of Rs. 45.39 Crore as per audited accounts. Accordingly, the Commission approves Non-Tariff Income of Rs. 6.58 Crore for NTPS, Rs. 26.97 Crore for LTPS, and Rs. 11.84 Crore for KLHEP in the Truing-up of FY 2021-22.

4.20 Income Tax

4.20.1 APGCL has claimed Income Tax of Rs. 43.39 Crore for FY 2021-22 as per audited accounts. APGCL submitted that it has determined the annual tax claim to be payable to Income Tax Department at Rs. 43.39 Crore. However, the final tax payment will be done based on the amount determined under the tax audit.

Commission's Analysis

4.20.2 Regulation 36 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.

4.20.3 The Commission has verified the actual Income Tax paid with Tax Challan and TDS Statement submitted by APGCL. The Commission however notes that the Income Tax payable is on account of exceptional item which came about due to GoA waiver of Interest to APGCL which has now become income of APGCL. The Commission is of the opinion that as the Commission allows interest on loans on normative basis, the interest reversal of GoA to APGCL is not recognisable in the ARR. Hence, the income tax liability arising out of this only should not be payable by the consumer of APGCL. Hence, the Commission disallows the Income Tax of FY 2021-22 to be passed onto consumer and directs any tax liability to be met from own fund of APGCL.

4.20.4 The Commission approves NIL income Tax for FY 2021-22 after True up.

4.21 Impact of AERC (Payment of Fees etc.) Regulation, 2020

The tentative impact of the increase in the filing fees has been shown below:

Table 33: Non-Tariff Income as claimed by APCGL for True-up for FY 2021-22 (Rs. Crore

Station	Approved in Tariff Order dated February 2021	Actual claim for FY 2021-22
NTPS	0.10	0.10
LTPS	0.10	0.10
KLHEP	0.00	0.00
LRPP	0.10	0.10
NRPP	0.0	0.00
Total	0.30	0.30

Commission's Analysis

The Commission allows the increase in Tariff Filing fees for Rs 0.10 Crore for NTPS, LTPS and LRPP Respectively.

4.22 Sharing of Gains and Losses

4.22.1 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

4.22.2 Regulation 10.2 of the MYT Regulations, 2018 specifies O&M Expenses as a controllable factor.

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

Table 34: Sharing of (Gains)/Losses for O&M Expenses for FY 2021-22 (Rs. Crore)

Particulars	Revised Normative	Actual	(Gains)/ Losses	Sharing of (Gains)/ Losses	Net Entitlement
NTPS	24.26	24.01	(0.25)	(0.08)	24.17
LTPS	27.69	44.66	16.97	5.66	33.35
KLHEP	32.14	32.74	0.60	0.20	32.34
LRPP	22.64	25.70	3.06	1.02	23.66
NRPP	30.20	30.20	-	-	30.20
Total	136.93	157.31	20.38	6.79	143.73

Fuel Cost

4.22.4 Sharing of (gains)/losses on account of performance parameters and Fuel Cost in the True-up for FY 2021-22 is shown in the Table below:

Table 35: Sharing of (Gains)/Loss on account of Fuel Parameters as approved by the Commission in the True-up for FY 2021-22 (Rs. Crore)

Station	Normative Cost	Actual Cost	(Gains)/ Losses	Sharing of (Gains)/ Losses	Net Entitlement
NTPS	31.97	41.17	9.19	3.06	35.04
LTPS	78.24	59.43	(18.81)	(6.27)	71.97
LRPP	88.93	88.68	(0.25)	(0.08)	88.84
NRPP	59.02	59.29	0.26	0.09	59.11

Auxiliary Consumption

4.22.5 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 2021-22 is shown in the Table below:

Table 36: Sharing of (Gain)/Loss on account of Auxiliary Consumption as approved by the Commission in the True-up for FY 2021-22

Station	Net Normative Generation (MU)	Net Actual Generation (MU)	ECR (Rs./kWh)	(Gains)/ Losses (MU)	(Gains)/ Losses (Rs. Crore)	Sharing of (Gains)/ Losses
NTPS	150.03	148.16	2.13	1.87	0.40	0.13
LTPS	384.16	368.21	2.04	15.95	3.25	1.08
LRPP	492.26	498.79	1.81	(6.53)	(1.18)	(0.39)
NRPP	466.03	468.27	1.27	(2.23)	(0.28)	(0.09)

4.22.6 The total sharing of Gains and Losses for FY 2021-22 has been summarised in the following Table:

Table 37: Total Sharing of (Gain)/Loss approved by the Commission in the True-up for FY 2021-22 (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP
(Gains)/ Losses passed to beneficiary for O&M Expenses	(0.08)	5.66	0.20	1.02	0.00
(Gains)/ Losses passed to beneficiary for Fuel Cost	3.06	(6.27)		(0.08)	0.09
(Gains)/Losses passed to beneficiary for Auxiliary Consumption	0.13	1.08		(0.39)	(0.09)
Grand Total	3.11	0.47	0.20	0.54	(0.01)

4.23 Reduction in Annual Fixed Charges

4.23.1 As discussed earlier the actual PAF for NTPS, KLHEP, LRPP and NRPP are lower than the normative PAF, the Annual Fixed Charges are to be disallowed on pro-rata basis as shown in the following Table:

**Table 38: Reduction of fixed costs as approved by the Commission for True-up for FY 2021-22
(Rs. Crore)**

Particulars	PAF (%) - Normative	PAF (%) - Actual	AFC (Rs. Crore)	Allowable AFC (Rs. Crore)	Disallowed AFC (Rs. Crore)
NTPS	50.00%	44.80%	30.08	26.96	(3.13)
LTPS	50.00%	52.30%	76.04	76.04	-
KLHEP	85.00%	83.57%	97.34	95.70	(1.64)
LRPP	85.00%	91.20%	89.92	89.92	-
NRPP	78.05%	82.70%	136.92	136.92	-

4.24 Summary of True-up for FY 2021-22

4.24.1 The Summary of true-up for FY 2020-21 is shown in the following Table:

Table 39: True-up ARR for Existing Generating Stations for FY 2020-21 as approved by the Commission (Rs. Crore)

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP		
		Tariff Order dated February 15, 2021	APGCL's Petition	Approved after Truing up	Tariff Order dated February 15, 2021	APGCL's Petition	Approved after Truing up	Tariff Order dated February 15, 2021	APGCL's Petition	Approved after Truing up	Tariff Order dated February 15, 2021	APGCL's Petition	Approved after Truing up
A	Annual Fixed Charges												
1	O&M expenses	21.27	23.46	58.44	43.63	43.79	63.83	32.14	32.25	32.14	22.64	22.64	22.64
2	Increase in AERC Tariff filing fees	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.10	0.10	0.10
3	Interest on Loans	0.03	0.05	0.05	0.00	0.01	0.01	18.09	18.91	14.76	2.62	2.49	2.94
4	Interest on WC	1.94	2.45	3.46	4.79	5.38	6.01	2.27	3.14	2.29	2.88	4.40	3.47
5	Depreciation	0.54	1.35	1.64	10.55	13.74	17.88	21.48	22.47	22.84	2.68	13.56	2.66
6	Return on Equity	3.10	8.90	8.90	15.16	23.05	23.05	10.64	23.94	23.94	2.44	12.50	12.50
7	Income Tax	0	4.01	0.00	0	13.56	0.00	0	7.23	0.00	0	8.70	0.00
8	Special R&M Expenses	0.00	0.00	0.00	18.00	0.00	0.00	12.00	5.76	5.76	0.00	0.00	0.00
9	Capacity Building	0.13	0.04	0.02	0.13	0.08	0.04	0.13	0.08	0.04	0.00	0.00	0.00
10	Less: Non-Tariff Income	-7.13	-6.58	-6.58	-9.22	-12.30	-26.97	-5.75	-11.84	-11.84	0.00	0.00	0.00
11	Fixed Cost	19.99	33.79	66.03	83.14	87.40	83.95	91.00	101.94	89.91	33.36	64.40	44.31
B	Fuel Cost	21.90	34.04	31.97	71.21	78.24	78.24	0.00	0.00	0.00	58.37	88.93	88.93
C	Total ARR	41.89	67.83	98.00	154.35	165.65	162.19	91.00	101.94	89.91	91.73	153.32	133.24
D	Incentive for Generation			0.00			0.00		2.07	2.07			0.00
E	Sharing of (Gains)/ Losses			3.11			0.47			0.20			0.54
F	Reduction in Fixed Cost on Account of PAF			(3.13)			0.00			1.64			0.00
G	Net ARR	41.89	67.83	97.98	154.35	165.65	162.66	91.00	104.01	90.54	91.73	153.32	133.78

Sr. No.	Particulars	NRPP		
		Tariff Order dated March 21, 2022	APGCL's Petition	Approved after Truing up
A	Annual Fixed Charges			
1	O&M expenses	22.90	30.20	30.20
2	Increase in AERC Tariff filing fees	0.00	0.00	0.00
3	Interest on Loans	50.05	54.99	51.69
4	Interest on WC	5.54	5.74	4.19
5	Depreciation	36.27	29.74	18.75
6	Return on Equity	33.90	32.49	32.09
7	Income Tax	0.00	11.81	0.00
8	Special R&M Expenses	0.00	0.00	0.00
9	Capacity Building	0.00	0.00	0.00
10	Less: Non-Tariff Income	0.00	0.00	0.00
11	Fixed Cost	148.65	164.98	136.92
B	Fuel Cost	87.24	60.89	59.02
C	Total ARR	235.88	225.87	195.95
D	Incentive for Generation			
E	Sharing of (Gains)/ Losses			-0.01
F	Reduction in Fixed Cost on Account of PAF			
G	Net ARR	235.88	225.87	195.94

4.25 Net ARR for Effective Capacity

4.25.1 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.

4.25.2 The Commission has considered the effective capacity of 49.6 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.

4.25.3 The following Table shows the Net ARR of NTPS and LTPS to be considered for FY 2020-21 after adjusting for effective capacity:

Table 40: True-up ARR for Existing Generating Stations for FY 2021-22 as approved by the Commission at Effective Capacity (Rs. Crore)

Particulars	NTPS	LTPS
Total Fixed Cost Approved on Installed Capacity	72.48	111.25
Reduction of Fixed cost due to Decommissioning	42.40	35.21
Total Fixed Cost approved at effective Capacity	30.08	76.04
Add: Capacity Building Charges	0.02	0.04
Add: AERC Filing Fees	0.10	0.10
Add: Special R&M	-	-
Less: Non-Tariff Income	6.58	26.97
Total Fixed Cost approved for effective capacity	23.62	49.21
Add: Fuel Cost	31.97	78.24
Add: Sharing of (gains)/loss	3.11	0.47
Add: Reduction in Fixed Cost on Account of PAF	(3.13)	-
Net ARR approved for effective capacity	55.58	127.92

4.26 Revenue from Sale of Power

4.26.1 APGCL submitted the Station-wise revenue from sale of power for FY 2021-22 as shown in the Table below, as per Audited Accounts:

Table 41: Revenue from Sale of Power as claimed by APGCL (Rs. Crore)

Particulars	Fixed/ Capacity charges	Variable charges	Total Revenue as per Accounts of FY 2021-22	Approved as per order of February 15 2021	Total Revenue claimed in True up for FY 2021-22
NTPS	20.04	31.18	51.22	41.89	51.22
LTPS	83.16	89.83	172.99	154.35	172.99
LRPP	44.73	47.47	92.20	91.00	92.20
KLHEP	33.36	77.65	111.01	91.73	111.01
NRPP	82.86	67.80	150.66	152.15**	150.66
MSHEP	0.00	7.17	7.17	0	
Total	264.15	321.10	585.25	531.12	578.08
True up credit note adjustment in tariff recovery of FY 2021-22 as per Tariff Order dated 15.02.2021			-63.24		
Being the provision made for reversing revenue surplus after truing up for F.Y. 2020-21 as per MYT Order dated 21.03.2022			-32.32		
Total Amount (Rs. Crore)			489.69	531.12	578.08

**Net ARR approved for NRPP in tariff order dated 21st March 2022.

4.26.2 APGCL submitted that the above revenue does not include Rs. 7.17 Crore recovered on account of MSHEP, which is reflecting in the Audited Accounts of FY 2021-22.

Commission's Analysis

4.26.3 The Commission has considered the actual revenue of Rs. 578.08 Crore billed in FY 2021-22 for truing up, based on the audited accounts.

5 Annual Performance Review for FY 2022-23

5.1 Methodology for Annual Performance Review

5.1.1 The Commission had approved the revised ARR for FY 2022-23 for existing Generating Stations in the Tariff Order dated March 21, 2022.

5.1.2 Regulation 9.3 of the MYT Regulations, 2018 specifies that the Commission shall undertake the APR and True-up for the respective years of the Control Period from FY 2022-23 to FY 2024-25, 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)***

5.1.3 APGCL submitted the APR Petition for FY 2022-23, supported by actual information available till September 2021 and estimated values for the next six months.

5.1.4 From the above said Regulation, the main objective of the APR is to compare the performance targets for FY 2022-23 vis-à-vis forecast approved in the Tariff Order for FY 2022-23. The Revenue Gap/(Surplus) arising out of APR for FY 2022-23 shall not be passed on to the beneficiaries, and the same shall be considered at the time of Truing-up only.

5.1.5 In the present Chapter, the Commission has analysed the revised submission of all the elements of ARR vis-à-vis values approved in the Tariff Order for FY 2022-23. The Commission has computed the Revenue Gap/(Surplus) as an indication of the performance in FY 2022-23. 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 2022-23.

5.2 Installed and Effective Capacity of FY 2022-23

5.2.1 APGCL submitted the following installed and effective capacity for FY 2022-23.

Table 42: Installed and Effective Capacity for FY 2022-23

Station	Installed Capacity (MW)	No. of Units	Units Available for Generation & Capacity in MW	Effective Capacity (Approved in Tariff Order as March 2022)	Effective Capacity (Actual)
NTPS	119.5	2	GT 2/3 (21 MW) & WHRU U#6 (22.50 MW) - Till 29.06.2022 2 (17 MW), 3(15MW), 6 (9 MW- WHRU) - After 29.06.2022	43.5	39.89
LTPS	142.2	4	5,6,7(20 MW Each),8 (37.20 MW- WHRU)	97.2	97.2
KLHEP	100	2	1 (50), 2(50)	100	100
LRPP	69.755	7	1-7 (9.965 each)	69.755	69.755
NRPP	98.4	2	1(62.25), 2(36.15)	98.4	98.4

5.2.2 The Commission has considered the effective capacity for FY 2022-23 as submitted by APGCL in the above Table. The Commission has accordingly reduced the fixed cost derived after APR of FY 2022-23 to the extent of effective capacity with respect to the installed capacity of each of the above Stations in subsequent section of this Chapter.

5.2.3 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 LRPP and NRPP as none of their Units are decommissioned/proposed to be decommissioned in FY 2022-23.

5.3 Plant Availability Factor (PAF)/Capacity Index

5.3.1 APGCL submitted that as per Regulation 48.1 of the MYT Regulations, 2021 the Normative Plant Availability factor for recovery of full fixed charges, is 50% for FY 2022-23 for NTPS and LTPS. It is expected that NTPS and LTPS will achieve the normative plant availability factor based on 6 months actual number.

5.3.2 Further, Regulation 50, of MYT Regulations, 2021 specifies normative PAF for KLHEP as 85% for FY 2022-23. It is expected that KLHEP will not be able to achieve the normative plant availability factor based on 6 months actual number.

5.3.3 APGCL submitted that Commission had approved NAPAF of 85% for LRPP for FY 2022-23 in its order of March 2022. It is expected that LRPP will be able to achieve the normative plant availability factor based on 6 months actual number.

5.3.4 APGCL mentioned that Commission had approved NAPAF of 85% for NRPP for FY 2022-23 in its order of March 2022. It is expected that NRPP will not be able to achieve the normative plant availability factor based on 6 months actual number.

5.3.5 APGCL requested the Commission to approve the revised estimated Availability for FY 2022-23 as shown in the Table below:

Table 43: Availability as submitted by APGCL for FY 2022-23

Sl. No.	Station	Tariff Order dated March 21, 2022	Apr-Sept (actual)	Oct-March (estimated)	Estimated total
1	NTPS	50.00%	59.44%	50.00%	50.00%
2	LTPS	50.00%	69.81%	50.00%	50.00%
3	KLHEP	85.00%	79.75%	85.00%	82.37%
4	LRPP	85.00%	91.70%	85.00%	85.00%
5	NRPP	85.00%	52.27%	8.00%	68.63%

Commission's Analysis

5.3.6 In accordance with the MYT Regulations, 2021, APGCL shall be eligible to recover full fixed charges if NAPAF is achieved as specified in MYT Regulations, 2021. Accordingly, the Commission approves NAPAF as per MYT Regulations, 2021 as shown in the following Table:

Table 44: Target PAF/Capacity Index for recovery of full fixed Charges

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

5.4 Plant Load Factor (PLF)

5.4.1 48.2 of the Tariff Regulations, 2021 the Normative Plant Load factor for NTPS is 50% for FY 2022-23. The Commission had approved the same for NTPS in its order dated March 2022. It is expected that NTPS will not be able to achieve the normative plant load factor based on 6 months actual number as per MYT Regulations, 2021, NAPLF

for availing incentive for LTPS is specified as 66% for FY 2022-23. APGCL has estimated NAPLF of 64.20% for FY 2022-23.

5.4.2 APGCL submitted that as per Regulation 50.1 of the Tariff Regulations, 2021, normative PLF for KLHEP as 44.5%. It is expected that KLHEP will be able to achieve the normative plant load factor based on 6 months actual number.

5.4.3 APGCL submitted that as per Regulation 48.2(b) of the Tariff Regulations, 2021 Commission had approved 90% and 85% as PLF for incentive for LRPP and NRPP. APGCL expected that LRPP and NRPP will not be able to achieve the normative plant load factor based on 6 months actual number. The approved and estimated numbers are shown in the table below.

Table 45: Plant Load Factor submitted by APGCL for FY 2022-23

Sl. No.	Station	Tariff Order dated February 15, 2021	Apr-Sep (actual)	Oct-March (estimated)	Estimated total
1	NTPS	50.00%	49.57%	50.00%	49.79%
2	LTPS	66.00%	62.40%	66.00%	64.20%
3	KLHEP	44.50%	67.12%	44.5%	44.50%
4	LRPP	90.00%	81.08%	90.00%	85.54%
5	NRPP	85.00%	51.90%	85.00%	68.10%

Commission's Analysis

5.4.4 APGCL shall be eligible for incentive only if actual PLF is higher than NAPLF specified in MYT Regulations, 2021. 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, 2021.

5.5 Auxiliary Consumption

5.5.1 APGCL submitted that the Auxiliary Consumption of NTPS and LTPS is estimated to be higher than the approved Auxiliary Consumption in FY 2022-23 due to part loading of Units resulting from low/non-availability of gas, which is an uncontrollable factor.

5.5.2 APGCL submitted that as per Regulation 50.1 of the Tariff Regulations, 2021 the Normative Auxiliary energy consumption, is 0.50% for KLHEP. APGCL expected that KLHEP will achieve the auxiliary consumption within normative value.

