GUJARAT ELECTRICITY REGULATORY COMMISSION (GERC)

Tariff Order

Truing up for FY 2019-20

and

Determination of Tariff for FY 2021-22

For

Torrent Power Limited – (Generation)

Ahmedabad

Case No. 1925 of 2021

31st March, 2021

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GANDHINAGAR

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ABBREVIATIONS

A&G	Administration and General Expenses
ARR	Aggregate Revenue Requirement
CAPEX	Capital Expenditure
CERC	Central Electricity Regulatory Commission
DISCOM	Distribution Company
EA	Electricity Act, 2003
FPPPA	Fuel and Power Purchase Price Adjustment
FY	Financial Year
GERC	Gujarat Electricity Regulatory Commission
GFA	Gross Fixed Assets
GoG	Government of Gujarat
HT	High Tension
kV	Kilo Volt
kVA	Kilo Volt Ampere
kVAh	Kilo Volt Ampere Hour
kWh	Kilo Watt Hour
LT	Low Tension
MTR	Mid-Term Review
MUs	Million Units (Million kWh)
MW	Mega Watt
MYT	Multi-Year Tariff
O&M	Operations and Maintenance
p.a.	Per Annum
PPA	Power Purchase Agreement
R&M	Repairs and Maintenance
SBI	State Bank of India
Second Control Period	FY 2011-12 to FY 2015-16
SLDC	State Load Despatch Centre
Third Control Period	FY 2016-17 to FY 2020-21

Before the Gujarat Electricity Regulatory Commission at Gandhinagar

Case No. 1925 of 2021

Date of the Order: 31st March, 2021

CORAM

Shri Anand Kumar, Chairman

Shri Mehul M. Gandhi, Member

Shri. S. R. Pandey, Member

ORDER

1. Background and Brief History

1.1. Background

Torrent Power Limited (hereinafter referred to as TPL or the Petitioner) has filed the present petition under Section 62 of the Electricity Act, 2003, read in conjunction with Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016 and Suo-Motu Order No. 7 of 2020 dated 22nd December, 2020 for the True-up of FY 2019-20 and for determination of tariff for its generation business at Ahmedabad for the FY 2021-22 on 8th January, 2021.

Gujarat Electricity Regulatory Commission (hereafter referred "the Commission") notified the GERC (Multi-Year Tariff) Regulations, 2016 on 29th March, 2016 which is applicable for determination of tariff in all cases covered under the Regulations from 1st April, 2016 onwards. These Regulations are in force till March, 2021 even though the process of framing the MYT Regulations for the next Control Period of FY 2021-22 to FY 2025-26 has been initiated it is likely to be delayed to finalize and notify the new MYT Regulation. Therefore, the Commission decided to defer the 5 year Control Period for new MYT Regulations for one year and consider the next control period from FY 2022-23 to FY 2026-27 vide Suo-Motu Order No. 7 of 2020 dated 22nd December, 2020. Accordingly, all the concerned utilities and licensees were directed to file annual ARR for FY 2021-22 and application for determination of Tariff for FY 2021-22 based on the principles and methodology as provided in the GERC (Multi Year Tariff) Regulations, 2016, on or before 8th January, 2021

Regulations 17.2 (b) of the GERC (Multi-Year Tariff) Regulations, 2016 provides for submission of detailed application comprising of truing up for FY 2019-20 to be carried out under Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016, revenue from the sale of power at existing tariffs and charges for the ensuing year (FY 2021-22), Revenue Gap or Revenue Surplus for the ensuing year, and determination of tariff for FY 2021-22.

Accordingly, the Petitioner submitted the current Petition for truing-up of FY 2019-20, and determination of ARR and tariff for FY 2021-22 on 8th January, 2021

After technical validation of the petition, it was registered on 11th January, 2021 and as provided under Regulation 29.1 of GERC MYT Regulations, 2016, the Commission has proceeded with this tariff order.

1.2. Torrent Power Limited (TPL)

Torrent Power Limited (TPL), a company incorporated under the Companies Act, 1956 is carrying on the business of Generation and Distribution of Electricity in the cities of Ahmedabad, Gandhinagar and Surat. The present petition has been filed by TPL-Generation (Ahmedabad) for its generation business in Ahmedabad.