5.5.3 APGCL expected that LRPP and NRPP will achieve the auxiliary consumption at per with the normative value.

5.5.4 APGCL estimated the Auxiliary Consumption of 4.99% for NTPS, 7.04% for LTPS, 0.50% for KLHEP, 3.50% for LRPP and 5.00% for NRPP in the APR of FY 2022-23.

Commission’s Analysis

5.5.5 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 2022-23 vis-à-vis Auxiliary Consumption approved in the Tariff Order dated March 21, 2022 for FY 2022-23. The Commission is of the view that the availability of gas in the required quantity and at desired pressure is the responsibility of APGCL only, and no relaxation can be given on account of lower gas availability or lower gas pressure.

5.5.6 The Commission considers the Auxiliary Consumption for existing Generating Stations as per MYT Regulations, 2021, for the purpose of APR, as shown in the following Table:

Table 46: Auxiliary Consumption considered by the Commission for FY 2022-23

Sl. No.	Station	Tariff Order dated March 21, 2022	Estimated by APGCL	Approved for APR
1	NTPS	4.50%	4.99%	4.50%
2	LTPS	5.50%	7.04%	5.50%
3	KLHEP	0.50%	0.50%	0.50%
4	LRPP	3.50%	3.50%	3.50%
5	NRPP	5.00%	5.00%	5.00%

5.6 Gross Generation and Net Generation

5.6.1 The Gross Generation and Net Generation estimated by APGCL for FY 2022-23 is shown in the following Table:

Table 47: Gross and Net Generation as submitted by APGCL for FY 2022-23

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	177.56	168.69
2	LTPS with WHRU	487.20	452.90
3	KLHEP	397.77	395.78
4	LRPP	503.34	485.72
5	NRPP	449.05	426.60

Commission's Analysis

5.6.2 The Commission observed that during the first half of FY 2022-23, 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 2022-23 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 2022-23.

5.6.3 The Commission has computed the Net Generation based on above estimated Gross Generation and approved Auxiliary Consumption for FY 2022-23. The Gross Generation and Net Generation approved by the Commission in the APR for FY 2022-23 are shown in the following Table:

Table 48: Gross Generation and Net Generation considered by the Commission in the APR for FY 2022-23

Sl. No.	Station	Gross Generation (MU)	Net Generation (MU)
1	NTPS	177.56	169.57
2	LTPS	487.20	460.40
3	LRPP	503.34	485.72
4	NRPP	449.05	426.60
4	Total Thermal	1617.15	1,542.29
5	KLHEP	397.77	395.78
6	Total APGCL	2014.92	1,938.07

5.7 Station Heat Rate

- 5.7.1 APGCL submitted that the SHR of NTPS is estimated to be higher than the approved SHR in FY 2022-23 due to part loading of Units resulting from low/non-availability of gas along with evacuation constraints and old nature of the plant equipment.
- 5.7.2 As per Regulation 48.4 of the MYT Regulations, 2021, the normative SHR is 3200 kcal/kWh for FY 2022-23 for LTPS in partial CC mode of operation. The actual SHR of LTPS in the first six (6) months has been lower than normative. APGCL has considered SHR at actual for the first 6 months and normative for rest of the year.
- 5.7.3 APGCL submitted that the SHR of LRPP in the first six (6) months has been lower than the normative. APGCL has considered SHR at actual for the first 6 months and normative for rest of the year.
- 5.7.4 As per the Tariff order dated 21st March 2022 the Commission has fixed GSHR for both the open cycle and closed cycle mode. In the Petition APGCL has taken the open cycle mode only as NRPP is not operating in close cycle mode.
- 5.7.5 The SHR approved by the Commission and as submitted by APGCL for FY 2022-23 is shown in the following Table:

Table 49: Gross Station Heat Rate (kcal/kWh) as projected by APGCL for FY 2022-23

Sl. No.	Station	Tariff Order dated March 21, 2022	APGCL's submission
1	NTPS	3900	4018
2	LTPS	3200	3200
3	LRPP	2150	2150
4	NRPP	1988(CC), 2927(OC)*	2927

*As per submission of APGCL

Commission's Analysis

- 5.7.6 The Commission observed that the SHR claimed for NTPS has been higher than the normative SHR specified in the Regulations. For the purpose of APR, the Commission has considered the Normative SHR of NTPS.
- 5.7.7 The Commission observed that the SHR claimed for LTPS and LRPP has been at par with the normative SHR specified in the Regulations. For the purpose of APR, the Commission has considered the Normative SHR of LTPS and LRPP. For NRPP the Commission has taken the approved Normative figure of Combined Cycle mode

as per the Tariff order dated March 21 2022. However, the Commission shall be considering the normative SHR at the time of Truing-up of FY 2022-23 and accordingly shall be working out the sharing of losses/(gains) on account of higher/lower SHR with respect to the normative.

5.7.8 The following Table shows the SHR approved by the Commission for APR of FY 2021-22:

Table 50: Gross Station Heat Rate (kcal/kWh) considered in APR for FY 2022-23

Sl. No.	Station	Tariff Order dated March 21, 2022	APGCL's submission	Approved in APR
1	NTPS	3900	4438	3900
2	LTPS	3200	2789	3200
3	LRPP	2150	2163	2150
4	NRPP	1951	2080	2018

5.8 Fuel Cost

5.8.1 APGCL submitted that as per Regulation 10 of the MYT Regulations, 2021, Fuel Price and GCV are uncontrollable items. The actual Fuel Price and GCV are shown in the table below:

Table 51: Actual Plant-wise GCV and Price as submitted by APGCL for FY 2022-23

Sl. No.	Station	Wtd. Avg. GCV of gas (kcal/SCM)	Actual Wtd. Avg. Price of gas (Rs./1000 SCM) (Apr-Sep)	Estimated Wtd. Avg. Price of gas (Rs./1000 SCM) (Oct-Mar)	Wtd. Avg. Price of gas (Rs./1000 SCM)
1	NTPS	9251.93	12672.10	17427.59	15049.85
2	LTPS	9959.34	17865.44	23405.93	20635.69
3	LRPP	9235.46	20654.31	28869.07	24761.69
4	NRPP	9251.93	12739.04	17427.59	15083.32

5.8.2 APGCL submitted that for H1 of FY 2022-23, 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 2022-23, the actual fuel price for October 2022 has been considered.

5.8.3 Accordingly, APGCL estimated the fuel cost of Rs.116.05 Crore for NTPS for FY

2022-23 as shown in the following Table:

Table 52: Total Fuel Cost for NTPS for FY 2022-23 as submitted by APGCL (Rs. Crore)

Particulars	Unit	Approved as per Order of March 21, 2022	April - Sep (Actual)	Oct -March (Estimated)	FY 2021-22 (Estimated)
Gross Generation	MU	195.09	87.77	89.79	177.56
Heat Rate	kcal/kWh	3900.00	5,052.03	4,017.76	4,017.76
GCV of gas	kcal/SCM	9204.80	9,251.93	9,251.93	9,251.93
Overall Heat	G. cal.	760856.22	4,43,411.68	3,60,754.73	7,13,389.56
Gas consumption	M. SCM	82.66	47.93	38.99	77.11
Price of Gas	Rs./1000 SCM	5617.39	12,672.10	17,427.59	15,049.85
Total cost of Gas	Rs. Crore	46.43	60.73	67.95	116.05

5.8.4 Similarly, APGCL estimated the fuel cost of Rs. 323.03 Crore for LTPS and Rs. 290.15 Crore for LRPP for FY 2022-23 as shown in the following Tables:

Table 53: Total Fuel Cost for LTPS for FY 2022-23 as submitted by APGCL (Rs. Crore)

Particulars	Unit	Approved as per Order of March 21, 2022	April - Sep (Actual)	Oct -March (Estimated)	FY 2021-22 (Estimated)
Gross Generation	MU	425.74	274.33	212.87	487.20
Heat Rate	kcal/kWh	3200	2355.20	3200.00	3200.00
GCV of gas	kcal/SCM	9337.66	9959.34	9959.34	9959.34
Overall Heat	G. cal.	13,62,355.20	646096.19	681177.60	1559024.00
Gas consumption	M. SCM	145.9	64.87	68.40	156.54
Price of Gas	Rs./1000 SCM	7932.73	17865.44	23405.93	20635.69
Total cost of Gas	Rs. Crore	115.74	115.90	160.09	323.03

Table 54: Total Fuel Cost for LRPP for FY 2022-23 as submitted by APGCL (Rs. Crore)

Particulars	Unit	Approved as per Order of March 21, 2022	April - Sep (actual)	Oct - March (estimated)	FY 2021-22 (estimated)
Gross Generation	MU	519.4	243.64	259.70	503.34

Particulars	Unit	Approved as per Order of March 21, 2022	April - Sep (actual)	Oct - March (estimated)	FY 2021-22 (estimated)
Heat Rate	kcal/kWh	2150	2132.68	2150.00	2150.00
GCV of gas	kcal/SCM	9337.66	9235.46	9235.46	9235.46
Overall Heat	G. cal.	11,16,700.82	519603.54	558350.41	1082174.04
Gas consumption	M. SCM	119.59	56.26	60.46	117.18
Price of Gas	Rs./1000 SCM	7932.73	20654.31	28869.07	24761.69
Total cost of Gas	Rs. Crore	94.87	116.20	174.53	290.15

5.8.1 Similarly, APGCL estimated the fuel cost of Rs. 214.28 Crore for NRPP for FY 2022-23 as shown in the following Tables:

Table 63: Total Fuel Cost for NRPP for FY 2022-23 as submitted by APGCL (Rs. Crore)

Particulars	Unit	Approved as per Order of March 21, 2022	April - Sep (Actual)	Oct - March (Estimated)	FY 2021-22 (Estimated)
Gross Generation	MU	732.69	217.30	231.76	449.05
Heat Rate	kcal/kWh	1951.05	2830.15	2927.00	2927.00
GCV of gas	kcal/SCM	9204.8	9251.93	9251.93	9251.93
Overall Heat	G. cal.	14,29,505.60	614978.17	678352.01	1314375.22
Gas consumption	M. SCM	155.3	66.47	73.32	142.07
Price of Gas	Rs./1000 SCM	5617.39	12739.04	17427.59	15083.32
Total cost of Gas	Rs. Crore	87.24	84.68	127.78	214.28

Commission's Analysis

5.8.2 The Commission in Tariff Order dated March 21, 2022 had approved the Fuel Cost for NTPS, LTPS, LRPP and NRPP for FY 2022-23 based on approved performance parameters and latest GCV and price of Fuels available at that time.

5.8.3 For the purpose of APR, the Commission has adopted the same approach and approves the Fuel Cost based on approved performance parameters in this Order and latest fuel price and GCV.

5.8.4 The Commission has verified the weighted average GCV and price of gas as per fuel bills submitted by APGCL for April 2022 to September 2022. The Commission observed that the GCV and fuel price is in line with the submission of APGCL for H1 of FY 2022-23. Accordingly, the Commission has considered the GCV and fuel prices as submitted by APGCL for estimation of fuel cost in APR of FY 2022-23.

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

Table 55: GCV and Landed Price of Gas for FY 2022-23 considered by the Commission

Station	Particulars	Approved for APR
NTPS	GCV of Gas (kcal/SCM)	9,251.93
	Price of Gas (Rs. /1000SCM)	15049.85
LTPS	GCV of Gas (kcal/SCM)	9959.34
	Price of Gas (Rs. /1000SCM)	20635.69
LRPP	GCV of Gas (kcal/SCM)	9235.46
	Price of Gas (Rs. /1000SCM)	24761.69
NRPP	GCV of Gas (kcal/SCM)	9251.93
	Price of Gas (Rs. /1000SCM)	15083.32

5.10.1 The Commission has estimated the fuel cost for NTPS, LTPS, LRPP and NRPP 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, LRPP and NRPP for FY 2022-23 for APR purposes is shown in the following Table:

Table 56: Fuel Cost considered by the Commission in APR for FY 2022-23

Sl. No.	Particulars	Unit	NTPS	LTPS	LRPP	NRPP
1	Gross Generation	MU	177.56	487.19	503.34	449.05
2	Heat Rate	kcal/kWh	3,900.00	3200.00	2150.00	2017.85
3	Overall Heat	Giga cal.	9,251.93	9,959.34	9,959.34	9,251.93
4	GCV of gas	kcal/SCM	6,92,480.10	15,59,024.00	10,82,174.04	9,06,119.28
5	Gas consumption	M. SCM	74.85	156.54	108.66	97.94
6	Price of Gas	Rs./1000 SCM	15,049.85	20,635.69	24,761.69	15,083.32
7	Total Cost of Gas	Rs. Crore	112.64	323.03	269.06	147.72

5.11 O&M Expenses

5.11.1 APGCL submitted that the Commission in the Tariff Order dated March 21, 2022 had

approved O&M expenses of Rs. 42.24 Crore for NTPS, Rs 42.88 Crore for LTPS, Rs. 33.31 Crore for KLHEP, Rs. 30.27 Crore for LRPP and Rs 22.90 Crore for FY 2022-23, which works out to a total of Rs. 171.60 Crore.

5.11.2 Based on the effective capacity, APGCL claimed the O&M Expenses of Rs. 21.35 Crore for NTPS, Rs. 42.67 Crore for LTPS, Rs. 35.01 Crore for KLHEP, Rs. 30.27 Crore for LRPP and Rs 44.79 Crore which works out to a total of Rs. 174.09 Crore.

5.11.3 In addition to above, APGCL has claimed amount of Rs. 0.10 Crore each for NTPS, LTPS and LRPP towards increase in AERC Tariff Filing Fees.

Commission's Analysis

5.11.4 The Commission in the Tariff Order dated March 21, 2022 has computed O&M expenses on normative basis as per MYT Regulations, 2021 for FY 2022-23. The Commission had considered an escalation of 6.30% on approved values of FY 2021-22.

5.11.5 The Commission in the APR for FY 2022-23 has computed the normative O&M Expenses in accordance with Regulation 51 of the MYT Regulations, 2021. The normative O&M expenses approved in the True-up of FY 2021-22 have been escalated by 6.30% to compute the normative O&M expenses for FY 2022-23 as shown in the table below:

Table 57: Normative O&M expenses for FY 2022-23 considered in APR (Rs. Crore)

Station	Approved as per Order of March 21, 2022	APGCL's Submission (Effective capacity)	Approved Normative O&M (Full capacity)
NTPS	15.38	21.35	54.82
LTPS	29.31	42.67	62.62
KLHEP	33.31	35.01	33.43
LRPP	30.27	30.27	30.27
NRPP	22.90	44.79	22.90

5.11.6 The O&M expenses for LRPP have been estimated based on the O&M norm of Rs. 43.40 Lakh/MW, which has been derived after escalating O&M norm of Rs. 32.46 Lakh/MW considered in Truing-up of FY 2021-22 by 6.30% as specified in the MYT Regulations, 2021. The total O&M expenses for LRPP works out to Rs 30.27 Crore for FY 2021-22.

5.11.7 The O&M expenses for NRPP have been estimated based on the O&M norm of Rs. 23.27 Lakh/MW, which has been derived after escalating O&M norm of Rs. 22.48 Lakh/MW considered in Truing-up of FY 2021-22 by 6.30% as specified in the MYT Regulations, 2021. The total O&M expenses for NRPP works out to Rs 22.90 Crore for FY 2021-22.

5.11.8 In addition to above, the Commission has approved amount of Rs. 0.10 Crore for NTPS, LTPS and LRPP towards increase in AERC Tariff Filing Fees as submitted by APGCL (shown separately in ARR Tables in subsequent sections).

5.12 Capital Expenditure and Capitalisation

5.12.1 APGCL has claimed the following Capital Expenditure and Capitalisation in the APR for FY 2022-23:

Table 58: Capital Expenditure and Capitalisation as submitted by APGCL for FY 2022-23 (Rs. Crore)

Station	Particulars	APGCL's submission
NTPS	Capital Expenditure	5.75
	Capitalisation	5.75
LTPS	Capital Expenditure	15.47
	Capitalisation	15.47
KLHEP	Capital Expenditure	23.90
	Capitalisation	23.90
LRPP	Capital Expenditure	4.70
	Capitalisation	4.70
NRPP	Capital Expenditure	0.00
	Capitalisation	0.00

Commission's Analysis

6.1.1 The Commission in the Tariff Order dated February March, 2022 had approved the capital expenditure and capitalisation for the existing generating stations for FY 2022-23. The Commission has analysed the revised Capex plan submitted by APGCL in

its Petition. The Work wise approval for the revised capital expenditure plan is provided in **Annexure 3**. For the purpose of the APR, the Commission has provisionally considered the Capital Expenditure and Capitalisation as considered by the Commission in Annexure 3 for NTPS, LTPS, KLHEP and LRPP. The Commission shall however, revisit the Capital Expenditure for approval at the time of Truing-up of FY 2022-23 based on actual after prudence check.

Table 59: Capital Expenditure and Capitalisation as considered by the Commission for FY 2022-23 (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP*	LRPP	NRPP
Capital Expenditure	5.06	19.93	20.11	4.59	0.00
Capitalisation	5.06	19.93	20.11	4.59	0.00

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

Table 60: Funding of Capitalisation as considered by the Commission for FY 2022-23 (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP
Loan	2.26	13.67	13.67	0.10	0.00
Equity	0.00	0.00	0.00	0.00	0.00
Grant	2.80	6.26	6.44	4.49	0.00
Total Capitalisation	5.06	19.93	20.11	4.59	0.00

6.2 Depreciation

6.2.1 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. 1.42 Crore for NTPS, Rs. 14.13 Crore for LTPS, Rs. 22.93 Crore for KLHEP, Rs. 13.56 Crore for LRPP and Rs 42.08 Crore for NRPP for FY 2022-23.

Commission's Analysis

6.2.2 The Commission has considered the opening GFA for FY 2022-23 equivalent to the closing GFA for FY 2021-22 as approved in this Order. The Commission has

computed depreciation as per scheduled rates specified in the MYT Regulations, 2018.

6.2.3 As per Regulation 33 of the MYT Regulations, 2021, 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.

6.2.4 Further, in accordance with Regulation 33 of the MYT Regulations, 2021, the Commission has not considered the depreciation on assets funded through grants or capital subsidy for FY 2022-23.

6.2.5 The depreciation provisionally approved in the APR for FY 2022-23 is given in the Table below:

Table 61: Station-wise depreciation considered for APR for FY 2022-23 (Rs. Crore)

Station	Particulars	Approved as per Order of March 21, 2022	APGCL's submission	Approved after APR
NTPS	Depreciation	1.37	1.42	1.44
	Less: Depreciation on assets funded by Grants	0.1	0.00	0.02
	Net Depreciation	1.28	1.42	1.42
LTPS	Depreciation	18.97	14.13	19.21
	Less: Depreciation on assets funded by Grants	2.5	0.00	0.56
	Net Depreciation	16.47	14.13	18.65
KLHEP	Depreciation	24.1	22.93	24.03
	Less: Depreciation on assets funded by Grants	2.53	0.00	0.58
	Net Depreciation	21.56	22.93	23.45
LRPP	Depreciation	13.73	13.56	13.72
	Less: Depreciation on assets funded by Grants	11.04	0.00	11.07
	Net Depreciation	2.69	13.56	2.65
NRPP	Depreciation	36.27	42.08	37.50
	Less: Depreciation on assets funded by Grants	0.00	0.00	0.00
	Net Depreciation	36.27	42.08	37.50

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

6.3 Interest on Loan Capital

6.3.1 APGCL submitted that it has computed the Interest on long-term loan on normative basis for FY 2022-23. The Petitioner has considered normative loan portfolio and the repayment shown is considered equal to the depreciation for FY 2022-23. The interest rate has been considered as the expected weighted average rate of interest for FY 2022-23. APGCL has claimed the Interest on Loan of Rs. 0.06 Crore for NTPS, Rs. 0.07 Crore for LTPS, Rs. 15.19 Crore for KLHEP, Rs. 0.94 Crore for LRPP and Rs 48.08 Crore for FY 2022-23.

Commission's Analysis

6.3.2 In the Tariff Order dated March 21, 2022, the Commission has approved Interest and finance charges on normative basis for FY 2022-23 as per MYT Regulations, 2021. For the APR, the Commission has considered the same approach and provisionally approved the Interest and finance charges on normative basis.

6.3.3 The closing net normative loan for FY 2021-22 as approved in this Order has been considered as opening net normative loan for FY 2022-23. 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, 2021, weighted average rate of interest shall be computed based on actual outstanding loan as on April 1, 2022. The Commission has computed the weighted average interest rate of 10.20% for FY 2022-23.

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

Table 62: Interest on Loan Capital considered for APR for FY 2022-23 (Rs. Crore)

Station	Particulars	Approved as per Order of March 21, 2022	APGCL Submission	Approved in APR
NTPS	Net Normative Opening Loan	0.00	0.02	0.00
	Addition of normative loan during the year	0.66	2.59	2.26
	Normative Repayment during the year	1.28	1.42	1.42
	Net Normative Closing Loan	0.00	1.19	0.84
	Interest Rate*	10.93%	12.09%	12.09%
	Interest on Loan Capital	0.00	0.07	0.05

Station	Particulars	Approved as per Order of March 21, 2022	APGCL Submission	Approved in APR
	Add: Bank Charges	0.00	0.00	0.00
	Total Interest on Loan Capital	0.00	0.07	0.05
LTPS	Net Normative Opening Loan	00.0	0.00	0.00
	Addition of normative loan during the year	13.67	15.47	13.67
	Normative Repayment during the year	16.47	14.13	18.65
	Net Normative Closing Loan	0.00	1.34	0.00
	Interest Rate*	10.93%	12.09%	12.09%
	Interest on Loan Capital	0.00	0.08	0.00
	Add: Bank Charges	0.00	0.00	0.00
	Total Interest on Loan Capital	0.00	0.08	0.00
KLHEP	Net Normative Opening Loan	153.46	151.79	123.72
	Addition of normative loan during the year	19.40	17.30	13.67
	Normative Repayment during the year	21.56	22.93	23.45
	Net Normative Closing Loan	151.30	146.16	113.94
	Interest Rate*	10.93%	12.09%	12.09%
	Interest on Loan Capital	16.66	18.01	14.37
	Add: Bank Charges	0.00	0.00	0.00
	Total Interest on Loan Capital	16.65	18.01	14.37
LRPP	Net Normative Opening Loan	24.43	15.92	26.83
	Addition of normative loan during the year	0.65	0.10	0.10
	Normative Repayment during the year	2.69	13.56	2.65
	Net Normative Closing Loan	22.39	2.46	24.28
	Interest Rate*	10.93%	12.09%	12.09%
	Interest on Loan Capital	2.56	1.11	3.09
	Add: Bank Charges	0.00	0.00	0.00
	Total Interest on Loan Capital	2.56	1.11	3.09
NRPP	Net Normative Opening Loan	476.05	492.56	491.52
	Addition of normative loan during the year	0.00	0.00	-

Station	Particulars	Approved as per Order of March 21, 2022	APGCL Submission	Approved in APR
	Normative Repayment during the year	36.27	42.08	37.50
	Net Normative Closing Loan	439.78	450.48	454.03
	Interest Rate*	10.93%	12.09%	12.09%
	Interest on Loan Capital	50.05	57.02	57.17
	Add: Bank Charges	0.00	0.00	-
	Total Interest on Loan Capital	50.05	57.02	57.17

6.4 Return on Equity (RoE)

6.4.1 APGCL submitted the RoE at a rate of 15.5% in accordance with the MYT Regulations, 2021. APGCL submitted that there has been no addition in Equity in FY 2022-23. Further, it submitted that the actual Tax paid is being claimed separately. APGCL has estimated the RoE for FY 2022-23 same as approved in Tariff Order March 21, 2022. APGCL claimed RoE of Rs. 8.90 Crore for NTPS, Rs. 23.05 Crore for LTPS, Rs. 23.94 Crore for KLHEP, Rs. 12.50 Crore for LRPP and Rs 34.70 Crore for NRPP for FY 2021-22 for the purpose of APR.

Commission's Analysis

6.4.2 The Commission has approved the RoE in accordance with Regulation 34 of the MYT Regulations, 2021. 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 63: Return on Equity considered by the Commission for FY 2022-23 (Rs. Crore)

Station	Particulars	Approved as per Order of March 21, 2022	APGCL's submission	Approved in APR
NTPS	Opening Equity	55.00	57.42	57.42
	Additional during Year	0.00	0.00	0.00
	Closing Equity	55.00	57.42	57.42
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	8.53	8.90	8.90
LTPS	Opening Equity	143.08	148.69	148.69
	Additional during Year	0.00	0.00	0.00
	Closing Equity	143.08	148.69	148.69

	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	22.18	23.05	23.05
KLHEP	Opening Equity	68.65	154.42	154.42
	Additional during Year	0.00	0.00	0.00
	Closing Equity	68.65	154.42	154.42
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	10.64	23.94	23.94
LRPP	Opening Equity	15.74	80.63	80.63
	Additional during Year	0.00	0.00	0.00
	Closing Equity	15.74	80.63	80.63
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	2.44	12.50	12.50
NRPP	Opening Equity	218.69	223.84	218.69
	Additional during Year	0.00	0.00	0.00
	Closing Equity	218.69	223.84	218.69
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	33.90	34.70	33.90

6.5 Interest on Working Capital (IoWC)

6.5.1 APGCL submitted that the Commission in Tariff Order dated March 21, 2022 had approved IoWC of Rs.22.46 Crore for FY 2022-23. As against this, APGCL has estimated IoWC of Rs. 41.91 Crore for FY 2021-22 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

6.5.2 The Commission has computed IoWC in accordance with Regulation 37 of the MYT Regulations, 2021. For computation of working capital requirement, the Commission has considered the fuel cost and O&M Expenses on normative basis.

6.5.3 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%.

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

2022-23 is shown in the following Table:

Table 64: Interest on Working Capital considered for APR for FY 2022-23 (Rs. Crore)

Station	Particulars	Approved as per order of February 15 2021	APGCL's submission	Approved in APR
NTPS	Fuel Cost for one month	3.78	9.67	9.64
	O&M Expenses for one month	3.52	1.78	4.57
	Maintenance Spares-30% of O&M	12.67	6.40	16.45
	Receivables for two months	16.09	24.64	30.57
	Total Working Capital Requirement	36.06	42.49	61.22
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	3.61	4.49	6.47
LTPS	Fuel Cost for one month	9.64	26.92	23.52
	O&M Expenses for one month	3.57	3.56	5.22
	Maintenance Spares-30% of O&M	12.86	12.80	18.79
	Receivables for two months	34.87	71.75	65.28
	Total Working Capital Requirement	60.96	115.02	112.80
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	6.10	12.16	11.93
KLHEP	O&M Expenses for one month	2.78	2.92	2.79
	Maintenance Spares-15% of O&M	5.00	10.50	5.02
	Receivables for two months	16.47	20.98	19.04
	Total Working Capital Requirement	24.25	34.40	26.85
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	2.42	3.64	2.84
LRPP	Fuel Cost for one month	7.91	24.18	23.14
	O&M Expenses for one month	2.52	2.52	2.52
	Maintenance Spares-30% of O&M	9.08	9.08	9.08
	Receivables for two months	28.41	65.18	61.52
	Total Working Capital Requirement	47.92	100.96	96.27
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	4.79	10.68	10.18
NRPP	Fuel Cost for one month	7.27	17.86	20.09
	O&M Expenses for one month	1.91	3.73	1.91
	Maintenance Spares-30% of O&M	6.87	13.44	6.87
	Receivables for two months	39.31	70.42	65.59

Station	Particulars	Approved as per order of February 15 2021	APGCL's submission	Approved in APR
	Total Working Capital Requirement	55.36	105.45	94.45
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	5.54	11.15	9.99

6.6 Non-Tariff Income

6.6.1 APGCL submitted that the Commission had approved Non-Tariff Income of Rs. 22.09 Crore for FY 2022-23 in the Tariff Order dated March 21, 2022. APGCL submitted the Non-Tariff Income of Rs. 7.13 Crore for NTPS, Rs. 9.22 Crore for LTPS and Rs. 5.75 Crore for KLHEP totalling to Rs. 22.09 crore.

Commission's Analysis

6.6.2 For the purpose of APR, the Commission provisionally approves the Non-Tariff income for FY 2021-22 as submitted by APGCL, as shown in the following Table:

Table 65: Non-Tariff Income considered for APR for FY 2021-22 (Rs. Crore)

Station	Tariff Order dated March 21, 2022	APGCL's submission	Approved in APR
NTPS	7.13	7.13	6.58
LTPS	9.22	9.22	26.97
KLHEP	5.75	5.75	11.84
LRPP	0.00	0.00	0.00
NRPP	0.00	0.00	0.00
Total	22.09	22.09	45.39

6.7 Other Expenses

6.7.1 Special R&M Expenses

APGCL submitted that it has approved Special R&M Schemes of Rs. 70.30 Crore in FY 2022-23 in the MYT Order dated March 21, 2022. APGCL submitted that it has revised the Special R&M Schemes to be undertaken in FY 2022-23. The details of the same is provided as below:

Table 66: Revised Special R&M Scheme for FY 2022-23

Work Name	Approved as per Tariff Order March 2022	Claim in FY 2022-23	Remarks
For NTPS			
Procurement of Overseas spares for major overhauling of 2 nos. W301 Gas Turbine unit proposed to be carried out in 2023-24 used in GT #2 & #3	167.5	167.5	Same
Procurement of spares for major overhauling of WHT#6 proposed to be carried out in 2023-24	90	90	Same
For LTPS			
Overhauling of LTPS Unit -7 in FY 2020-21	1500	1500	Same
Overhauling of Gas Compressor of GC #6 of LTPS		500	It has been approved for the FY 2021-22, but work was completed in first quarter of FY 2022-23. Hence, APGCL has claimed the approved amount in FY 2022-23.
Overhauling of LTPS Gas Compressor U#7		450	>The overhauling of LTPS Gas Compressor of Unit 7 was due (no overhauling done since commissioning i.e 1994), APGCL requested to the Commission to kindly approve the special R&M expenses for overhauling of U#7 of LTPS of amount Rs. 450 Lakhs for FY 2022-23.
For KLHEP			
Capital Overhauling of 50MW Francis type Fuji make Generator Turbine Unit-II – KLHEP	1200	1200	Same as per approved
Replacement of Runner of U#2	800	800	Same as per approved
Additional Capital Investment for Renovation work of damaged assets due to Landslide for KLHEP Plant		808	An amount of Rs. 12 crore was approved for FY 2021-22 in the tariff order dated 21st March 2022. APGCL had planned and executed the work in FY 2021-22, but few pending works were executed in first quarter of FY 2022-23. Hence, APGCL has claimed Rs. 3.92 crore in True up of FY 2021-22 and rest amount of Rs. 8.08 Crore (Rs. 12 crore – Rs. 3.92 Crore) in FY 2022-23.

Work Name	Approved as per Tariff Order March 2022	Claim in FY 2022-23	Remarks
For LRPP			
16,000 and 32,000 Running Hours Maintenance	2814	2814	Work in Progress and expected to be completed by February 2023
36,000 Running Hours Turbocharger Maintenance	458	458	Same as approved
For NRPP			
Special R&M for Combustion Inspection of the GT Unit of NRPP	0	1850	As per the OEM Guidelines the GT Unit of NRPP requires a mandatory Combustion Inspection (CI) at the completion of 12000 Running Hours (RH). >It is expected that the GT Unit of NRPP will complete 12000 RH by Jan'23. The CI work of the GT Unit of NRPP is a very important work for the health of the Turbine and it is mandatory as per the OEM Guidelines. Delaying the work may result in the deterioration of the overall performance of the GT Unit. As NRPP is a newly commissioned station, timely completion of the maintenance works of its units are essential for seamless operation

Table 67: Plant wise Special R&M for FY 2022-23

Station	Approved as per order of March 2022	Amount claimed for APR
NTPS	2.58	2.58
LTPS	15.00	24.50
KLHEP	20.00	28.08
LRPP	32.72	32.72
NRPP	0.00	18.50
Total	70.30	106.38

Commission's Analysis

- 6.7.2 For overhauling of Unit 2 of NTPS gas turbine and the overhauling of WHRU 6 the Commission approved Rs 2.58 Crore for FY 2022-23. For overhauling of LTPS unit 7 and Overhauling of gas compressor unit 6 the Commission considered the same figure as approved in the March 21, 2022 Tariff order. For capital overhauling of KLHEP unit II and Replacement of runner of Unit 2 the Commission considered the approved figure from Tariff Order March 21, 2022. The Commission for better performance of LRPP as per the OEM guidelines approved Rs 32.72 Crore as submitted by APGCL.
- 6.7.3 For Mandatory combustion inspection of NRPP, the Commission notes that there is a need for broader assessment of the Special R&M activities with such huge expenditure. The Commission notes that APGCL is planning Special R&M Activity of over 150 Crore in NRPP. The Commission is of the opinion that without prior detailed assessment approval of this kind of huge expenditure is not prudent. Hence, APGCL is directed to propose a detailed Special R&M plan of NRPP for FY 2022-23 to FY 2024-25 to the Commission for approval with detailed DPR giving complete scope, justification, cost benefit analysis, phasing of expenditure, detailed cost estimation for Commission's assessment in a separate proceeding.
- 6.7.4 As regards to overhauling of Gas compressor of Unit 7 in LTPS, the Commission is of the opinion that a similar Special R&M Scheme is already approved for FY 2022-23. Hence, the Commission provisionally does not consider this scheme in APR of APGCL. However, the Commission would take the decision of final approval of this Scheme during true up on assessment of all documentary evidence of the expenditure on basis of prudence check.
- 6.7.5 Hence, the Commission considers Special R&M Scheme for APR of FY 2022-23 as provided below:

Table 68: Plant wise Special R&M for FY 2022-23

Station	Approved as per order of March 2022	Amount claimed for APR	Approved for APR
NTPS	2.58	2.58	2.58

Station	Approved as per order of March 2022	Amount claimed for APR	Approved for APR
LTPS	15.00	24.50	20.00
KLHEP	20.00	28.08	28.08
LRPP	32.72	32.72	32.72
NRPP	0.00	18.50	0.00
Total	70.30	106.38	83.38

6.8 Summary of APR for FY 2022-23

The summary of station-wise ARR after APR for FY 2022-23 is shown in the following

Table:

Table 69: ARR for Existing Generation Stations for FY 2022-23 considered by the Commission in APR (Rs. Crore)

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP			NRPP		
		Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved for APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR
A	Annual Fixed Charges															
1	Operation & Maintenance Expenditure	15.38	21.35	54.82	29.31	42.67	62.62	33.31	35.01	33.43	30.27	30.27	30.27	22.9	44.79	22.90
2	Increase in AERC Tariff Filing Fees	0.1	0.10	0.10	0.1	0.10	0.10	-	-	-	0.1	0.10	0.10	0	-	-
3	Interest & Finance Charges	0	0.07	0.04	0	0.08	-	16.65	18.01	14.37	2.56	1.11	3.09	50.05	57.02	57.17
4	Interest on working Capital	1.31	4.49	6.47	4.17	12.16	11.93	2.42	3.64	2.84	4.79	10.68	10.18	5.54	11.15	10.15
5	Depreciation	0.47	1.42	1.42	11.26	14.13	18.65	21.56	22.93	23.45	2.69	13.56	2.65	36.27	42.08	37.50
6	Return on Equity	3.1	8.90	8.90	15.16	23.05	23.05	10.64	23.94	23.94	2.44	12.50	12.50	33.9	34.70	33.90
7	Income taxes	0	-	0	0	-	0	0	-	0	0	-	-	0	-	-
8	Special R&M	2.58	2.58	2.58	15	24.50	20.00	20	28.08	28.08	32.72	32.72	32.72	0	18.50	0
9	Capacity Building	0	-	0	0	-	0	0	-	0	0	-	-	0	-	-
10	<u>Less:</u> Other Income	-7.13	-7.13	-6.58	-9.22	-9.22	-26.97	-5.75	-5.75	-11.84	0.00	-	0.00	0.00	-	-
11	Total Fixed Charges	15.8	31.78	67.76	65.78	107.47	109.38	98.85	125.86	114.27	75.58	100.94	91.51	148.65	208.23	161.61

Sr. No.	Particulars	NTPS			LTPS			KLHEP			LRPP			NRPP		
		Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved for APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR
12	Fuel Cost	46.43	116.05	112.64	115.74	323.03	323.03	-	-	-	94.87	290.15	269.06	87.24	214.28	147.72
13	Total Revenue Requirement	62.23	147.82	180.40	181.52	430.50	432.40	98.85	125.86	114.27	170.45	391.09	360.57	235.88	422.52	309.34
14	Net Revenue Requirement	62.23	147.82	180.40	181.52	430.50	432.40	98.85	125.86	114.27	170.45	391.09	360.57	235.88	422.52	309.34

6.9 Net ARR for Effective Capacity

6.9.1 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.

6.9.2 The Commission has considered the effective capacity of 41.00 MW for NTPS on account of retirement of Units 1,4 and 5. Further, the effective capacity of LTPS has been considered at 97.20 MW in line with the effective capacity considered in FY 2020-21. Accordingly, the Commission has computed the Net ARR at effective capacity.

6.9.3 The Commission has computed the Net ARR for APR of FY 2022-23 after adjusting for effective capacity for NTPS and LTPS, as shown in the following Table:

Table 70: APR for Existing Generating Stations for FY 2022-23 as approved by the Commission at Effective Capacity (Rs. Crore)

Particulars	NTPS	LTPS
Total Fixed Cost approved on installed capacity	71.66	116.24
Reduction in fixed cost due to Decommissioning	45.58	36.79
Total Fixed Cost approved at effective Capacity	26.09	79.46
Add: Capacity Building Charges	-	-
Add: AERC Filing Fees	0.10	0.10
Add: Special R&M	2.58	20.00
Less: Non-Tariff Income	6.58	26.97
Total Fixed Cost approved for effective capacity	22.18	72.59
Add: Fuel Cost	112.64	323.03
Net ARR approved for effective capacity	134.82	395.62

6.10 Revenue from Sale of Power

6.10.1 APGCL has estimated total Revenue from Sale of Power for APR as Rs. 937.83 Crore for NTPS, LTPS, KLHEP, LRPP and NRPP stations for FY 2022-23. The revenue projected by APGCL is based on the actual revenue earned during H1 of FY 2022-23 and revenue estimated in H2 of FY 2022-23. APGCL has also considered the adjustments made in fuel purchase bills during H1 of FY 2022-23.