TPL had assumed the business, consequent upon the amalgamation of Torrent Power

Ahmedabad Limited (TPAL), Torrent Power Surat Limited (TPSL) and Torrent Power Generation Limited (TPGL) with Torrent Power Limited. Besides, TPL is also engaged in other businesses, which do not come under the regulatory purview of the Commission.

TPL has existing generation facilities, with a total installed capacity of 362 MW, at Ahmedabad and has a Combined Cycle Power Plant (CCPP) of 1147.5 MW (SUGEN) and its extension UNOSUGEN (382.5MW) capacity near Surat out of which a share of 835 MW from SUGEN and 278 MW from UNOSUGEN are allocated for Gujarat (Ahmedabad, Gandhinagar and Surat).

1.3. Commission's order for Approval of final ARR for FY 2016-17 and Approval of Multi-Year ARR for FY 2016-17 to FY 2020-21

The Petitioner filed its petition for Truing up of FY 2015-16, Approval of Final ARR for FY 2016-17, Approval of Multi-Year ARR for FY 2016-17 to FY 2020-21 and Determination of tariff for FY 2017-18 on 29th November, 2016. The petition was registered on 3rd December, 2016 (under Case No. 1626 of 2016). The Commission vide order dated 9th June, 2017 approved the Truing up for FY 2015-16, Final ARR for FY 2016-17, Multi-Year ARR for FY 2016-17 to FY 2020-21 and determined the tariff for FY 2017-18.

1.4. Commission's order for Approval of True-up for FY 2016- 17 and tariff of FY 2018-19

The Petitioner filed a petition for Truing-up of FY 2016-17 and determination of tariff for FY 2018-19 on 30th December, 2017. The petition was registered on 3rd January, 2018 (Case No.1695 of 2018). The Commission vide order dated 31st March, 2018 approved the Truing-Up for FY 2016-17 and determined the tariff for FY 2018-19.

1.5. Commission's order for Approval of True up for FY 2017-18 and Mid-Term Review of ARR for FY 2019-20 and FY 2020-21

The Petitioner filed a petition for Truing Up of FY 2017-18 and Mid-Term Review of ARR for FY 2019-20 and FY 2020-21 on 30th November, 2018. The Petition was registered on 4th December 2018 (Case No.1763 of 2018).The Commission approved the Truing – Up of FY 2017-18 and revised the ARR for FY 2019-20 and FY 2020-21 vide order dated 24th

April, 2019.

1.6. Commission's order for Approval of True-up for FY 2018-19 and tariff of FY 2020-21

The Petitioner filed a petition for Truing-up of FY 2018-19 and determination of tariff for FY 2020-21 on 30th November, 2019. The petition was registered on 4th December, 2019 (Case No.1843 of 2019). The Commission vide order dated 30th March, 2020 approved the Truing-Up for FY 2018-19 and determined the tariff for FY 2020-21.

1.7. Background of the present petition

The Commission has notified the GERC (MYT) Regulations, 2016 for the control period of FY 2016-17 to FY 2020-21. Regulation 16.2 (iii) of the GERC (MYT) Regulations, 2016 provides for the truing up of previous year's expenses and revenue based on audited accounts vis-à-vis the approved forecast and categorization of variation in performance as those caused by factors within the control of the applicant (controllable factors) and those caused by factors beyond the control of the applicant (uncontrollable factors).

Further, Regulation 16.2 (vi) of the GERC (MYT) Regulations, 2016 provides for annual determination of tariff for the Generating Company, Transmission Licensee, SLDC, Distribution Wire Business and Retail Supply Business, for each financial year, within the Control Period, based on the approved forecast and results of the truing up exercise.

The Commission, vide its order dated 22nd December, 2020 has directed the utilities to file the petition for ARR for FY 2021-22 and determination of tariff for FY 2021-22 based on the principles and methodology as provided in the GERC (Multi Year Tariff) Regulation, 2016.

1.8. Registration of the Current Petition and the Public Hearing Process

The Petitioner submitted the current Petition for Truing–up of FY 2019-20 and determination of tariff for FY 2021-22 on 8th January, 2021. After technical validation of the petition, it was registered on 11th January, 2021 (Case No. 1925 of 2021) and as provided under Regulation 29.1 of the GERC MYT Regulations, 2016, the Commission has proceeded with this tariff order.

In accordance with Section 64 of the Electricity Act, 2003, TPL(G) was directed to publish its application in the newspapers to ensure public participation.