Commission's Analysis

6.10.2 For the purpose of APR for FY 2022-23, the Commission has considered the revenue from Fixed Charges equal to Fixed Charges approved by the Commission for FY 2022-23 in the Tariff Order dated March 21, 2022. Accordingly, the Commission has considered the revenue from Fixed Charges of Rs. 15.79 Crore for NTPS, Rs. 65.78 Crore for LTPS, Rs. 98.85 Crore for KLHEP, Rs. 75.58 Crore for LRPP, and Rs. 148.65 Crore for NRPP which works out to total revenue from Fixed Charges of Rs. 404.65 Crore for FY 2022-23.

6.10.3 As regards the revenue from Energy Charges, the Commission has considered energy charge per unit as approved in Tariff Order dated March 21, 2022 for each of the stations. The Commission has, based on the net generation considered in APR of FY 2022-23, computed the energy charges to be recovered in FY 2022-23. Accordingly, revenue from Energy Charges works out to Rs. 364.63 Crore for FY 2022-23.

6.10.4 Thus, the Commission has worked out revenue of Rs. 769.29 Crore for FY 2022-23 for the purpose of APR.

6.11 Revenue Gap/(Surplus) for FY 2022-23

6.11.1 APGCL has estimated Revenue Gap of Rs. 579.96 Crore for FY 2022-23. APGCL submitted that since the figures for FY 2022-23 are estimated and are subject to True-up, it has not considered the Revenue Gap/(Surplus) for recovery during FY 2022-23, as the same shall be considered at the time of True-up of FY 2022-23.

Commission's Analysis

6.11.2 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, LRPP and NRPP entire fixed costs have been considered for computation of Revenue Gap/(Surplus).

6.11.3 Accordingly, the Commission has computed the Revenue Gap/(Surplus) for FY 2022-23 as shown in the following Table:

Table 71: Revenue Gap/Surplus after APR for FY 2022-23 (Rs. Crore)

Sr. No.	Particulars	Approved in APR
1	ARR for NTPS	134.82
2	ARR for LTPS	395.62
3	ARR for KHEP	114.27
4	ARR for LRPP	360.07
5	ARR for NRPP	309.34
5	Combined ARR	1,314.61
6	Less: Revenue from sale of Power	769.29
7	Revenue Gap/(Surplus)	545.32

6.11.4 The APR reveals a Revenue Gap of Rs. 545.32 Crore for FY 2022-23. It is only indicative in the absence of Audited Annual Accounts for FY 2022-23. Hence, this is not carried forward. It will be considered only after Truing up process for FY 2022-23, after the Audited Annual Accounts are made available.

7 Revised ARR for FY 2023-24

7.1 Introduction

7.1.1 This Chapter deals with the determination of revised ARR for FY 2023-24 in accordance with the provisions of MYT Regulations, 2021 based on analysis of submissions made by APGCL.

7.1.2 APGCL has filed Petitions for approval of revised ARR for FY 2023-24 for existing stations, i.e., NTPS, LTPS, LRPP, NRPP and KLHEP. The Commission has determined the Station-wise revised ARR for NTPS, LTPS, LRPP, NRPP and KLHEP for FY 2023-24 in accordance with the MYT Regulations, 2021 as discussed in subsequent sections of this Chapter.

7.2 Effective Capacity for FY 2023-24

Table 72: Effective Installed Capacity for Existing Generating Stations

Station	Installed Capacity	Units Operational	Capacity of Units (MW)	Total Capacity (MW)
NTPS	119.5	2	2(17 MW), 3(15MW), 6 (9 MW-WHRU)	41.00
LTPS	142.2	4	5,6,7(20 MW Each),8 (37.20 MW-WHRU)	97.2
KLHEP	100	2	1 (50), 2(50)	100
LRPP	69.755	7	1-7 (9.965 each)	69.755
NRPP	98.4	2	1(62.25), 2(36.15)	98.4

Plant Availability Factor (%)

7.2.1 APGCL in its Petition has submitted the Availability for existing Stations for FY 2023-24 as shown in the following Table:

Table 73: Plant Availability factor as projected by APGCL for FY 2023-24

Station	Tariff Order dated March 21 2022	Projected by APGCL
NTPS	50%	50%
LTPS	50%	50%

Station	Tariff Order dated March 21 2022	Projected by APGCL
KLHEP	85%	85%
LRPP	85%	85%
NRPP	85%	85%

Commission's Analysis

7.2.2 Regulation 48.1 and 50.1 of the MYT Regulations, 2021 specifies the NAPAF for recovery of full fixed charges, as 50% for both NTPS as well as LTPS and 85% for both KLHEP, LRPP and NRPP.

Table 74: Plant Availability factor as approved by Commission for FY 2023-24

Station	Tariff Order dated 21 March 2022	Approved by Commission
NTPS	50%	50.00%
LTPS	50%	50.00%
KLHEP	85%	85.00%
LRPP	85%	85.00%
NRPP	85%	85.00%

7.3 Plant Load Factor (%)

7.3.1 APGCL projected the PLF (%) for existing Stations for FY 2023-24 as shown in the following Table:

Table 75: Plant Load Factor (%) as projected by APGCL

Station	Tariff Order dated 21 March 2022	APGCL's Submission
NTPS	50.00 %	50.00 %
LTPS	66.00 %	66.00 %
KLHEP	44.50%	44.50%
LRPP	90.00 %	90.00 %
NRPP	85.00%	85.00%

Commission's Analysis

- 7.3.2 The MYT Regulations, 2021 specifies the Normative PLF for availing Incentive as 50% for NTPS, 66% for LTPS, 44.50% for KLHEP, 90% for LRPP and 85% for NRPP. Hence, the Commission approves PLF for Incentive for NTPS, LTPS, LRPP and NRPP as specified in the MYT Regulations, 2021. The incentive for Thermal Stations shall be computed at time of Truing up for FY 2023-24.
- 7.3.3 As regards KLHEP, MYT Regulations, 2021 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.
- 7.3.4 For the purpose of projection of Generation, the Commission has considered the PLF as projected by APGCL.

7.4 Auxiliary Consumption (%)

- 7.4.1 APGCL submitted the Auxiliary Consumption for existing Stations for FY 2023-24 as per MYT Regulations, 2021, as shown in the following Table:

Table 76: Auxiliary Consumption as projected by APGCL

Station	Tariff Order dated 21 March 2022	APGCL's Submission
NTPS	4.50%	4.50%
LTPS	5.50%	5.50%
KLHEP	0.50%	0.50%
LRPP	3.50%	3.50%
NRPP	5.00%	5.00%

Commission's Analysis

- 7.4.2 Regulation 48.3 (a) & (b) of the MYT Regulations, 2021 specifies the Auxiliary Consumption of 4.50% for NTPS, 5.50% for LTPS, 3.50% for LRPP and 5.00% for NRPP. Further, Regulation 50.1 of MYT Regulations, 2021 specifies the Auxiliary Consumption of 0.50% for KLHEP.
- 7.4.3 Accordingly, the Commission approves the Auxiliary Consumption of 4.50% for

NTPS, 5.50% for LTPS, 0.50% for KLHEP, 3.50% for LRPP and 5.00% for NRPP for FY 2023-24 as specified in the MYT Regulations, 2021.

7.5 Gross Generation and Net Generation

7.5.1 APGCL projected the Gross Generation and Net Generation for existing Generating Stations for FY 2023-24 as shown in the following Table:

Table 77: Gross Generation and Net Generation as projected by APGCL for FY 2023-24

Station	Gross Generation (MU)		Net Generation (MU)	
	Tariff Order dated 21 March 2021	APGCL's Submission	Tariff Order dated 21 March 2021	APGCL's Submission
NTPS	195.09	179.58	186.31	171.50
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
NRPP	732.69	732.69	696.06	696.05

Commission's Analysis

7.5.2 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, KLHEP and NRPP is considered. The Commission has considered net generation after considering the Normative Auxiliary Consumption approved in ARR for FY 2023-24.

7.5.3 The Commission has computed the Net Generation based on above estimated Gross Generation and approved Auxiliary Consumption for FY 2023-24. The Gross Generation and Net Generation approved by the Commission for FY 2023-24 is shown in the following Table:

Table 78: Gross and Net Generation as approved by Commission for FY 2023-24

Station	Gross Generation (MU)	Net Generation (MU)
NTPS	179.58	171.50
LTPS	425.74	402.32

Station	Gross Generation (MU)	Net Generation (MU)
KLHEP	390.00	388.05
LRPP	519.40	501.22
NRPP	732.69	696.05
Total	2,247.40	2,159.14

7.6 Station Heat Rate

7.6.1 APGCL, in its Petition, has projected SHR for existing Stations for FY 2023-24 as shown in the following Table:

Table 79: Station Heat Rate (kcal/kWh) as submitted by APGCL for FY 2023-24

Station	Tariff Order dated 21 March 2021	APGCL's Submission
NTPS	3900	3900
LTPS	3200	3200
LRPP	2150	2150
NRPP	1951	1988

Commission's Analysis

7.6.2 The Commission approves SHR for NTPS, LTPS and LRPP as per MYT Regulations, 2021. Accordingly, the Commission approves SHR of 3900 kcal/kWh for NTPS, 3200 kcal/kWh for LTPS and 2150 kcal/kWh for LRPP for FY 2023-24. As per Tariff order 21 March 2021 the Commission approves SHR of 1951 Kcal/KWh for NRPP.

7.7 Fuel Cost

7.7.1 APGCL has considered the following GCV and gas price for projecting fuel cost for FY 2022-23. APGCL has considered the gas price as notified for October 2022 for projecting fuel cost for FY 2023-24:

Table 80: GCV and Landed Price of Gas for FY 2023-24 claimed by APGCL

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs./1000 SCM)
NTPS	9251.93	17427.59
LTPS	9959.34	23405.99

Station	Wt. Avg. Gross Calorific Value of Gas (kcal/SCM)	Wt. Avg. Price of Gas (Rs./1000 SCM)
LRPP	9235.46	28869.07
NRPP	9251.93	17427.59

7.7.2 Based on the above GCV and gas prices, APGCL has projected the fuel cost for FY 2023-24 as shown in the following Table:

Table 81: Projected Landed Cost of Gas for FY 2023-24 as calculated by APGCL (Rs. Crore)

Particulars	Unit	NTPS	LTPS	LRPP	NRPP
Gross Generation	MU	179.58	425.74	519.40	732.69
Heat Rate	kcal/kWh	3900.00	3200.00	2150.00	1988.00
Overall Heat	G. cal.	9251.93	9959.34	9235.46	9251.93
GCV of gas	kcal/SCM	700362.00	1362355.20	1116700.82	1456580.56
Gas consumption	M. SCM	75.70	136.79	120.91	157.44
Price of Gas	Rs. /1000 SCM	17427.59	23405.99	28869.07	17427.59
Total cost of Gas	Rs. Crore	131.93	320.17	349.07	274.37

Commission's Analysis

7.7.3 In the MYT Order, the Commission had approved the Fuel cost for NTPS, LTPS, LRPP and NRPP for FY 2023-24 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 2023-24, 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.

7.7.4 The Commission has considered the GCV of gas as submitted by APGCL. APGCL has considered the landed price of Gas based on prices notified in the month of October 2022 for the period from October 2022 to March 2023, i.e., US\$ 8.57 per MMBTU, which was very high as compared to previous years on account of the increase in the Natural Gas prices in the international market due to geopolitical developments. However, the Commission has considered different landed price of gas than that considered by APGCL. For projection of Gas prices, the Commission has analysed the Natural Gas prices in the international market in the last 6 months, after the Notification of the Domestic Gas Prices by the MoPNG in October 2022. It

is observed that the Gas price has reduced over the period October 2022 to March 2023. The fall in the Gas Prices is even more steep in the last 3 months, i.e., January to March 2023, wherein the Gas price has ranged between US\$ 2.25 to US\$ 3.56 per MMBTU. The Gas price as on date is in the range of US\$ 2.35 per MMBTU.

7.7.5 Hence, the Commission is of the opinion that projecting fuel price based on the Domestic Gas Price notified by MoPNG in October 2022 is likely to lead to over-projection of the fuel cost of APGCL, thereby impacting APGCL and APDCL also. Hence, the Commission has considered the Gas price as \$2.90/MMBTU, which is the gas price approved by the Commission for FY 2023-24 in the MYT Order dated March 21, 2022 and also almost equal to the average price of Gas between January 2023 and March 2023, i.e., US\$ 2.91 per MMBTU, for projection of landed price of Gas for FY 2023-24, as shown in the following Table:

Table 82: GCV and Landed Price of Gas for FY 2023-24 considered by the Commission

Station	Submitted by APGCL		Considered by the Commission		
	Wt. Gross Calorific Value of Gas (kcal/SCM)	Avg. Price of Gas (Rs./1000 SCM)	Wt. Gross Calorific Value of Gas (kcal/SCM)	Avg. Price of Gas (Rs./1000 SCM)	Wt. Avg. Price of Gas
NTPS	9251.93	17427.59	9251.93	6,072.89	
LTPS	9959.34	23405.99	9959.34	8,078.42	
LRPP	9235.46	28869.07	9235.46	9,944.57	
NRPP	9251.93	17427.59	9251.93	6,072.89	

7.7.6 Any variation in the Gas prices shall be passed through under the FPPPA mechanism. APGCL shall strictly follow the AERC FPPPA regulations as amended from time to time for recovery any variation in fuel cost if any.

7.7.7 The Commission has approved the fuel cost for NTPS, LTPS, LRPP and NRPP based on approved Performance parameters, GCV of gas and landed price of gas. The fuel cost approved by the Commission for NTPS, LTPS, LRPP and NRPP for FY 2023-24 is shown in the following Table:

Table 83: Fuel Cost approved by the Commission for FY 2023-24

S. No.	Particulars	Unit	NTPS	LTPS	LRPP	NRPP
1	Gross Generation	MU	179.58	425.74	519.40	732.69
2	Heat Rate	kcal/kWh	3,900.00	3200.00	2150.00	1,951.00
3	GCV of gas	kcal/SCM	9,251.93	9959.34	9235.46	9,251.93

S. No.	Particulars	Unit	NTPS	LTPS	LRPP	NRPP
4	Overall Heat	G. cal.	7,00,362.00	1362355.20	1116700.82	14,29,471.17
5	Gas consumption	M. SCM	75.70	136.79	120.91	154.51
6	Price of Gas	Rs. /1000 SCM	6,072.89	8,078.42	9,944.57	6,072.89
7	Total Cost of Gas	Rs. Crore	45.97	110.51	120.24	93.83

7.8 O&M Expenses

7.8.1 APGCL has claimed O&M expenses for FY 2023-24 as Rs. 23.09 Crore for NTPS, Rs 44.91 Crore for LTPS, Rs. 36.85 Crore for KLHEP, Rs. 31.86 Crore for LRPP and Rs 47.15 Crore for NRPP.

Commission's Analysis

7.8.2 The Commission in the Tariff Order dated March 21, 2022 has approved O&M Expenses on normative basis as per the MYT Regulations, 2021 for FY 2023-24. The Commission has now computed normative O&M expenses by applying escalation factor applicable to FY 2023-24 (average of preceding 3 year's CPI and WPI inflation indices taken in 60:40 ratio as per MYT Regulation, 2021) i.e. 6.31%, on normative O&M Expenses for FY 2023-24 as approved in the APR, as shown in the following Table:

Table 84: Normative O&M Expenses for FY 2023-24 (Rs. Crore)

Station	Tariff Order dated 21 March 2020 considering effective capacity	APGCL's Submission (effective capacity)	Normative O&M Approved by the Commission (full capacity)
NTPS	16.18	23.09	58.28
LTPS	30.85	44.91	66.57
KLHEP	35.06	36.85	35.54
LRPP	31.86	31.86	32.19
NRPP	24.10	47.15	24.34

7.9 Capital Expenditure and Capitalisation

7.9.1 APGCL submitted that the Commission in the Tariff Order dated March 21, 2022 has

approved the Capital Investment Plan for FY 2023-24. APGCL has revised the schemes and corresponding outlay of the generating stations for FY 2023-24 and has claimed the following Capital Expenditure in the ARR for FY 2023-24:

Table 85: Capital Expenditure plan as submitted by APGCL for FY 2023-24 (Rs. Crore)

Station	Particulars	Tariff Order dated 21 March 2022	APGCL's submission
NTPS	Capital Expenditure	1.56	4.41
	Capitalisation	1.56	4.41
LTPS	Capital Expenditure	13.70	67.74
	Capitalisation	13.70	67.74
KLHEP	Capital Expenditure	16.38	47.74
	Capitalisation	16.38	47.74
LRPP	Capital Expenditure	1.55	9.14
	Capitalisation	1.55	9.14
NRPP	Capital Expenditure		23.65
	Capitalisation		23.65

Commission's Analysis

7.9.2 The Commission in the Tariff Order dated March 21, 2022 had approved the capital expenditure and capitalisation for the existing generating stations.

7.9.3 **The Commission shall however, revisit the Capital Expenditure for approval at the time of Truing-up of FY 2022-23.**

7.9.4 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 86: Capital Expenditure and Capitalisation as considered by the Commission (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP
Capital Expenditure	1.56	13.70	18.68	1.64	0.00
Capitalisation	1.56	13.70	18.68	1.64	0.00

7.9.5 **The Commission notes that APGCL plans to increase Capital Expenditure in FY 2023-24 drastically due to taking up a number of new projects. The Commission also notes that board approval of these capital Projects are not submitted. The Commission is of the opinion that without detailed assessment**

of these new Schemes approval of these Capital Schemes would not be prudent. Hence, the Commission directs APGCL to approach the Commission in separate proceedings with all relevant information according to MYT Regulation, 2021 for in-principle approval of these new projects with detailed justification for not taking up these projects in MYT Order, board approval of the Schemes, detailed cost estimation with cost breakup and cost benefit analysis of the project.

7.9.6 The Work wise approval of Capital Expenditure Schemes is provided in **Annexure 3**.

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

Table 87: Funding of Capitalisation as considered by the Commission (Rs. Crore)

Particulars	NTPS	LTPS	KLHEP	LRPP	NRPP
Loan	0.94	12.31	17.25	0.70	0.00
Equity	0.00	0.00	0.00	0.00	0.00
Grant	0.62	1.39	1.43	0.94	0.00
Total Capitalisation	1.56	13.70	18.68	1.64	0.00

7.10 Depreciation

7.10.1 APGCL submitted that it has projected the depreciation in accordance with MYT Regulations, 2021, and based on approved GFA and proposed capital additions during FY 2023-24. APGCL has not considered the depreciation on assets funded through Grants/Subsidies as per Regulation 33 of MYT Regulations, 2021.