The Public Notice, inviting objections / suggestions from the stakeholders on the Truing up and tariff determination petition filed by TPL, was published in the following newspapers:

Table 1.1 List of News Papers (Petitioner)

Sl. No.	Name of Newspaper	Language	Date of Publication
1	The Indian Express (Ahmedabad Edition)	English	13.01.2021
2	Navgujarat Samay (Ahmedabad Edition)	Gujarati	13.01.2021
3	Gujarat Guardian (Surat Edition)	Gujarati	13.01.2021

The Petitioner also placed the public notice and the petition on its website (www.torrentpower.com) for inviting objections and suggestions on the petition. The interested parties/stakeholders were asked to file their objections / suggestions on the petition on or before 13th February, 2021.

The Commission also placed the petition and additional details received subsequently from the Petitioner on its website (www.gercin.org) for information and study for all the stakeholders.

The Commission also issued a notice for public hearing in the following news papers in order to solicit wider participation by the stakeholders:

Table 1.2: List of Newspapers (Commission)

Sl. No.	Name of Newspaper	Language	Date of Publication
1	The Indian Express	English	20.02.2021
2	Divya Bhaskar	Gujarati	20.02.2021
3	Sandesh	Gujarati	20.02.2021

The Commission received objections / suggestions from the consumers / consumer organizations as shown in Table below. The Commission examined the objections / suggestions received from the stakeholders and fixed the date for public hearing for the petition on 9th March, 2021 through Video Conferencing considering prevailing Covid situation. Subsequently a communication and Microsoft TEAMS Platform link was sent to the objectors to take part in the public hearing process via video conferencing for presenting their views before the Commission. The stakeholders who desired to remain present at the Commission's office, were provided Video Conferencing facility at the office of the Commission.

The Commission also published the notice for Virtual Public Hearing (through video conferencing) on the Commission's website www.gercin.org intimating the date and venues as given below in order to solicit participation by the objectors who have submitted their objections, comments and also by any stakeholders who are interested.

Petitions	Date & Time	Venue
TPL-(G), TPL-D(A), TPL-D(S), TPL-D(D)	09.03.2021 at 11.30 A.M	GERC office, Gandhinagar (through Microsoft TEAMS Platform)

The status of stakeholders who submitted their written suggestion / objections, those who remained present in public hearing, those who could not attend the public hearings and those who made oral submissions is given in the Table below:

Table 1.3: List of Stakeholders

Sl. No.	Name of Stakeholders	Written Submission	Oral Submission	Present on the day of Public hearing
1.	Shri K. K. Bajaj	Yes	Yes	Yes
2.	Utility Users Welfare Association	No	Yes	Yes
3.	Shri Raj Tillan	No	Yes	Yes

A short note on the main issues raised by the objectors in the submission in respect of the petition, along with the response of TPL-G (APP) and the Commission's views on the response, are given in Chapter 3.

1.9. Approach of this Order

The GERC (Multi-Year Tariff) Regulations, 2016 provide for "Truing up" of the previous year and determination of Tariff for the ensuing year.

The Commission on 9th June, 2017 passed order for truing up of FY 2015-16, determination of final ARR for FY 2016-17, determination of ARR for the third Control Period i.e. FY 2016-17 to FY 2020-21 and determination of tariff for the FY 2017-18.

TPL has approached the Commission with the present Petition for "Truing up" of the FY 2019-20 and determination of Tariff for the FY 2021-22.

The Commission has undertaken the "Truing up" for FY 2019-20, based on the submissions of the Petitioner. The Commission has undertaken the computation of gains and losses for FY 2019-20, based on the annual accounts and final ARR for FY 2019-20 approved vide MTR Order dated 24th April 2019 in Case No. 1763/2018.

While truing up of FY 2019-20, the Commission has been primarily guided by the following principles:

- Controllable parameters have been considered at the level approved under the MYT order, unless the Commission considers that there are valid reasons for revision of the same.
- Uncontrollable parameters have been revised based on the actual performance observed.
- The Truing up for the FY 2019-20 has been considered, based on the GERC (MYT) Regulations, 2016.

Determination of ARR and Tariff for FY 2021-22 has been considered as per the methodology and principles adopted in the GERC (Multi- Year Tariff) Regulations, 2016 and amendment thereof as the base. Truing up of FY 2021-22 shall be carried out based on the principles and methodology adopted in GERC (MYT) Regulations, 2016.

1.10. Contents of this Order

The Order is divided into six chapters as detailed under: -

1. The first chapter provides a brief background regarding the Petitioner, the petition on hand and details of the public hearing process and approach adopted in this Order.
2. The second chapter outlines the summary of TPL's Petition.
3. The third chapter deals with the objections raised by various stakeholders, TPL's response and Commission's views on the response.
4. The fourth chapter focuses on the details of truing up for FY 2019-20.
5. The fifth chapter deals with the determination of Tariff for FY 2021-22.
6. The sixth chapter deals with compliance of directives and issue of fresh directives.

2. Summary of TPL-Generation's Petition

2.0 Actual for FY 2019-20 submitted by TPL-G (APP)

TPL-G (APP) submitted the current petition seeking approval of True-up for ARR of FY 2019-20. The details of expenses under various heads of ARR are given in Table below:

Table 2.1: Actual claimed by TPL (G) APP for FY 2019-20

(Rs Crore)

Particulars	MTR Order	Actual
Variable Cost	812.54	683.52
O&M Expenses	179.66	150.15
Water Charges	12.96	15.26
Depreciation	48.97	47.00
Interest on loan	-	2.65
Interest on Working Capital	13.16	14.08
Return on Equity	61.65	58.60
Income Tax	15.34	23.39
Incentive	-	-
Less: Non-Tariff Income	17.43	15.11
Total	**1,126.85**	**979.55**

The trued-up ARR of TPL-G (APP) is shown in the table below:

Table2.2: Trued-up ARR claimed by TPL (G) APP for FY 2019-20

(Rs.Crore)

Particulars		
ARR as per MTR	(a)	1,126.85
Gains/(Losses) due to Uncontrollable Factors	(b)	97.18
Gains/(Losses) due to Controllable Factors	(c)	50.13
Pass through as tariff	d=-(c/3+b)	(113.89)
ARR True- up	e=a+d	1,012.97

2.1 ARR for FY 2021-22

TPL-G (APP) has also furnished the ARR for FY 2021-22 as depicted in the Table below:

Table 2.3: ARR of TPL (G) APP for FY 2021-22

(Rs Crore)

Particulars	FY 2021-22
Variable Cost	840.85
Interest on term loan	-
Depreciation	50.07
O&M expenses	200.80
Water Charges	23.91
Interest on Working Capital	14.00

Particulars	FY 2021-22
Return on Equity	60.97
Income Tax	23.39
Less: Non-Tariff Income	14.31
Net ARR	**1,199.68**

2.2 TPL-G (APP)'s request to the Commission

a) Admit the petition for truing up of FY 2019-20, Aggregate Revenue Requirement for FY 2021-22, and determination of tariff for FY 2021-22.

b) Approve the trued up ARR of FY 2019-20 including impact of change in law as set out in the petition.

c) Approve the sharing of gains/ losses as proposed for FY 2019-20.

d) Approve the Aggregate Revenue Requirement for FY 2021-22.

e) Allow recovery of the costs as per the Judgments/ orders of the Hon'ble Tribunal/ Hon'ble Commission in the Appeals/ Review Petitions filed by the Petitioner.

f) Allow additions/ alterations/ changes/ modifications to the petition at a future date.

g) Permit the Petitioner to file all necessary pleadings and documents in the proceeding and documents from time to time for effective consideration of the proceeding.

h) Allow any other relief, order or direction which the Commission deems fit to be issued.

i) Condone any inadvertent omissions/ errors/ rounding off difference/ shortcomings.

3. Brief outline of Objections raised, Response from TPL-G and the Commission's View

In response to the public notice inviting objections / suggestions from stakeholders on the Petition filed by TPL-G for Truing up of FY 2019-20 and determination of ARR for FY 2021-22 under the GERC (MYT) Regulations, 2016, a number of Consumers / organizations filed their objections / suggestions in writing. Some of these objectors participated in the public hearing also. The objections / suggestions by the consumer / consumers organizations, the response from the Petitioner and the views of the Commission are given below:

3.1 Incentive for good performance

The Objector has submitted that the incentive for good performance for Coal based generating stations shall be based on Plant Load Factor (PLF) and not on Plant Availability Factor (PAF).