7.10.2 APGCL projected the Depreciation of Rs. 1.52 Crore for NTPS, Rs. 15.90 Crore for LTPS, Rs. 24.13 Crore for KLHEP, Rs. 13.78 Crore for LRPP and 42.70 Crore for NRPP for FY 2023-24.

Commission's Analysis

7.10.3 The Commission has considered the opening GFA for FY 2023-24 equivalent to the closing GFA for FY 2022-23 as approved in this Order. The Commission has computed depreciation as per scheduled rates specified in the MYT Regulations, 2021.

7.10.4 As per Regulation 33 of the MYT Regulations, 2021, 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.

7.10.5 Further, in line with the approach adopted in the Tariff Order and as specified in Regulation 33 of the MYT Regulations, 2021, the Commission has not considered the depreciation on assets funded through Grants/ capital subsidy, for FY 2023-24.

Table 88: Depreciation for FY 2023-24 as approved by the Commission (Rs. Crore)

Station	Particulars	Tariff Order dated 21 March 2022	APGCL's Submission	Approved by Commission
NTPS	Depreciation	1.34	1.52	1.45
	Less: Depreciation on assets funded by Grants	0.1	0.00	0.02
	Net Depreciation	1.25	1.52	1.43
LTPS	Depreciation	19.96	15.90	20.22
	Less: Depreciation on assets funded by Grants	2.56	0.00	0.58
	Net Depreciation	17.40	15.90	19.64
KLHEP	Depreciation	24.21	24.13	24.36
	Less: Depreciation on assets funded by Grants	2.46	0.00	0.57
	Net Depreciation	21.74	24.13	23.79
LRPP	Depreciation	13.74	13.78	13.75
	Less: Depreciation on assets funded by Grants	11.02	0.00	11.08
	Net Depreciation	2.72	13.78	2.67
NRPP	Depreciation	36.27	42.70	37.50
	Less: Depreciation on assets funded by Grants	0	0.00	-

Station	Particulars	Tariff Order dated 21 March 2022	APGCL's Submission	Approved by Commission
	Net Depreciation	36.27	42.70	37.50

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

7.11 Interest on Loan

7.11.1 APGCL has computed the Interest on loan as per the methodology specified in the MYT Regulations, 2021. APGCL submitted that the opening normative loan as on April 1, 2022 has been taken as the base and the additions during the period have been considered to arrive at the normative loan for FY 2023-24. APGCL estimated the Interest on Loan of Rs. 1.52 Crore for NTPS, Rs. 2.77 Crore for LTPS, Rs. 15.97 Crore for KLHEP, Rs. 0.12 Crore for LRPP and Rs 44.76 Crore for NRPP.

Commission's Analysis

7.11.2 In the MYT Order, the Commission has approved Interest and finance charges on normative basis for FY 2023-24 as per Regulation 35 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.

7.11.3 The closing net normative loan for FY 2022-23 as approved in this Order has been considered as opening net normative loan for FY 2023-24. 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 1st of April. Since FY 2023-24 is yet to commence, the Commission has considered the weighted average interest rate of 10.15% for FY 2023-24.

7.11.4 The Interest on loan capital approved by the Commission for FY 2023-24 is shown in the following Table:

Table 89: Interest on Loan Capital for FY 2023-24 as approved by the Commission (Rs. Crore)

Station	Particulars	Tariff Order dated 21 March 2022	APGCL's Submission	Approved by Commission
NTPS	Net Normative Opening Loan	0.00	1.19	0.84
	Addition of normative loan during the year	0.94	3.85	0.94
	Normative Repayment during the year	1.25	1.52	1.43
	Net Normative Closing Loan	0.00	3.52	0.35
	Interest Rate	10.85%	11.64%	11.64%
	Interest on Loan Capital	0.00	0.27	0.07
LTPS	Net Normative Opening Loan	0	1.34	0.00
	Addition of normative loan during the year	12.31	67.74	12.31
	Normative Repayment during the year	17.4	15.90	19.64
	Net Normative Closing Loan	0.00	53.18	-
	Interest Rate	10.85%	11.64%	11.64%
	Interest on Loan Capital	0.00	3.17	0.00
KLHEP	Net Normative Opening Loan	151.30	146.16	113.94
	Addition of normative loan during the year	14.95	46.39	17.25
	Normative Repayment during the year	21.74	24.13	23.79
	Net Normative Closing Loan	144.51	168.42	107.39
	Interest Rate	10.85%	11.64%	11.64%
	Interest on Loan Capital	16.05	18.31	12.88
LRPP	Net Normative Opening Loan	22.38	2.46	24.28
	Addition of normative loan during the year	0.55	8.20	0.70
	Normative Repayment during the year	2.72	13.78	2.67
	Net Normative Closing Loan	20.21	0.00	22.32
	Interest Rate	10.85%	11.64%	11.64%
	Interest on Loan Capital	2.31	0.14	2.71
NRPP	Net Normative Opening Loan	439.79	450.48	454.03
	Addition of normative loan during the year	0.00	23.65	-
	Normative Repayment during the year	36.27	42.70	37.50
	Net Normative Closing Loan	403.52	431.43	416.53
	Interest Rate	10.85%	11.64%	11.64%
	Interest on Loan Capital	45.74	51.32	50.66

7.12 Return on Equity

7.12.1 APGCL has computed the RoE on average equity for the year at rate of return of 15.5% as per the MYT Regulations, 2021. Against approved RoE of Rs. 8.53 Crore for NTPS, Rs. 22.18 Crore for LTPS, Rs.10.64 Crore for KLHEP, Rs 2.44 Crore for LRPP and Rs. 33.90 Crore for NRPP. APGCL has projected RoE of Rs. 8.90 Crore, Rs. 23.05 Crore, Rs. 23.94 Crore, Rs. 12.50 and Rs 34.70 Crore, respectively, for FY 2023-24.

Commission's Analysis

7.12.2 The Commission has approved the RoE in accordance with Regulation 34 of the MYT Regulations, 2021. 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 90: Return on Equity for FY 2023-24 as approved by the Commission (Rs. Crore)

Station	Particulars	Tariff Order dated 21 March 2022	APGCL Submission	Approved by The Commission
NTPS	Opening Equity	55.00	57.42	57.42
	Closing Equity	55.00	57.42	57.42
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	8.53	8.90	8.90
LTPS	Opening Equity	143.08	148.69	148.69
	Closing Equity	143.08	148.69	148.69
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	22.18	23.05	23.05
KLHEP	Opening Equity	68.65	154.42	154.42
	Closing Equity	68.65	154.42	154.42
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	10.64	23.94	23.94
LRPP	Opening Equity	15.74	80.63	80.63
	Closing Equity	15.74	80.63	80.63
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	2.44	12.50	12.50
NRPP	Opening Equity	218.69	223.84	218.69
	Closing Equity	218.69	223.84	218.69
	Rate of Return	15.50%	15.50%	15.50%
	Return on Equity	33.90	34.70	33.90

7.13 Interest on Working Capital (IoWC)

7.13.1 APGCL has computed the IoWC as per provisions of the MYT Regulations, 2021 for existing generating Stations for FY 2023-23, and has considered the rate of interest as 10.58%. APGCL has projected IoWC of Rs. 3.70 Crore for NTPS, Rs. 6.42 Crore for LTPS, Rs 2.15 Crore for KLHEP, Rs. 4.48 Crore for LRPP and Rs 5.54 Crore for NRPP for FY 2023-24.

Commission's Analysis

7.13.2 The Commission has computed IoWC in accordance with Regulation 37 of the MYT Regulations, 2021. 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 10.58%.

7.13.3 IoWC approved by the Commission for FY 2023-24 is shown in the following Table:

Table 91: Interest on Working Capital for FY 2023-24 as approved by the Commission (Rs. Crore)

Station	Particulars	Tariff Order dated 21 March 2022	APGCL's Estimation	Approved by Commission
NTPS	Fuel Cost for one month	3.78	10.99	3.83
	O&M Expenses for one month	3.70	1.92	4.86
	Maintenance Spares-30% of O&M	13.34	6.93	17.48
	Receivables for two months	16.17	27.41	18.96
	Total Working Capital Requirement	37.00	47.26	45.13
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	3.70	5.00	4.77
LTPS	Fuel Cost for one month	9.64	26.68	9.21
	O&M Expenses for one month	3.76	3.74	5.55
	Maintenance Spares-30% of O&M	13.54	13.47	19.97
	Receivables for two months	37.30	72.74	37.77
	Total Working Capital Requirement	64.25	116.64	72.50
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	6.42	12.33	7.67
KLHEP	O&M Expenses for one month	2.92	3.07	2.96
	Maintenance Spares-15% of O&M	5.26	11.06	5.33
	Receivables for two months	13.31	16.39	14.45
	Total Working Capital Requirement	21.49	30.92	22.75
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	2.15	3.27	2.41
LRPP	Fuel Cost for one month	7.91	29.09	10.02
	O&M Expenses for one month	1.89	2.66	2.68
	Maintenance Spares-30% of O&M	6.79	9.56	9.66
	Receivables for two months	21.67	71.46	30.90
	Total Working Capital Requirement	38.26	112.76	53.26
	Rate of interest	11.50%	10.58%	10.58%
	Interest on Working capital	4.40	11.92	5.63
NRPP	Fuel Cost for one month	7.91	22.86	7.82
	O&M Expenses for one month	2.66	3.93	2.03
	Maintenance Spares-30% of O&M	9.56	14.14	7.30
	Receivables for two months	24.69	89.67	41.06
	Total Working Capital Requirement	44.81	130.61	58.21

Station	Particulars	Tariff Order dated 21 March 2022	APGCL's Estimation	Approved by Commission
	Rate of interest	10.00%	10.58%	10.58%
	Interest on Working capital	4.48	13.81	6.16

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

7.14.1 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 2023-24.

Commission's Analysis

7.14.2 The Commission accordingly has allowed additional expenses for Petition Filing fees of Rs. 0.30 Crore for NTPS, LTPS and LRPP for FY 2023-24.

7.15 Other Expenses

7.15.1 Special R&M Expenses

7.15.1.1 APGCL claimed the following Special R&M expenses to be incurred in FY 2023-24:

Table 92: Special R&M Expenses claimed by APGCL in FY 2023-24 (Rs. Crore)

Name of Work	Total Amount Approved	Projection of APGCL	Remarks
NTPS			
Overhauling of Gas Turbine Unit 6 (Execution Part) excluding procurement of spares.	0.80	0.80	Same as approved in Tariff Order dated 21 st March 2022
LTPS			
LTPS: Major Inspection works of Gas Turbine unit # 5	1.45	1.45	

Name of Work	Total Amount Approved	Projection of APGCL	Remarks
Overhauling of Generator and Exciter of GT unit # 5	1.00	1.00	Same amount as approved in Tariff Order dated 21 st March 2022
Procurement of spares for Major inspection of Gas Turbine unit # 5.	23.60	23.60	
LRPP			
LRPP: 48,000 Running Hours Turbocharger Maintenance	7.77	7.77	Same as approved in Tariff Order dated 21 st March 2022
Procurement of Special measuring instruments for Electrical Maintenance Works	1.60	1.60	
NRPP			
HGPI for GT Unit of NRPP	0	74.00	The Combustion Inspection (CI) is planned to be carried out in the month of Jan'23 and the Hot Gas Path Inspection (HGPI) is scheduled to be carried out tentatively in the month of July'24 which will be in the FY 2024-25. It has been proposed to use Advanced Gas Path (AGP) components for the HGPI as the bidding process for NRPP was done in the year 2007 and the present Frame 6FA technology of the gas turbine installed at NRPP is already an old technology of the decade 2000. To upgrade the present equipment's of the GT unit of NRPP APGCL wishes to do the regular special repair & maintenance work of HGPI at 24000 Running Hours with the upto date technology so that it doesn't face the problem of obsolescence. Further, the HGPI with AGP components will eliminate the CI at every 12000 Running Hours as such decreasing maintenance cost.

Commission's Analysis:

7.15.1.2 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. Thereby the Commission approved the special R & M for NTPS, LTPS, LRPP as submitted by APGCL.

7.15.2 For Hot Gas path combustion inspection of NRPP, the Commission notes that there is a need for broader assessment of the Special R&M activities with such huge expenditure. The Commission notes that APGCL is planning Special R&M Activity of almost 150 Crore in NRPP. The Commission is of the opinion that without prior detailed assessment approval of this kind of huge expenditure is not prudent. Hence, APGCL is directed to propose a detailed Special R&M plan of NRPP for FY 2022-23 to FY 2024-25 to the Commission for approval with detailed DPR giving complete scope, justification, cost benefit analysis, phasing of expenditure, detailed cost estimation for Commission's assessment in a separate proceeding.

7.15.2.1 The Commission has therefore for ARR purpose, considered Special R&M of Rs. 0.80 Crore for NTPS, 26.05 Crore for LTPS and Rs. 9.37 Crore for LRPP in ARR of FY 2023-24.

7.16 Non-Tariff Income

7.16.1 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 and NRPP.

Commission's Analysis

7.16.2 The Commission has considered the Non-Tariff Income in ARR of FY 2023-24 same as that approved in APR of FY 2022-23, as shown in the following Table:

Table 93: Other Income approved for FY 2023-24 (Rs. Crore)

Station	Approved in Tariff Order dated 21 March 2022	APGCL's Estimation	Approved by the Commission
NTPS	7.13	7.13	6.58
LTPS	9.22	9.22	26.97
KLHEP	5.75	5.75	11.84
LRPP	0.00	0.00	0.00
NRPP	0.00	0.00	45.39

7.17 Summary of ARR for FY 2023-24

7.17.1 Based on the above analysis, the station-wise ARR approved for FY 2023-24 for existing Stations is summarised in the Table below:

Table 94: ARR for Existing Generation Stations for FY 2023-24 considered by the Commission in revised ARR (Rs. Crore)

Particulars	NTPS			LTPS			KLHEP			LRPP			NRPP		
	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved for APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR
Annual Fixed Charges															
Operation & Maintenance Expenditure	16.18	23.09	58.28	30.85	44.91	66.57	35.06	36.85	35.54	31.86	31.86	32.19	24.1	47.15	24.34
Increase in AERC Tariff Filing Fees	0.10	0.10	0.10	0.10	0.10	0.10	-	-		0.10	0.10	0.10	-	-	-
Interest & Finance Charges	-	0.27	0.07	-	3.17	-	16.05	18.31	12.88	2.31	0.14	2.71	45.74	51.32	50.66
Interest on working Capital	1.35	5.00	4.77	4.39	12.33	7.67	2.15	3.27	2.41	4.48	11.92	5.63	5.54	13.81	6.16
Depreciation	0.46	1.52	1.43	11.89	15.90	19.64	21.74	24.13	23.79	2.72	13.78	2.67	36.27	42.70	37.50
Return on Equity	3.11	8.90	8.90	15.16	23.05	23.05	10.64	23.94	23.94	2.44	12.50	12.50	33.90	34.70	33.90
Income taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Special R&M	0.80	0.80	0.80	26.05	26.05	26.05	-	-	-	9.37	9.37	9.37	-	74.00	-
Capacity Building	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less: Other Income	-7.13	-7.13	6.58	-9.22	-9.22	26.97	-5.75	-5.75	11.84	-	-	-	-	-	-
Total Fixed Charges	14.86	32.56	67.77	79.23	116.29	116.11	79.89	100.74	86.72	53.28	79.67	65.16	145.54	263.67	152.55

Particulars	NTPS			LTPS			KLHEP			LRPP			NRPP		
	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved for APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR	Tariff Order dated March 21 2022	APGCL's Submission	Approved in APR
Fuel Cost	46.43	131.93	45.97	115.74	320.17	110.51			-	94.87	349.07	120.24	87.24	274.37	93.83
Total Revenue Requirement	61.29	164.48	113.74	194.97	436.47	226.61	79.89	100.74	86.72	148.15	428.74	185.41	232.78	538.05	246.38
Total Cost	61.29	164.48	113.74	194.97	436.47	226.61	79.89	100.74	86.72	148.15	428.74	185.41	232.78	538.05	246.38

7.18 Net ARR for Effective Capacity

7.18.1 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.

7.18.2 The Commission has considered the effective capacity of 41 MW for NTPS on account of Unit 2 (or Unit 3) and Unit 6 being operational in FY 2023-24 due to commissioning of NRPP. Further, the effective capacity has been considered for LTPS at 97.20 MW. Accordingly, the Commission has computed the Net ARR for NTPS and LTPS at effective capacity, as shown in the Table below:

Table 95: ARR for Existing Generating Stations for FY 2023-24 as approved by the Commission at Effective Capacity (Rs. Crore)

Particulars	NTPS	LTPS
Total Fixed Cost approved on installed capacity	73.45	116.92
Deduction of Fixed cost due to Decommissioning	48.25	37.00
Total Fixed Cost approved at effective Capacity	25.20	79.92

Particulars	NTPS	LTPS
Add: Capacity Building Charges	-	-
Add: AERC Filing Fees	0.10	0.10
Add: Special R&M	0.80	26.05
Less Non-Tariff Income	6.58	26.97
Total Fixed Cost approved for effective capacity	19.52	79.10
Add: Fuel Cost	45.97	110.51
Net ARR approved for effective capacity	65.49	189.61

8 Tariff for FY 2023-24

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 2021-22, without carrying cost, as shown in the following Table:

Table 96: Revenue Gap/(Surplus) as submitted by APGCL (Rs. Crore)

Sr. No.	Particulars	Rs. Crore
1	Stand-alone Revenue Gap/(Surplus) for FY 2021-22	138.59
3	Total True up claim	138.59

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 2021-22 approved in this Order along with carrying/holding cost. No Revenue Gap/(Surplus) arising out of APR of FY 2022-23 has been proposed to be recovered through tariff in FY 2023-24, in accordance with the MYT Regulations, 2021.

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

Table 97: Revenue Gap/(Surplus) for FY 2021-22 as approved by the Commission (Rs. Crore)

Particulars	Submitted by APGCL	Approved after Truing up
Truing up for FY 2021-22		
ARR for NTPS*	67.83	55.58
ARR for LTPS*	165.65	127.92
ARR for KLHEP	104.01	90.54
ARR for LRPP	153.32	133.78
ARR for NRPP	225.87	156.18
Combined ARR	716.67	564.00
Revenue from Sale of Power	578.08	578.08
Revenue Gap/(Surplus)	138.59	(14.08)

Particulars	Submitted by APGCL	Approved after Truing up
Computation of carrying/(holding) cost on Revenue Gap/(Surplus) of FY 2020-21		
Carrying /(holding) cost for FY 2021-22 @ 10.00% (half Year)		(0.70)
Carrying /(holding) cost for FY 2022-23 @10.58% (full Year)		(1.49)
Carrying /(holding) cost for FY 2023-24 @ 10.58% (half Year)		(0.74)
Total	-	(2.94)
Cumulative Revenue Gap/(Surplus) along with Carrying/(Holding) Cost	138.59	(17.02)

Note: *Considering effective capacity

8.1.4 The Commission approves the Revenue Surplus of Rs. 17.02 Crore arising out of Truing up for FY 2021-22, including the holding cost. This amount is to be refunded to APDCL in 12 equal monthly instalments, viz., Rs 1.42 Crore per month during FY 2023-24, as adjustments in the monthly bill.