Petitioner's response:

Plant Load Factor is beyond the control of the Petitioner as it depends on the demand of the consumers. Concept of incentive contemplates motivating/ encouraging one to stimulate greater output. Therefore, incentive should be linked with the performance parameters within the control of the Petitioner.

Commission's view:

Regulation 60 of GERC (MYT) Regulations 2016 clearly specify incentive thermal generating station shall be payable corresponding to Normative Annual Plant Load Factor (NAPLF).

3.2 Breakup of Operation and Maintenance

The Objector has submitted that details of individual expenses incurred towards Employee expenses, Repairs and Maintenance expenses and Administration & General expenses shall be provided. Variation in employee expenses due to wage revision and gratuity shall be allowed due diligence and validation.

Petitioner's response:

Details of the 0&M costs incurred during FY 2019-20 is furnished in the formats of the Petition. The wage settlement of unionized employees of Ahmedabad was concluded and its impact was considered accordingly in FY 2019-20. Impact of change in gratuity ceiling has also been factored in FY 2019-20. These developments have resulted in increase in the employee cost.

Commission's view:

Details of O&M expenses i.e. employee expenses, A&G expenses and R&M expenses are submitted in the Formats of the petition which are also placed on GERC's website.

The Commission has considered the variation in O&M expenses due diligence, prudence check and validation.

3.3 Blending ratio of indigenous and imported coal

The Objector has suggested that the blending ratio of 75:25 of indigenous and imported coal increases the fuel cost and shall be changed to 80:20 without disturbing the efficiency parameters.

Petitioner's response:

The Fuel Supply Agreement (FSA) signed with CIL is the standard agreement applicable across the sector and Coal is being procured from M/s .SECL (subsidiary of CIL). The FSA fulfills only part of the Petitioner's coal requirement and for balance, it has to procure imported coal. Further, imported coal is to be procured and used to meet the technical requirements.

Commission's view:

The Commission opines that it would be improper to stipulate any specific blending ratio, as there are several variables to be borne in mind. At the same time, the Petitioner should decide on the blending ratio of indigenous and imported coal, to optimize the generation performance parameters and cost of generation without compromising the environmental norms.

3.4 New Environmental Norms

The Objector has submitted that the new Environmental Norms have been issued and are applicable to all coal based plants for their future operations. The Commission shall evaluate the capex requirements for meeting the new Environmental Standards for all Generating Plants of the State and allow the CAPEX due diligence.

Petitioner's response:

The Ministry of Environment & Forests (MoEF) has revised the environmental norms for thermal power plants. According to the revised norms, the generating stations exceeding SO2 Norms are required to incur CAPEX inter alia for providing Flue Gas Desulphurization (FGD) systems. The MoEF has extended time to install FGD by December, 2022. The Ministry of Power (MoP) has recommended for further extension of timeline which is under consideration. As such, CAPEX required for complying with the MoEF notification is not considered for FY 2021-22.

Commission's view:

The Commission has noted the suggestion made by the Objector and the response of the Petitioner. However, the Commission has directed the Petitioner to put up a consolidated plan for CAPEX vis-à-vis cost benefit analysis so that needful action shall be carried out.

4. Truing up for FY 2019-20

4.1 Introduction

This Chapter deals with the truing up of FY 2019-20 for TPL-G Ahmedabad Power Plant (APP). The Commission has studied and analysed each component of the ARR for the FY 2019-20 in the following paragraphs.

4.1.1 Generating Stations of TPL-G (APP)

TPL-G (APP) has existing coal based thermal power generation facilities with total installed capacity of 362 MW at Sabarmati, Ahmedabad [TPL-G (APP)] that consist of 3 units viz. D-Station (120 MW), E- Station (121 MW) and F-Station (121 MW). C-station (60 MW) has been retired from 1st April, 2018.

The Commission is required to determine the generation cost for the TPL-G (APP) stations only. The generation costs of these stations are discussed as below:

The details of the stations existing as on 1st April 2019 along with their capacities and dates of commission are given in the table below:

Table 4.1: Capacity, COD and age of TPL-G (APP) Stations as on 1st April 2019

Sabarmati Thermal Power Plant (Coal based)			
Name of Station	**Capacity in MW**	**Year of COD**	**Age /Years**
D Station	120	1978/2004* *(Uprating capacity)	41
E Station	121	1984	35
F Station	121	1988	31

4.2 Operational Performance Parameters

The fuel cost of a generation station depends on (i) the performance parameters, such as Plant Load Factor (PLF), Station Heat Rate (SHR), Auxiliary Consumption, Secondary Fuel Oil Consumption and Transit Loss and (ii) cost parameters such as Gross Calorific Value of fuel, type of fuel and price of fuel etc.

TPL has submitted the actual operational performance on Plant Availability Factor (PAF), Plant Load Factor (PLF), Station Heat Rate (SHR), Auxiliary Consumption and Specific Oil Consumption and coal transit loss for FY 2019-20 for individual stations. The Commission has taken up the truing up of the annual performance parameters for FY 2019-20, as discussed in the following sections.

4.2.1 Plant Availability Factor (PAF)

Petitioner's submission

TPL-G (APP) has submitted that the actual plant availability factor for its three stations for FY 2019-20 has been computed considering planned shutdown and the forced outages of the units during the year. The PAF approved in the Mid-Term Review Order dated 24th, April, 2019 and the actual as furnished by TPL in the present petition for FY 2019-20 are as given in the Table below:

Table 4.2: Plant Availability Factor of TPL-G (APP) for FY 2019-20

SI No.	Station	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20
1	D Station	94.30%	95.88%
2	E Station	94.30%	94.16%
3	F Station	84.18%	88.30%

TPL-G (APP) has submitted that at the time of filing of the MTR petition, the estimated availability of the units were computed after considering annual shutdown of the unit without factoring the forced outage.

The reason for variation in actual and approved availability is due to lower planned maintenance days and lower forced outages at D & F stations during FY 2019-20. At E station while the maintenance days were lower, the forced outages were higher due to pressure part leakage resulting in minor reduction in availability.

Commission's analysis

It is found in the analysis that the PAF level is almost same as the approved levels of the MTR Order dated 24th April, 2019 for D, E and F stations. It may be mentioned that, according to Regulation 53.1 of GERC (MYT) Regulations, 2016, Normative Annual Plant Availability Factor for full recovery of annual fixed charges shall be 85% for all thermal generating stations. Since the actual PAF for all the stations of TPL, has been more than 85%, they are eligible for full recovery of fixed charges, as per the GERC (MYT) Regulations, 2016. TPL-G (APP) submitted the Actual Availability of the Stations as per SLDC Certificate.

The Commission considers the Plant Availability Factor for various stations, as approved in the MTR Order dated 24th April, 2019, for FY 2019-20, for truing up purpose, since this is a controllable parameter.

Hence, for truing up for FY 2019-20, the PAF considered is as given in the Table below:

Table 4.3: Plant Availability Factor of TPL-G (APP) approved for truing up for FY 2019-20

Sl. No.	Station	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20	Approved for FY 2019-20 for truing-up
1	D Station	94.30%	95.88%	94.30%
2	E Station	94.30%	94.16%	94.30%
3	F Station	84.18%	88.30%	84.18%

4.2.2 Plant Load Factor (PLF)

Petitioner's submission

TPL-G (APP) has submitted the actual plant load factor (PLF) of different stations for FY 2019-20. The PLF approved in the MTR Order dated 24th, April 2019 and the actual as furnished by TPL in the present petition for FY 2019-20 are given in the Table below:

Table 4.4: Plant Load Factor of TPL-G (APP) for FY 2019-20

SI No.	Station	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20
1	D Station	92.16%	74.15%
2	E Station	92.62%	70.87%
3	F Station	83.21%	73.69%

TPL-G (APP) has submitted that the actual PLF is lower than the approved PLF primarily due to variation in the off take. TPL has also submitted that PLF is dependent on actual offtake which in turn depends upon the drawal by the consumers of the licensee which is beyond the control of the Petitioner. Therefore, the variation in the PLF is uncontrollable.

Commission's analysis

It is found in the analysis that the PLF level is lower than the approved levels of the MTR Order dated 24th April, 2019 for all stations of TPL-G (APP).

The Commission considers the Plant Load Factor for various stations at actual for FY 2019-20, for truing up purposes, as it is an uncontrollable parameter.