8.2 Fixed Charges and Energy Charges for FY 2023-24 for NTPS, LTPS, LRPP and NRPP

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

Table 98: Proposed Generation tariff as submitted by APGCL (Rs. Crore)

Station	Particulars	FY 2023-24
NTPS	Annual Fixed Charges (Rs. Crore)	32.56
	Monthly Fixed Charges (Rs. Crore)	2.71
	Energy Charges (Rs. /kWh)	7.69
LTPS	Annual Fixed Charges (Rs. Crore)	116.29
	Monthly Fixed Charges (Rs. Crore)	9.69
	Energy Charges (Rs. /kWh)	7.96
KLHEP	Annual Fixed Charges (Rs. Crore)	100.74
	Monthly Fixed Charges (Rs. Crore)	4.20
	Energy Charges (Rs. /kWh)	1.30
LRPP	Annual Fixed Charges (Rs. Crore)	79.67

Station	Particulars	FY 2023-24
	Monthly Fixed Charges (Rs. Crore)	6.64
	Energy Charges (Rs. /kWh)	6.96
NRPP	Annual Fixed Charges (Rs. Crore)	263.67
	Monthly Fixed Charges (Rs. Crore)	21.97
	Energy Charges (Rs. /kWh)	3.94

Commission's Analysis

8.3.1 The Commission has determined the Tariff for FY 2023-24 for NTPS, LTPS, LRPP and NRPP as under:

Annual Fixed Charges

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

8.3.3 Regulation 48.1 and 48.2 of the MYT Regulations, 2021 specifies that the NAPAF for full recovery of Annual Fixed Charges shall be 50% for both NTPS and LTPS and 85% for LRPP and NRPP respectively.

8.3.4 The Fixed Charges for NTPS, LTPS, LRPP and NRPP as approved by the Commission for FY 2023-24 is shown in the following Table:

Table 99: Fixed Charges as approved for FY 2023-24 by the Commission (Rs. Crore)

Generating Station	Annual Fixed Charges	Monthly Fixed Charges
NTPS	19.52	1.63
LTPS	79.10	6.59
LRPP	65.16	5.43
NRPP	152.55	12.71

8.3.5 However, in the event of actual Availability for the year, computed in accordance with the Regulation 48.1 of the MYT Regulations, 2021, being less than the Normative Availability, the Fixed Charges shall be proportionately adjusted as per the MYT Regulations, 2021.

Energy Charges

8.3.6 The Commission has determined the Energy Charges (on energy sent-out basis) for

NTPS, LTPS and LRPP as shown in the following Table:

Table 100: Energy Charges for FY 2023-24 approved by the Commission (Rs. Crore)

Station	Particulars	FY 2023-24
NTPS	Fuel Cost (Rs. Crore)	45.97
	Net Generation (MU)	171.50
	Energy Charges (Rs. /kWh)	2.68
LTPS	Fuel Cost (Rs. Crore)	110.51
	Net Generation (MU)	402.32
	Energy Charges (Rs. /kWh)	2.75
LRPP	Fuel Cost (Rs. Crore)	120.24
	Net Generation (MU)	501.22
	Energy Charges (Rs. /kWh)	2.40
NRPP	Fuel Cost (Rs. Crore)	93.83
	Net Generation (MU)	696.05
	Energy Charges (Rs. /kWh)	1.35

8.5 Capacity Charges and Energy Charge Rate for KLHEP

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

Table 101: Proposed Generation tariff for KLHEP as submitted by APGCL

Station	Particulars	FY 2022-23
KLHEP	Capacity Charges (Rs. Crore)	49.18
	Energy Charges (Rs. /kWh)	1.27

Commission's Analysis

8.5.2 Regulation 50.1 of the MYT Regulations 2021 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 2023-24 based on the applicable AFC and projected Availability as under:

Table 102: Capacity Charges and Energy Charges approved by the Commission for KLHEP for FY 2023-24

Particulars	FY 2022-23
Annual Fixed Charge (Rs. Crore)	86.72
Capacity Charges (Rs. Crore)	43.36
Design Energy (MU)	390.00
Auxiliary Consumption (%)	0.50%
Net Design Energy (MU)	388.05
Energy Charge Rate (Rs. /kWh)	1.12

8.5.3 The Capacity Charges shall be charged for calendar month on monthly basis as per Regulation 52.1 and 52.2 of MYT Regulations, 2021.

8.6 Generation Tariff for FY 2023-24

8.6.1 The Commission approves the Generation Tariff for FY 2023-24 as shown in the following Table:

Table 103: Generation Tariff for FY 2023-24 approved by the Commission

Particulars	Particulars	FY 2022-23
NTPS	Annual Fixed Charges (Rs. Crore)	19.52
	Monthly Fixed Charges (Rs. Crore)	1.63
	Energy Charges (Rs. /kWh)	2.68
LTPS	Annual Fixed Charges (Rs. Crore)	79.10
	Monthly Fixed Charges (Rs. Crore)	6.59
	Energy Charges (Rs. /kWh)	2.75
LRPP	Annual Fixed Charges (Rs. Crore)	65.16
	Monthly Fixed Charges (Rs. Crore)	5.43
	Energy Charges (Rs. /kWh)	2.40
KLHEP	Capacity Charges (Rs. Crore)	43.36
	Monthly Capacity Charges (Rs. Crore)	3.61
	Energy Charge Rate (Rs. /kWh)	1.12
NRPP	Annual Fixed Charges (Rs. Crore)	152.55
	Monthly Fixed Charges (Rs. Crore)	12.71
	Energy Charges (Rs. /kWh)	1.35

8.6.2 Since, the Commission has determined Station-wise Generation Tariff for FY 2023-24, the billing shall be done for each station separately on monthly basis in accordance with the provisions of MYT Regulations, 2021.

8.7 Applicability of Tariff

8.7.1 The approved Generation tariff for FY 2023-24 shall be effective from April 1, 2023 and shall continue until replaced/modified by an Order of the Commission.

Sd/-
(A. Bhattacharyya)
Member, AERC

Sd-
(S.N Kalita)
Member, AERC

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

9 Directives

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

As regards the directives issued by the Commission, APGCL has submitted the report to the Commission on compliance of directives issued in the Tariff Order dated 21st March, 2022. 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 21st March, 2022

Directive 1: Completion of Projects

The Commission directs APGCL to complete the new and ongoing projects on time. The Commission also directs APGCL to set up their ongoing Solar Plants on Time.

Status:

Directive 2: Procurement of Gas

APGCL should continue to pursue with its gas suppliers/ transporter to obtain the contracted quantum of gas on a regular basis. The issue of gas should be pursued with the concerned ministry of GOI in consultation with the state Government.

Status:

Noted. Action on the matter will be taken shortly by APGCL.

Directive 3: Fixed Asset Register

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

Status:

APGCL updates its FAR regularly and is ready to submit to the Commission whenever asked for.

Directive 4: Energy Audit of LTPS and NTPS

The Commission directs APGCL to conduct an energy Audit of LTPS and NTPS with the help of NIT Silchar.

Status:

Noted. Details were submitted along with 1st Quarter report on the directives of the Commission submitted vide No. APGCL/CGM(G) /AERC/2020/ 115/Pt -XII/17 Dated 15/07/2022.

Directive 5: Overhauling of Units

Commission observes that the Overhauling of units are never completed on time as proposed by APGCL. The Commission directs APGCL to complete the overhauling of units as per scheduled otherwise the Commission may not allow the expenditure in future.

Status:

Noted. APGCL is putting all-out effort to complete the Special R&M works approved in the Tariff Order for the FY 2022-23 within stipulated time period.

Directive 6: Solar Storage/ Pump Storage

The Commission directs APGCL to initiate action for installation of solar/pump storage facilities to suit the demand.

Status:

Noted. APGCL is planning a feasibility study for a pump storage power project at CTPS site.

New Directives:

The Commission hereby issues the following directives to APGCL:

Directive 1: Completion of Projects

The Commission directs APGCL to complete the new and ongoing projects on time. The Commission also directs APGCL to set up their ongoing Solar Plants on time.

Directive 2: Procurement of gas

APGCL should continue to pursue with its gas suppliers/ transporter to obtain the contracted quantum of gas on a regular basis. The issue of gas should be pursued with the concerned ministry of GOI in consultation with the State Government.

Directive 3: Fixed Asset Register

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

Directive 4: Energy Audit of LTPS and NTPS

The Commission directs APGCL to conduct an energy Audit of LTPS and NTPS with the help of NIT Silchar.

Directive 5: Overhauling of Units

Commission observes that the Overhauling of units are never completed on time as proposed by APGCL. The Commission directs APGCL to complete the overhauling of units as per scheduled otherwise the Commission may not allow the expenditure in future.

Directives 6: Solar Storage/ Pump Storage

The Commission directs APGCL to initiate action for installation of solar/pump storage facilities to suit the demand.

Directives 7: Board approval of Special R&M/Capital Projects/Schemes/Works

The Commission directs APGCL to submit approval of the board or any other competent authority for all Special R&M/Capital Projects/Schemes/Works proposed to be undertaken by the petitioner. The Commission also directs APGCL to approach the Commission separately for its projects which were not included in the capital investment plan approved in the MYT Order.

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

**Sd/-
(A.Bhattacharyya)
Member, AERC**

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

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

Annexure 1:

Minutes of the 31st Meeting of the State Advisory Committee

Venue: AERC Conference Hall.

Day/Dated: Monday, 30th January, 2023

List of members/special invitees: At Annexure-1 (Enclosed)

The 31st Meeting of the State Advisory Committee (SAC) was chaired by the Hon'ble Chairperson, AERC, Kumar Sanjay Krishna, IAS, (Retd.).

At the onset, Hon'ble Chairperson, AERC welcomed all members and invitees. Hon'ble Chairperson informed that the utilities have submitted Tariff petitions for True up for FY 2021-22, Annual Performance Review for FY 2022-23 and Aggregate Revenue Requirement for FY 2023-24. The Commission directed the petitioners to publish the petition in abridged form for information of the public and for comments/suggestions. In response to the petitions, several stakeholders submitted their views. The Hon'ble Chairperson informed that a public hearing on the tariff petitions will be held in the month of February. Shri Krishna observed that the State Advisory Committee has an important advisory role to play and requested the members to give constructive views and suggestions to enable the Commission to complete tariff determination process within the timeline. The Hon'ble Chairperson informed that as MD, APDCL could not be present in the meeting, another meeting with APDCL would be held very soon so that more meaningful discussions on the proposed APDCL tariff hike and increase in power purchase cost etc, could take place. Thereafter, the agenda items were taken up for discussion in seriatim.

The important points raised by the members during the discussions are briefly recorded below.

Agenda Item No 2: Brief presentation on Action Taken Report of AEGCL, APGCL and APDCL

APGCL

A brief presentation by Mr. Jayjeet Bezbaruah, Assistant Director (Engg) on action taken report of APGCL, AEGCL followed by comment and views from the Members.

During the presentation on action taken report of APGCL, Shri Dilip Sarma Member opined that conversion of grants to equity by APDCL will lead to substantial increase in the Retail Tariff. Shri Subodh Sharma, Member mentioned that while it may be legitimate to convert the grants into equity but it should not be allowed as the cost of retail Tariff which will ultimately burden the consumers. Thereby, Shri Sharma requested AERC to look into the whole issue from the retail consumer's perspective.

The Hon'ble Chairperson, AERC clarified that conversion of grant to equity pertains to all the three utilities and has been claimed in the respective tariff as Return on Equity by each utility. The Hon'ble Member, AERC explained that it is legitimate to convert the grants to equity and assured that the Commission will look into the matter so that the burden on the consumers can be minimized, to a certain extent. Hon'ble Member also mentioned that CERC did this long back in 2001 along with some other states.

Member Shri C. Baruah mentioned that 3 years back, there was a plan to start a pumped storage station in the Chandrapur area. However, no survey was done and finally the plan did not materialize. MD, APGCL informed that a formal survey had taken place and a report has been submitted. According to the survey, there is a possible generation of 40 MW to 70 MW. Member Baruah advised APGCL to visit the Purulia Pumped Storage Project to gain necessary experience to implement the project successfully.

Shri N Borthakur asked APGCL to study the feasibility and financial viability of the Chandrapur project considering per unit storage cost and submit a report on the same to the Commission.

AEGCL

During the presentation on action taken report of AEGCL Shri N Borthakur enquired about the status of 400 KV transmission line of Biswanath Chariali to Khumtai as NRL is to draw power for their new unit from Khumtai GSS. MD, AEGCL informed that, route survey has been completed from Biswanath Chariali to Khumtai. The matters regarding funding of the transmission line and tendering have already been discussed with the Principal Secretary, GoA. MD, AEGCL further informed that no funding could

be arranged for the project so far. The land for Khumtai GSS has been handed over to AEGCL.

The Commission asked AEGCL to implement the project as early as possible and tie up with some funding agency on priority basis. CGM, AEGCL informed that the initial load of new unit of NRL will be arranged at 220 KV from Khumtai GSS and the Samaguri 220KV line will cater power to the GSS till the 400 KV Biswanath Chariali - Khumtai line is complete.

MD, AEGCL informed that the proposal for augmentation of 220/132 KV Rangia GSS has been forwarded to GoA under SOPD-G scheme. Hon'ble Member AERC suggested that AEGCL should try to collect funds from private lenders at a cheaper rate than Govt lending rate. Shri Subodh Sharma agreed that as AEGCL have high equity, other options for cheaper loans should be explored.

Shri Abhijit Barooah stated that, AEGCL is paying 10.5% interest on GoA loan. The utility should take up this matter with GoA to reduce the interest rate for the benefit of the consumers. Secretary, Power (E) Department, GoA informed that no proposal in this regard has been received and, if requested, the matter will be looked into.

Shri Dilip Sharma stated that if power is supplied at lower than the rated voltage then losses will be more. Hence, action should be taken to improve voltage profile and reduce transmission loss. Shri Subodh Sharma observed that AEGCL has hardly taken any steps to reduce the losses and the Transmission losses for FY 2023-24 is 3.30% as per the submission of the tariff petition. Shri Sharma also enquired regarding steps taken to improve voltage at Nalkata. CGM, AEGCL informed that new grid substations are being constructed which will result in voltage improvement. Also, capacitor banks have been installed at Nalkata to improve voltage.

Shri Abhijit Barooah suggested that procuring power from neighboring Bhutan may be explored where power is available at a cheaper rate. Shri Prabhat Bezbaruah informed that PTC India Ltd signed PPAs with Power Utilities of Bhutan for supply of power from various hydro stations to DISCOMs in India. For Assam, power from Mangdechu Hydro Plant has been procured through similar arrangement.

Shri Subodh Sharma enquired about the 132 KV Substation in Udharband which was sanctioned in 2018. He stated that the industries are affected because of the power

shortage and poor voltage profile in that area. MD, AEGCL informed that the GSS will be commissioned under AIB scheme. Shri Subodh Sharma requested to expedite the works for the GSS so that power scenario in Cachar improves.

Agenda Item No 4: Presentation and Discussion on Tariff Petitions by the utilities

9.1 Presentation by APGCL

A Power Point Presentation was made by representative from APGCL regarding approval of True up for FY 2021-22, Revised Capex Plan for FY 2022-23 to FY 2023-24, Petition for Annual Performance Review for FY 2022-23 and Revised ARR for FY 2023-24.

MD APGCL, Shri B. Bhuyan mentioned that Gas price increased by ~ 379% from Sept'21 to Oct'22. He highlighted the substantial increase in gas price which are as follows: from April 21 to September 21 -- 1.79 \$/MMBTU, from October-21 to March 22 - 2.90 \$/ MMBTU, from April 22 to September 22 -- 6.10 \$/MMBTU and from October-22 to March 23 -- 8.57 \$/MMBTU. Shri Bhuyan also informed that a Ketan Parekh committee was formed by GOI, and the Committee has fixed a base price of 4.5 \$/MMBTU with a cap of 6.5 \$/MMBTU. The same has been accepted by MOPNG and waiting for the cabinet approval. MD APGCL also mentioned that once the approval is done the gas price is likely to decrease.

During the presentation Shri A Baruah from CII expressed concern over increase in generation cost of the gas-based power plants of APGCL. Shri Baruah urged to make an analysis on whether APDCL should buy power from the market/other sources and stop buying power from APGCL considering APGCL s current high submissions.

Shri N Borthakur also urged to make a proper analysis on whether it is beneficial for the APDCL to purchase power at high cost or they should procure power from the market.

MD APGCL mentioned that, APDCL purchased about 11000 units per annum. He mentioned that out of that 11000 units APGCL cater around 13%-17% of the quantum. He also mentioned that till last year APGCL was providing power at a cheaper price (around 40% less) considering the average power purchase cost of APDCL. He also

pointed that due to the high gas price the generation cost of the other stations will also go up simultaneously keeping the same impact in the Retail Tariff.

Shri A Bordoloi, Member, advised APGCL to plan for some bigger solar projects as the cost of the Solar is less compared to the Gas based generating stations.

Shri Subodh Sharma and Shri C Baruah enquired about the current status of NRPP STG unit. They also asked regarding MU loss due to the non-generation of NRPP STG unit. Representative of APGCL mentioned that around 35%-40% generation loss occurred due to STG unit break down. MD APGCL informed that the STG unit will be revived by April 2023.

Shri N. Borthakur enquired the reason of high capital expenditure given by APGCL for the NRPP plant.

Representative from APGCL explained that Hot Gas Path Inspection (HGPI) of NRPP at the end of 24000 Running hours will be done by APGCL. He also mentioned that, estimated cost for the HGPI work is 148Cr. This cost has been divided into two equal parts of 74 Crore. First part is proposed for FY 2023-24 to initial procurement of spares and the second part is proposed for FY 2024-25 to procure balance spares and execute the work. APGCL mentioned that HPGI will contain advance gas path (AGP) components to upgrade the present technology installed in the GT system. This upgradation will eliminate the need for the Combustion inspection at the end of every 12000 Running Hours. This will reduce maintenance and increases gross generation of NRPP by reducing the outage hours due to planned maintenance shutdown.

Shri Subodh Sama Member SAC also enquired what APGCL is planning to do with the refurbished components. APGCL mentioned that the refurbished components will be used in next HGPI at the end of 48000 Running hours making the cost of next HGPI less than the first one. As it is a planned activity by APGCL which is a state-owned entity, Members of SAC noted the point and directed APGCL to maximize the gross generation by reducing the outage hours by planned maintenance shutdown.

Shri Borthakur member SAC also requested APGCL to provide a detailed report of increase in generation once the HGPI work is completed.

9.2 Presentation by AEGCL

A PowerPoint presentation was made by MD, AEGCL on the salient features of Tariff petition submitted by AEGCL and SLDC. Important points of the discussion are noted below

In True-up for FY 2021-22, AEGCL has shown ARR of Rs.403.98 Crore and a gap of Rs. 14.89 Crore. For SLDC, in True-Up, ARR of Rs. 6.48 Crore and surplus of Rs. 0.88 Crore has been shown.