Table 4.5: Plant Load Factor of TPL-G (APP) approved for truing up for FY 2019-20

SI No.	Station	Approved for 2019-20 in the MTR Order	Actual for 2019-20	Approved for FY 2019-20 for truing up
1	D Station	92.16%	74.15%	74.15%
2	E Station	92.62%	70.87%	70.87%
3	F Station	83.21%	73.69%	73.69%

4.2.3 Auxiliary consumption

Petitioner's submission

TPL-G (APP) has submitted the actual auxiliary consumption of different stations for FY 2019-20. The auxiliary consumption approved in the MTR Order dated 24th April, 2019 and the actual as furnished in the present petition for FY 2019-20 are as given in the Table below:

Table 4.6: Auxiliary consumption of TPL-G (APP) for FY 2019-20

SI No.	Station	Approved for 2019-20 in the MTR Order	Actual for 2019-20
1	D Station	9.00%	9.08%
2	E Station	9.00%	8.65%
3	F Station	9.00%	8.89%

TPL has submitted that it has made continuous efforts to maintain the auxiliary consumption at below approved levels. In turn, the actual auxiliary consumption was lower than the approved values on over all basis. TPL has also submitted that in the present petition for the purpose of quantification of gains/loss, the Petitioner has considered the variation in Auxiliary consumption as controllable parameter.

Commission's analysis

It is noted that, for E & F stations of TPL-G (APP), the actual Auxiliary Consumption is lower than that approved in the MTR Order, but for D station it is slightly on higher side.

The Commission approves the auxiliary consumption for various stations, as approved in the MTR Order dated 24th April, 2019 for FY 2019-20, for truing up purpose, as it is a controllable parameter as given in the Table below:

Table 4.7: Auxiliary consumption of TPL-G (APP) approved for truing up for FY 2019-20

Sl. No.	Station	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20	Approved for FY 2019-20 for truing up
1	D Station	9.00%	9.08%	9.00%
2	E Station	9.00%	8.65%	9.00%
3	F Station	9.00%	8.89%	9.00%

4.2.4 Station Heat Rate (SHR)

Petitioner's submission

TPL-G (APP) has submitted the Station Heat Rate (SHR) of different stations for FY 2019-20. The SHR approved in the MTR Order dated 24th April, 2019 and the actual as furnished in the present petition for FY 2019-20 are as given in the Table below:

Table 4.8: Station Heat Rate of TPL-G (APP) claimed for FY 2019-20

(Kcal/kWh)

Sl No.	Station	Approved for 2019-20 in the MTR Order	Actual for 2019-20
1	D Station	2450	2451
2	E Station	2455	2447
3	F Station	2455	2433

TPL-G (APP) submitted that it is making all efforts to improve and maintain the SHR at the approved level. The variation in SHR is a controllable parameter within the operating range of PLF and the same should be considered for sharing of gains/losses.

Commission's analysis

The Commission notes that the SHR achieved for E and F Station of TPL (G) APP is below the approved levels and for D station it is almost at the same level approved in MTR Order. For the purpose of True-up for FY 2019-20, the Commission approves the SHR as approved in MTR Order dated 24th April, 2019 as given in the Table below:

Table 4.9: Station Heat Rate approved for TPL-G (APP) in truing up for FY 2019-20

(Kcal/kWh)

SI No.	Station	Approved for 2019-20 in the MYT Order	Actual for 2019-20	Approved for 2019-20 for truing up
1	D Station	2450	2451	2450
2	E Station	2455	2447	2455
3	F Station	2455	2433	2455

4.2.5 Secondary Fuel Oil Consumption (SFC)

Petitioner's submission

TPL-G (APP) has submitted the Secondary Fuel Oil Consumption (SFC) of different stations for FY 2019-20. The SFC approved in the MTR Order dated 24th April, 2019 and the actual as furnished in the present petition for FY 2019-20 are as given in the Table below:

Table 4.10: Secondary Fuel Oil Consumption of TPL-G (APP) claimed for FY 2019-20

(ml/kWh)

SI No.	Station	Approved for 2019-20 in the MTR Order	Actual for 2019-20
1	D Station	1.00	0.40
2	E Station	1.00	0.34
3	F Station	1.00	0.19

The Petitioner submitted that during FY 2019-20, TPL-G (APP) achieved the lower SFC due to lower forced outages owing to continuous efforts and better preventive maintenance. The variation in SFC is a controllable parameter and should be considered for sharing gain / losses.