For FY 2022-23, AEGCL & SLDC have claimed ARR of Rs.620.07 Crore & Rs. 7.63 Crore and a gap of Rs. 159.62 Crore & Rs. 1.15 Crore respectively.

For FY 2023-24, AEGCL & SLDC has shown ARR of Rs.703.39 Crore & Rs. 10.31 Crore and gap of Rs 212.30 Crore & of Rs.3.40 Crore respectively.

AEGCL informed that transmission loss of 3.32% was recorded in FY 2021-22 and projected a loss of 3.30% through APR and ARR. AEGCL projected transmission charge of Rs.0.62 Rs./kWh , Transmission access charge of Rs 7625.04 /MW/day and SLDC charge of Rs. 97.68/MW/Day for FY 2023-24.

As suggested by the members in the last SAC meeting, AEGCL also made a presentation with a power map of Assam with existing and proposed GSS and lines.

Hon'ble Chairperson reiterated that another SAC meeting to discuss the tariff petitions of APDCL will be held in February and MD, APDCL and along with other officials from the Company would be present during that meeting.

The meeting ended with a vote of thanks from and to the Chair.

Sd/-

Secretary,

Assam Electricity Regulatory Commission

Annexure-I

List of members, special invitees, and officers present in the meeting of the 31st SAC

Members

1. Kumar Sanjay Krishna, IAS (Retd), Chairperson, AERC
2. Shri Satyendra Nath Kalita, Member (Technical), AERC
3. Shri Gautam Talukdar ,Secretary, Power (E) Department, Government of Assam
4. Shri Niranjan Borah, Deputy Secretary, FinanceDepartment, Government of Assam.
5. Shri Subodh Sharma, Consumer Activist
6. Shri Champak. Baruah, Ex-Member (T), APDCL & Member, CGRF (Ghy)
7. Shri Dilip. Kr. Sarma, Ex.Executive Director, PGCIL
8. Shri Prabhat Bezboruah, Ex. Chairman TRI
9. Shri B Barpujari, Ex. Executive Director IOC AOD
10. Shri Nikunja Borthakur, Sr, CGM CA & Director, NRL
11. Smt. Vikali Chishi, Sr Manager, Assam Gas Company Ltd.
12. Shri Arin Bordoloi, Ex GM NTPC
13. Shri Deepakananda Bharali, Ex. GM IOC
14. Dr Kalpana Sarma, Ex-Associate Professor of Physics, Cotton University
15. Shri Hemanga Deka, Scientific Officer, AEDA
16. Shri Saurabh Agarwal, FINER

17. Shri Surendra Chowkhani, FINER.
18. Shri Abhijit Sharma, Secretary. ABITA
19. Shri Abhijit Barooah, Ex-Chairman, CII Assam Branch

SPECIAL INVITEES

1. Shri Bibhu Bhuyan, Managing Director, APGCL
2. Shri Debajyoti Das, Managing Director, AEGCL

OFFICERS FROM AEGCL & APGCL

AEGCL

1. Shri Loknath Chowdhury, CGM, AEGCL
2. Shri Hemanta Kr Sharma, CGM,SLDC,AEGCL
3. Smt Rodali Khaund, DGM, SLDC, AEGCL
4. Ashutosh Bhattacharya,DGM,SLDC,AEGCL
5. F.H Hashmi,DGM,AEGCL
6. Shri Debasish Paul, AGM, AEGCL
7. Shri Bidyut Das,Consultant,AEGCL
8. Shri Dipmoni Nath,AM,AEGCL.

APGCL

1. Shri Suresh Kaimal,CGM,APGCL
2. Shri Pankaj Bikash Sharmah,AGM,APGCL.
3. Shri Sunny Kr. Singh,Consultant,APGCL.

OFFICERS FROM AERC

1. Shri M.K. Deka, IAS (Retd), Secretary, AERC
2. Ms. P. Sharma, Joint Director (Regulatory Affairs & Finance Planning),
AERC
3. Shri N.K. Deka, Deputy Director (Gen, PPA, P&P), AERC
4. Mrs R. Baruah, Deputy Director (Engg.), AERC
5. Mrs P. Rabha, Assistant Director (Tariff), AERC
6. Shri Jayjeet Bezbaruah,Assistant Director(Generation),AERC

7. Shri A.N Devchoudhury, Consultant(Tariff),AERC

ANNEXURE II

Minutes of the 32nd Meeting of the State Advisory Committee

Venue: AERC Conference Hall.

Day/Dated: Thursday, 9th February 2023

List of members/special invitees: At Annexure-1 (Enclosed)

The 32nd Meeting of the State Advisory Committee (SAC) was chaired by the Hon'ble Chairperson, AERC, Kumar Sanjay Krishna, IAS, (Retd.).

At the onset, Hon'ble Chairperson, AERC welcomed all members and invitees. Thereafter, the agenda items were taken up for discussion.

The important points raised by the members during the course of the discussion are briefly recorded below.

Agenda: Presentation by APDCL

MD, APDCL informed that since reform, the peak demand has reached from 646 MW to 2426 MW, and average daily consumption has also increased from 9.89 MU to 32.86 MU. He further informed that APDCL ranks 4th on DISCOM performance, however, on consumer service rating APDCL is in category C, and in this area APDCL needs to improve.

MD, APDCL informed that for FY 2021-22 as per True Up, the energy handled is 9% more, energy sales is 6% more, revenue is 7% more and distribution loss is 1.95% more than what was approved for the year. Also, APDCL received less government subsidy of around Rs 37 Cr. There is also a significant net gap of Rs 228.9 Cr due to the adjustment of a bill of Rs 53 Cr (net), moderation of PoC charges and an increase in power purchase, and a hike in market price since Oct' 21 (due to coal crisis).

While discussing the APR for FY 2022-23, MD, APDCL informed that, the distribution loss is 16.50% against the approved loss of 15.00%. There is also a massive increase in power purchase cost of Rs 2008 Cr mainly due to a massive hike in natural gas

prices and lesser receipt of power purchase/tariff subsidy from Govt. of Rs 210 Cr. MD, APDCL further informed that the net gap in APR is around Rs 1368 Cr.

MD, APDCL also informed that in ARR the cumulative revenue requirement for FY 2023-24 is Rs 10,779.60 Cr and the proposed ACoS is Rs 9.44 per kWh for FY 2023-24. SAC Members enquired whether subsidy has been taken into account in ACoS. MD, APDCL informed that subsidy is not accounted for in ACoS.

SAC Member informed the Commission that in Jal Jeevan Mission (JJM) it has been observed that below-rating transformers are been used by the contractor and, in many cases, safety rules are not been followed, and APDCL has also not been involved in the decision making process. Hon'ble Chairperson directed the representative from Government to take up the matter. Principal Secretary, Power, informed that such a matter was never brought to their notice. However, he informed that a Monitoring Committee shall soon be formed which will look into the matter. MD, APDCL further informed that field officers shall also be instructed to revisit such sites.

Hon'ble Chairperson informed that Chief Electrical Inspector had complained regarding application of safety measures in the Smart City project, which should also be taken up by APDCL.

SAC Member further questioned APDCL regarding extra expenses observed around Rs 114 Cr. under revenue bill and collection in the Annual Accounts. MD, APDCL informed that for billing ARMS in-house system is used but, for bill collection mainly outsourced manpower is being utilized. Therefore, extra expenses need to be given in the form of collection per bill and it also includes some miscellaneous expenses.

SAC Members discussed that in Assam around 80% are domestic consumers and 20% are industrial consumers and these 20% consumers are paying the highest tariff in order to cross-subsidies other consumers. This may result in the shift of industrial consumers to other locations like Bhutan which is 100 km away from Assam and where the tariff is substantially low. MD, APDCL informed that tariff is designed in such a way to make electricity affordable for all consumers, and that is why the domestic consumers are cross-subsidized by industrial consumers and cross subsidy is maintained within $\pm 20\%$ of the average cost of supply as per the National Tariff Policy.

SAC Members also suggested that proper monitoring of power purchases should be done, in order to control purchase of power at a higher rate and sale of surplus power at a lower rate. MD, APDCL informed that power purchase is already being monitored by APDCL and many PPA's are being signed to have adequate base load and to meet RPO compliance for the State of Assam.

SAC Members enquired about the road map of APDCL to improve consumer services as APDCL has been rated as category-C. MD, APDCL informed that various measures are being taken up like improving the infrastructure, online services introduced for quick processing of applications for electricity connections, billing control of the consumers by using smart meters, consumers grievances cell to resolve any issues, etc. SAC Members also enquired whether consumers have to pay for the service improvement, to which MD, APDCL replied that no cost shall be loaded to the consumers and many such works have been considered in RDSS.

Agenda: Presentation by Shri Subodh Sharma

Member, Shri Subodh Sharma informed that a systematic system study of the new circles along with the exercise of designing of optimum distribution system was not made in a professional manner contrary to the earlier strategy adopted for APDRP schemes. Thus, the AT&C loss reduction exercise remained incomplete along with some energy auditing schemes taken under RAPDRP. He suggested that APDCL should prioritize a system study circle-wise and design an optimum distribution network followed by execution of the works for system improvement.

Shri Subodh Sharma further informed that the technical losses of APDCL have to be compensated by the consumers in tariff. In FY 2020-21, AEGCL had a technical loss of 3.34% in its transmission network and it remained almost the same in FY 2021-22 also. Again, PGCIL accounted for a transmission loss of 2.49% in FY 2020-21 for delivering its power to AEGCL, which surprisingly rose to 2.93% in FY 2021-22. He suggested that such a progressive increase in losses should be checked instead of passing it to the consumers.

Shri Subodh Sharma also emphasized having an effective need for a monitoring mechanism to monitor the progress of procurement of power purchase on real time

basis. He expressed concern about the conversion of Government grants into equity which will cause tariff hikes.

Shri Subodh Sharma also observed that in many instances the necessary protective and isolation devices as well as earthing norms were not been followed for electrical installations in accordance with relevant Electricity Rules 2005, Central Electricity Authority Guidelines, and BIS specifications etc. He observed that many of the electrical accidents, that had taken place could have been averted had the Rules been followed. Therefore, such inadequacies need to be addressed in technical reforms projects.

SAC Members also informed that under section 135 of EA 2003 it has been observed that in many cases APDCL lost the cases in the Court because of weak FIR reports and inspection of the site by police officers who do not deal with electricity business. In such cases, Members suggested having a technical committee expert who can help in resolving such issues at the first instance. APDCL officials informed that in many cases, APDCL provides assistance in such verifications to the Police Department at the ground level.

Hon'ble Chairperson informed the Members that a public hearing for Tariff Petitions has been scheduled on 28th February 2023 at 10.30 AM and further suggestions from any member will be highly appreciated which will help the Commission in framing the tariff orders.

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 in the meeting of the 32nd SAC

Members

20. Kumar Sanjay Krishna, IAS (Retd), Chairperson, AERC
21. Shri Satyendra Nath Kalita, Member (Technical), AERC
22. Shri Neeraj Verma, Principal Secretary, Power (E) Department, GoA
23. Shri Subodh Sharma, Consumer Activist
24. Shri Champak. Baruah, Ex-Member (T), APDCL & Member, CGRF (Ghy)
25. Shri Arin Bordoloi, Ex GM NTPC
26. Shri Abhijit Sharma, Secretary. ABITA
27. Shri D. Bharali, Ex. GM IOC
28. Shri Dilip. Kr. Sarma, Ex.Executive Director, PGCIL
29. Ms. Vikali Chishi, Sr. Manager, AGCL
30. Shri Kumud Medhi, Secretary, NESSIA
31. Shri Abhijit Barooah, Ex-Chairman, CII Assam Branch
32. Prof.N B Dev Choudhury, NIT Silchar
33. Dr Kalpana Sarma, Ex-Associate Professor of Physics, Cotton University
34. Shri Surender Chowdhuri, Director, FINER

SPECIAL INVITEES

3. Shri Rakesh Kumar, IAS, Managing Director, APDCL
4. Shri Bibhu Bhuyan, Managing Director, APGCL

OFFICERS FROM APDCL. AEGCL & APGCL

APDCL

1. Mir Rafiul Amir Dewan, CGM (Com&EE), APDCL
2. Shri Putul Ch. Bhagowati, CGM (D), LAR, APDCL
3. Shri Sumit Kr. Singha, AGM, APDCL
4. Shri Nilmadhab Deb, AGM (F&A), APDCL
5. Shri Pradeep Kr. Baishya, AGM (TRC), APDCL

APGCL

4. Shri Hitendra Gayari, OSD to Chairman, APGCL

OFFICERS FROM AERC

1. Shri Manoj Kumar Deka, IAS(Retd.), Secretary
2. Smt. Panchamrita Sharma Joint Director (RA & FP)
3. Shri Nipen Dekha, Deputy Director (Gen. PPA Procurement & Planning)
4. Smt Ronkita Baruah, Deputy Director (Engg.)
5. Shri Jayjeet Bezbaruah, Assistant Director (Engg.)
6. Shri Kishore Rajkumar, Assistant Director (IT& RIMS)
7. Smt. Punam Rabha, Assistant Director (Tariff)
8. Shri A.N Dev Choudhury, Consultant (Tariff)

Annexure 2- Station Wise Depreciation

Depreciation for NTPS (Rs. Crore)

Sr. No	Particulars	FY 2021-22			FY 2022-23			FY 2023-24		
		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	-	0.09	11.18	-	0.00
3	Hydraulic works	0.04	-	0.00	0.04	-	0.00	0.04	-	0.00
4	Other civil works	25.95	0.27	0.94	26.23	-	0.95	26.23	-	0.95
5	Plant & machinery- Gas	97.85	-	0.18	97.85	2.26	0.24	100.10	0.94	0.34
6	Plant & machinery- Hydel	-	-	-	0.00	-	-	0.00	-	-
7	Lines & cables	1.95	-	0.10	1.95	-	0.10	1.95	-	0.10
8	Vehicle	0.45	-	-	0.45	-	-	0.45	-	-
9	Furniture	1.24	0.09	0.02	1.33	-	0.02	1.33	-	0.02
10	Other office equipment	1.59	0.14	0.05	1.73	-	0.04	1.73	-	0.04
11	Roads on land belonging to others	-	-	-	0.00	-	-	0.00	-	-
12	Capital spares at Generating Stations	41.46	-	-	41.46	-	-	41.46	-	-
13	Total	191.41	0.51	1.66	191.92	2.26	1.44	194.17	0.94	1.45

Depreciation for LTPS (Rs. Crore)

Sr. No	Particulars	FY 2021-22			FY 2022-23			FY 2023-24		
		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	0.40	1.09	32.61	0.18	1.10
3	Hydraulic works	-	-	-	0.00	-	-	0.00	-	-
4	Other civil works	43.26	(1.92)	1.40	41.34	0.93	1.48	42.27	0.14	1.51
5	Plant & machinery- Gas	289.93	4.40	15.42	294.32	12.34	16.13	306.67	11.99	17.09
6	Plant & machinery- Hydel	-	-	-	0.00	-	-	0.00	-	-
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	0.63	0.00	0.01	0.63	-	0.01	0.63	-	0.01
10	Other office equipment	0.39	0.00	0.02	0.39	-	0.02	0.39	-	0.01
11	Roads on land belonging to others	-	-	-	0.00	-	-	0.00	-	-
12	Capital spares at Generating Stations	114.93	-	-	114.93	-	-	114.93	-	-
13	Total	495.62	2.49	18.43	498.11	13.67	19.21	511.78	12.31	20.22

Depreciation for KLHEP (Rs. Crore)

Sr. No	Particulars	FY 2021-22			FY 2022-23			FY 2023-24		
		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	(0.64)	0.58	16.72	-	0.58	16.72	-	0.58
3	Hydraulic works	162.46	(1.31)	8.57	161.15	2.62	8.62	163.77	2.14	8.63
4	Other civil works	102.75	(3.33)	3.40	99.42	0.15	3.44	99.57	0.99	3.46
5	Plant & machinery- Gas	-	-	(0.06)	0.00	-	-	0.00	-	-
6	Plant & machinery- Hydel	175.62	(3.15)	9.27	172.47	14.03	9.64	186.51	14.13	9.94
7	Lines & cables	32.57	(0.86)	1.64	31.71	-	1.72	31.71	-	1.72
8	Vehicle	0.29	-	(0.02)	0.29	-	-	0.29	-	-
9	Furniture	0.12	0.01	0.01	0.13	-	0.01	0.13	-	0.01
10	Other office equipment	0.14	0.01	0.01	0.14	-	0.01	0.14	-	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	-	-
13	Total	514.74	-9.26	23.40	505.48	16.80	24.03	522.28	17.25	24.36

Depreciation for LRPP (Rs. Crore)

Sr. No	Particulars	FY 2021-22			FY 2022-23			FY 2023-24		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	-	-	-	0.00	-	-	0.00	-	-
2	Building	-	-	-	0.00	-	-	0.00	-	-
3	Hydraulic works	-	-	-	0.00	-	-	0.00	-	-
4	Other civil works	24.36	-	0.81	24.36	0.10	0.82	24.46	0.04	0.81
5	Plant & machinery- Gas	244.38	(0.83)	12.88	243.55	-	12.90	243.55	0.66	12.93
6	Plant & machinery- Hydel	-	-	-	0.00	-	-	0.00	-	-
7	Lines & cables	-	-	-	0.00	-	-	0.00	-	-
8	Vehicle	-	-	-	0.00	-	-	0.00	-	-
9	Furniture	-	-	-	0.00	-	-	0.00	-	-
10	Other office equipment	-	-	-	0.00	-	-	0.00	-	-
11	Roads on land belonging to others	-	-	-	0.00	-	-	0.00	-	-
12	Capital spares at Generating Stations	-	-	-	0.00	-	-	0.00	-	-
13	Total	268.75	-0.83	13.70	267.92	0.10	13.72	268.02	0.70	13.75

Depreciation for NRPP (Rs. Crore)

Sr. No	Particulars	FY 2021-22			FY 2022-23			FY 2023-24		
		Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation	Opening GFA	Addition of GFA	Depreciation
1	Land	-	-	-	0.00	-	-	0.00	-	-
2	Building	-	149.83	3.96	149.83	-	7.91	149.83	-	7.91
3	Hydraulic works	-	-	-	0.00	-	-	0.00	-	-
4	Other civil works	-	81.31	2.15	81.31	-	4.29	81.31	-	4.29
5	Plant & machinery- Gas	-	478.87	12.64	478.87	-	25.28	478.87	-	25.28
6	Plant & machinery- Hydel	-	-	-	0.00	-	-	0.00	-	-
7	Lines & cables	-	-	-	0.00	-	-	0.00	-	-
8	Vehicle	-	-	-	0.00	-	-	0.00	-	-
9	Furniture	-	0.08	0.00	0.08	-	0.00	0.08	-	0.00
10	Other office equipment	-	0.06	0.00	0.06	-	0.00	0.06	-	0.00
11	Roads on land belonging to others	-	-	-	0.00	-	-	0.00	-	-
12	Capital spares at Generating Stations	-	18.81	-	18.81	-	-	18.81	-	-
13	Total	-	728.96	18.75	728.96	-	37.50	728.96	-	37.50

Annexure 3- Capital Investment Plan

Capital Investment Plan for NTPS (Rs. Lakh)

Sl.No.	Approved Schemes	MYT Order		Proposed by APGCL		Approved by Commission		Remarks
		In Rs. Lakhs						
		FY 23	FY 24	FY 23	FY 24	FY 23	FY 24	
A	Electro-mechanical Work of NTPS							
1	100W LED Street Light/bay light (complete set) with separate clamps & pipe bend fitting etc.	10	10	14.5	15	10.00	10.00	Not allowed. Will be approved based on actual
2	200W LED Street Light/bay light (complete set) with separate clamps & pipe bend fitting etc.	-	22.5		22.5	-	22.50	Not allowed. Will be approved based on actual
3	30 M high Mast Lighting System (complete set)	-	12		12	-	12.00	Not allowed. Will be approved based on actual
4	Renovation of damaged sludge removing system of water clariflocculation system at Dillighat water Intake for the purpose of better water treatment	12	12	16.9	16.9	12.00	12.00	Not allowed. Will be approved based on actual

5	Supply, installation & commissioning of sulphuric Acid dilution tank at DM Plant	9.5	-	14		9.50	-	Not allowed. Will be approved based on actual
6	Renovation of damaged drinking water supply pipeline from D.M. plant to WHP residential colony & officers' colony at pahar line	12	-	17		12.00	-	Not allowed. Will be approved based on actual
7	Overhauling (Electrical & Mechanical) of Overhead EOT crane at GTMD side (MMM make, Shaw Box type)	13	-	17		13.00	-	Not allowed. Will be approved based on actual
8	Overhauling (Electrical & Mechanical) of Overhead EOT crane at STMD side	5	-	11.39		5.00	-	Not allowed. Will be approved based on actual
9	Procurement of 100 HP BCW pump motor for unit no. 6	4.2	-	8		4.20	-	Not allowed. Will be approved based on actual
10	Renovation of the Spray Pond Piping System of GT Units	-	18.5		18.5	-	18.50	Not allowed. Will be approved based on actual

11	Overhauling of ALCO Diesel engine no. 2 of Diesel Powerhouse including Procurement of Spares	-	18.85		18.85	-	18.85	Not allowed. Will be approved based on actual
12	Construction of dedicated 2 (two) nos. of 33 KV APGCL Bay at 220 KV GSS, AEGCL, Namrup			160		160		The 33 KV bays are required for securing an alternative source of power from the Grid as the 66 KV system is going to be obsolete in in near future. This is required for operation of the auxiliary equipments of the plant.
Total Amount (Rs. Lakhs)		65.70	93.85	258.79	103.75	225.70	93.85	
	Revised financial impact of ERP implementation and Consultancy plant wise	280	62	316	56	280	62	Not allowed. Will be approved based on actual
	Total	345.70	155.85	574.79	159.75	505.70	155.85	

Capital Investment Plan for LTPS (Rs. Lakh)

S. no.	Approved Schemes	MYT Order		Proposed by APGCL		Approved by Commission		Remarks
		In Rs. Lakhs						
		FY 23	FY 24	FY 23	FY 24	FY 23	FY 24	
A	Electro-mechanical Work of LTPS	Electro-mechanical Work of LTPS						
1	Replacement of Fill Packs of 03 cells of Cooling Tower	170		181		170	0	Not allowed. Will be approved based on actual
2	New and Updated Human Machine Interface (HMI) System along with installation & commissioning charges	131.4		180		131	0	Not allowed. Will be approved based on actual
3	Overhauling of HPBFP with mandatory spares		140		140	0	140	
4	Overhauling of Cooling Water Pumps (CWP) along with supply of spares.			100		0	0	Not allowed. Will be approved based on actual
5	Condensate Extractor Pump Overhauling	50		50		50	0	Not allowed. Will be approved based on actual
6	Replacement of critical MOVs with new & servicing of the remaining MOVs & servicing of Mechanical Valves	100		140		100	0	Not allowed. Will be approved based on actual
7	Up gradation of main Battery Bank along with Charger, Cables, MS Stand & other accessories.	100		70		100	0	Not allowed. Will be approved based on actual
8	Intermediate Overhauling of 37.2 MW STG & procurement of spares	50		50		50	0	Not allowed. Will be approved based on actual
9	Procurement of field instruments of Gas Turbine units of LTPS. (Unit #5)				70	0	0	Not allowed. Will be approved based on actual

10	Up-gradation of Generators control & protection panel of 3 X 20MW, Ph-II units (1 unit in first phase) For unit # 5		150		150	0	150	Not allowed. Will be approved based on actual
11	Procurement and installation and commissioning of 132 KV SF6 Breaker (05 nos.), spring charge mechanism along with up gradation of Control Panel.		350		350	0	350	
12	Procurement of auxiliary's motors and field instruments for 4RDS2 Dresser-Rand Gas Compressor units #6, # 7 and #8	73.33		200		73	0	Not allowed. Will be approved based on actual
13	Procurement of spares for 4RDS2 Dresser-Rand Gas Compressor # 6,7 & 8.	78		78		78	0	
14	Procurement of 01 no 23" LP cylinder suitable for 4RDS2 Dresser-Rand Gas compressor unit #6, 7 or 8.	118		118		118	0	Not allowed. Will be approved based on actual
15	Procurement of Spares for Gas Compressor Unit #9			100		0	0	Not allowed. Will be approved based on actual
16	Procurement, Erection , Testing and commissioning of EOT crane at Gas Compressor #9 , Capacity- 10 T				45	0	0	
17	Procurement of Spares for Combustion Inspection of GT unit # 5 & 6	35		35		35	0	Not allowed. Will be approved based on actual
18	Complete overhauling of one 7.5 MVA (R14) station transformers. Manufacturing year 1980	55		60		55	0	
19	Procurement of 132kV Current transformers for station transformers and bus tie bay.	46.2				46	0	Not allowed. Will be approved based on actual
20	Procurement of Feeder Isolators.	59.4				59	0	Not allowed. Will be approved based on actual
21	Diversion of 11 KV Colony Feeder	35		35		35	0	Not allowed. Will be approved based on actual

22	Servicing of Diverter Damper (DD) Complete & its actuator gearbox along with supply of spares		40		40	0	40	Not allowed. Will be approved based on actual
23	Overhauling of Cooling Water Pumps (CWP) along with supply of spares.		30		50	0	30	Not allowed. Will be approved based on actual
24	Procurement of a new Silica analyser for SWAS.		12		12	0	12	Not allowed. Will be approved based on actual
25	Replacement of Motor Control Centre Panel for Raw Water Intake Pump House.		25		25	0	25	Not allowed. Will be approved based on actual
26	Major overhauling of Generator transformer ,30 MVA 11/132KV of GT unit #5 and #6along with oil filtration		25		25	0	25	Not allowed. Will be approved based on actual
27	Procurement of 05 sets of 132KV isolators for replacing the old existing isolators in phase II power house switchyard		50		50	0	50	Not allowed. Will be approved based on actual
28	Testing and commissioning of transfer Bus of 132kV PH#II switchyard including switchyard auxiliaries.		40		40	0	40	Not allowed. Will be approved based on actual
29	Major Overhauling of 7.5MVA 132/3.3kv Station transformer 1 &2.		20		20	0	20	Not allowed. Will be approved based on actual
30	Renovation of Air Conditioning system of Phase-II Power Control room		50		50	0	50	Not allowed. Will be approved based on actual
31	Procurement of Inlet Air filter for 20 MW frave-V Gas Turbine # 6 & 7- 01 set		15		15	0	15	Not allowed. Will be approved based on actual
32	Modification of Hydran Point Pipe line of Fire Fighting system at PH-II power House		50		50	0	50	Not allowed. Will be approved based on actual

33	Procurement of 33kV Current transformers.		20.79		20.79	0	21	Not allowed. Will be approved based on actual
34	Procurement Transformer Isolators.		36.3		36.3	0	36	Not allowed. Will be approved based on actual
35	Procurement Isolators.		28.05		28.05	0	28	Not allowed. Will be approved based on actual
36	Procurement Circuit Breaker		8.8		8.8	0	9	Not allowed. Will be approved based on actual
37	Upgradation of the HGP and Combustion system of one GT Unit for LTPS				3608	0	0	Not allowed. Will be approved based on actual
38	Procurement and commissioning of 02 nos of Water Intake pump (Make: Kirloskar Brothers Limited)				60	0	0	Not allowed. Will be approved based on actual
39	a) Procurement of 01 no. of Cooling Tower Make-up Pump b) Procurement of 03 nos. of Cooling Tower Fan Motor				15	0	0	Not allowed. Will be approved based on actual
40	Overhauling of 02 nos. of LPBFP				50	0	0	Not allowed. Will be approved based on actual
41	Procurement of 05 nos. of 3.3KV Vacuum Circuit Breaker				55	0	0	Not allowed. Will be approved based on actual
42	Servicing of Generator Transformer (48 MVA) & Station Transformer (7.5 MVA)				10	0	0	Not allowed. Will be approved based on actual
43	a) Electronic Water Level Indicator Card b) Pressure calibrator c) Omicron Relay Testing Kit Cable d) Clamp Meter, Procurement of Tan Delta Testing Kit				32	0	0	Not allowed. Will be approved based on actual

44	Revamping of Existing Natural Gas & Water Coolers of Gas Compressors No. 6,7 & 8 of LTPS				300	0	0	Not allowed. Will be approved based on actual
45	Up gradation of Control Panel from analog system to PLC based system for Gas Compressors 6,7 & 8.				360	0	0	Not allowed. Will be approved based on actual
B	Civil Work of LTPS					0	0	Not allowed. Will be approved based on actual
	Layout of LTPS Plant with supply of all proper drawings	6			6	6	0	Not allowed. Will be approved based on actual
46	Deep tube well water supply system inside the power plant at LTPS, Maibella (Including boring, supplying, and fitting of pump set up with all pipeline and fittings, construction of filter chamber and supply of all filter materials.)	55		55		55	0	Not allowed. Will be approved based on actual
47	Construction of paver block road from main road in front of army canteen to newly constructed multi storied building inside LTPS residential colony.	25		25		25	0	Not allowed. Will be approved based on actual
48	Roof treatment of cooling water pump house panel room of WHRP at power plant of LTPS	1.5		1.8		2	0	Not allowed. Will be approved based on actual
49	Construction of LTPS main gate	10			10	10	0	Not allowed. Will be approved based on actual
50	Repairing of Switchyard stored at power plant at LTPS	8		15		8	0	Not allowed. Will be approved based on actual
51	Renovation of children park and construction of surrounding drain along with cover slabs at LTPS, Maibella	20			20	20	0	Not allowed. Will be approved based on actual

52	Development and repairing of roads inside LTPS residential colony.	15	15		15	15	15	Not allowed. Will be approved based on actual
53	Repairing of quarters at LTPS residential colony.	30	30	30	30	30	30	Not allowed. Will be approved based on actual
54	Renovation of water supply pipelines and all fittings at LTPS residential colony and Power Plant	10	10		10	10	10	Not allowed. Will be approved based on actual
55	Repairing of water pump house building, development of surrounding areas of water supply system of LTPS	7	7		7	7	7	Not allowed. Will be approved based on actual
56	Supplying of filter chamber material of LTPS	8	8	8	8	8	8	Not allowed. Will be approved based on actual
57	Development of boundary walls around LTPS Colony	20	20		20	20	20	Not allowed. Will be approved based on actual
58	Renovation of Hostel at LTPS	15	15	15	15	15	15	Not allowed. Will be approved based on actual
59	Providing of boundary fencing for the residential quarters of LTPS	20	20		20	20	20	Not allowed. Will be approved based on actual
60	Repairing of Administrative office building of LTPS	15	15		15	15	15	Not allowed. Will be approved based on actual
Total Amount (Rs. Lakhs)		1366.83	1230.94	1546.80	5891.94	1366.8	1230.9	
	Revised financial impact of ERP implementation and Consultancy plant wise	626	139	641	132	626	139	Not allowed. Will be approved based on actual
		1992.83	1369.94	2187.80	6023.94	1992.83	1369.94	

Capital Investment Plan for KLHEP (Rs. Lakh)

Approved Schemes	MYT Order		Proposed by APGCL		Approved by Commission		Remarks
	In Rs. Lakhs						
	FY 23	FY 24	FY 23	FY 24	FY 23	FY 24	
Electro-mechanical Work of KLHEP							
Spare for Inspection & Repairing of KLHEP units	40	40	40	40	40	40	
Replacement of Broken Cable Tray in 220 KV Switchyard area.	20	20	20	20	20	20	
Replacement of SF6 Breakers, CT's, PT's, Isolators etc. of 220KV Switchyard at KLHEP	1,000	-	1,000		1000	-	
Energy Meter for Office cum Guest House and Staff Quarter at Lengery.	5.15	-	5.15		5	-	
Marshalling Panel for 21MVA Generator Transformer	65	-	65		65	-	

3-Phase, 750KVA, 11/0.43KV Transformer used as Unit Auxiliary Transformer (UAT)	25	-	25		25	-	
Design, Supply and installation & Commissioning of extension in the existing 33 KV outdoor Switchyard for Power evacuation from 13.5 MW MSHEP and Station auxillary power supply to 2X50 MW KLHEP Powerhouse and Project Area	250	-	250		250	-	
CO2 Fire Protection for both the 50 MW Generator of KLHEP	40	-	40		40	-	
Silent 500KVA DG set for Powerhouse	-	65	-	65	-	65	
Mobile crane with 360 base rotationl and lifting capacity of 20 Ton	-	180	-	200	-	180	Not allowed. Will be approved based on actual
Renovation and Refurbishment of 130T EOT Crane with control system.	-	60	-	80	-	60	Not allowed. Will be approved based on actual
Replacement of all 2X50 Mw Generator Control and Relay Panel	-	350	-	350	-	350	
Cooling water supply system for Generator Turbine and Transformer	-	150	-	150	-	150	
Capital Overhauling of 7 Nos of 21 MVA Generator Transformer				250	0	0	Not allowed. Will be

							approved based on actual
25 MVA, 220/33 KV; (Double wound type; 3 Phase, YNyn0) Station Reserve Transformer for dedicated evacuation of Power from MSHEP				350	0	0	Not allowed. Will be approved based on actual
03 Nos of 21 MVA Single Phase Generator Transformer for Unit#1 of KLHEP (Technical Specification: 21 MVA, HV 232/rt3/LV 11, Single Phase, OFWF, CGL, Make)				100	0	0	Not allowed. Will be approved based on actual
Upgradation of Transformer capacity and installation of 750 KVA, 33/0.415 KV Substation near to O/o the General Manager, KLHEP Lengery for better power management and energy efficiency				90	0	0	Not allowed. Will be approved based on actual
Upgradation of existing overhead conductor & poles with underground cable for all residential quarter, Office, IB and Auditorium				100	0	0	Not allowed. Will be approved based on actual
Civil Work of KLHEP					0	0	
TOE wall for all benches at excavated area, drains for all benches, riverbank, protection at upstream left bank, site clearance at Dam gallery etc	200	-	200		200	-	
Roof leakage treatment, Boundary wall and fencing, painting of penstock pipes, checking of penstock welding joints etc	40	-		40		40	

Railing for protection around security rest room, toilets or urinals etc	15	-	15		15	-	
Repairing of filing potholes for bitumeneous road from Amtreng to Hatidubi Dam, road from zero point to powerhouse etc	30	-				-	
Chain link fencing around the premises, repairing of old civil store at Amtreng etc	20	-		20		20	
Colony road, quarter repairing, construction of new multi storey residential building etc	170	-		170		170	
Renovation of tunnel for spalling areas at various locations of tunnel during impounding over hauling	20	20	70		20	20	Not allowed. Will be approved based on actual
Security barrack, staircase or permanent foot bridge, hydraulic oil for powerpack, painting of radial gates, drain at quarry no. 1&2 etc	-	150		150	-	150	
Painting of powerhouse, maintenance of anchor blocks and saddles etc	-	35		35	-	35	
Repairing of security rest room, chain link fencing, around the premise etc	-	25		25	-	25	
Side drain along with Bitumeneous roads from zero point to Hatidubi Dam, cattle	-	300		300	-	300	

bridge, retaining walls etc							
Boundary wall around the premises, repairing of old electromechanical store etc	-	50		50	-	50	
New water supply system, water treatment plant etc	-	50		50	-	50	
	1940.1 5	1495. 00	1730.1 5	2635.0 0			
Revised financial impact of ERP implementation and Consultancy plant wise	644	143	660	135	644	143	
	1940.15	1495.00	1730.15	2635.00	1680.15	1725.00	

Capital Investment Plan for LRPP (Rs. Lakh)

Approved Schemes	MYT Order		Proposed by APGCL		Approved by Commission		Remarks
	In Rs. Lakhs						
	FY 23	FY 24	FY 23	FY 24	FY 23	FY 24	
Electro-mechanical Work of LRPP							
Procurement of 11 KV and 3.3 KV VCB Breaker		25		25	0	25	Not allowed. Will be approved based on actual
Civil Work of LRPP							
Deep tube well water supply system for to support the river water supply system at LTPS, Maibella. (Including boring, supplying and fitting of pump set up with all pipeline and fittings)	35			35	0	35	
Water supply pipeline and reservoir for the newly constructed multistorey building at LTPS.	20	20	10		10	0	
Development and repairing of roads inside LTPS residential colony.	10	10		10	0	10	
	65	55	10	70	10	70	
Revised financial impact of ERP implementation and Consultancy plant wise	449	100	460	94	449	94	
	514.00	155.00	470.00	164.00	459.00	164.00	

Annexure 4- Equity Addition and Loan Conversion approved (Rs. Crore)

Particulars		NTPS	LTPS	KLHEP	LRPP	Total
A	Grant conversion approved by Commission	10.21	50.84	42.42	167.88	271.36
B	Loan conversion Proposed by APGCL	178.51	251.14	114.03	26.48	570.16
C	Loan available to convert	0.87	0.00	174.25	27.10	202.22
D	Loan conversion proposed from normative loan (Min of C and B)	0.87	0.00	114.03	26.48	141.38
E	Total Equity Conversion Proposed (A+D)	11.08	50.84	156.45	194.36	412.73
	Normative Equity:					
F	Approved Closing GFA for FY 2020-21 in Tariff Order dated 21st March 2022	191.41	495.62	514.74	268.75	1470.52
G	Normative Equity (F x 30%)	57.42	148.69	154.42	80.63	441.16
H	earlier equity	55.00	143.08	68.11	25.97	292.16
I	Actual equity after conversion (E+H)	66.08	193.92	224.56	194.36	678.92
J	Recomputed Equity after converting grant and loan to Equity subject to normative cap (Min of G and I)	57.42	148.69	154.42	80.63	441.16
K	Loan Conversion approved (I-J-A)	-	-	27.72	-	-
L	Equity Addition Approved in opening equity (J-H)	2.42	5.61	86.31	54.66	149.00