Commission's analysis

The actual Secondary Fuel Oil Consumption (SFC), for all the stations is lower than the approved values.

Since the SFC is a controllable performance parameter, the Commission approves, for truing up purpose, the SFC values, as mentioned in the MTR Order dated 24th April, 2019 for FY 2019-20.

Accordingly, the SFC approved for FY 2019-20, for truing up purpose, is given in the Table below:

Table 4.11: Secondary Fuel Oil Consumption of TPL – G (APP) approved for truing up for FY 2019-20

(ml/kWh)

Sl No.	Station	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20	Approved for FY 2019-20 for truing up
1	D Station	1.00	0.40	1.00
2	E Station	1.00	0.34	1.00
3	F Station	1.00	0.19	1.00

4.2.6 Transit Loss

Petitioner's submission

The Petitioner submitted that against the 0.80% transit loss approved by the Commission for FY 2019-20 it has achieved the actual transit loss of 0.76%.

The Petitioner submitted that it has been making continuous efforts to contain the Transit Losses. However, there are various uncontrollable factors such as issue of accuracy of weighbridge at loading end, moisture loss, windage and seepage losses due to which transit loss exists. Despite the above it has considered the transit loss as controllable parameter in its calculation as per MYT Regulations.

Table 4.12: Transit Loss of TPL-G (APP) claimed for FY 2019-20

Stations	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20
All coal based stations	0.80%	0.76%

Commission's analysis

The Commission has noted the submission of the Petitioner regarding the transit loss of 0.76%. The Commission has considered the normative transit losses for truing up for FY 2019-20 as per the GERC (MYT) Regulations, 2016, as given in the Table below:

Table 4.13: Transit loss approved for truing up for FY 2019-20

Stations	Approved for FY 2019-20 in the MTR Order	Actual for FY 2019-20	Approved for FY 2019-20 for truing up
All coal based	0.80%	0.76%	0.80%

4.2.7 Summary of performance parameters approved for truing up of FY 2019-20

Based on the analysis in the preceding paragraphs, the performance parameters approved for different power generation stations of TPL-G (APP) for FY 2019-20, for truing up purpose are listed in the Table below:

Table 4.14: Performance parameters for TPL-G (APP) stations approved for truing up for the FY 2019-20

Sl. No.	Station	PAF	PLF	Aux. Consumption	Station Heat Rate Kcal/kWh (on GCV basis)	Secondary fuel oil consumption (gm/kWh)	Transit loss of coal
1	D Station	94.30%	74.15%	9.00%	2450	1.00	0.80%
2	E Station	94.30%	70.87%	9.00%	2455	1.00	0.80%
3	F Station	84.18%	73.69%	9.00%	2455	1.00	0.80%

4.3 Gross and Net generation

The gross and net generation of power in different stations, as per actuals submitted by TPL and as approved for truing up purpose for the FY 2019-20 are given in the Table below:

Table 4.15: The gross and net generation of power for truing up for FY 2019-20

Sl No.	Stations	As per actuals submitted by TPL				As approved by the Commission			
		Gross generation (MU)	Aux consumption (%)	Aux consumption (MU)	Net generation (MU)	Gross generation (MU)	Aux consumption (%)	Aux consumption (MU)	Net generation (MU)
1	D Station	781.57	9.08	70.98	710.59	781.57	9.00	70.34	711.23
2	E Station	753.21	8.65	65.15	688.06	753.21	9.00	67.79	685.42
3	F Station	783.21	8.89	69.64	713.57	783.21	9.00	70.49	712.72
	Total	**2317.98**		**205.76**	**2112.22**	**2317.99**		**208.62**	**2109.37**

4.4 Cost Parameters

The cost parameters include GCV of fuel, mix of fuel and price of fuel. The Sabarmati D, E & F Stations of TPL-G (APP) run on coal as the primary fuel. A mix of indigenous and imported coal is used in these stations.

TPL submitted the details of actual Wt. Av. GCV of mix of coal and Wt. Av price of fuel for different stations, as discussed below for FY 2019-20.

4.4.1 Mix of Coal

Petitioner's submission

TPL-G (APP) has furnished the details of actual percentages of the mix of indigenous and imported coal in its coal based power stations during the FY 2019-20, as given in the Table below:

Table 4.16: The mix of different types of coal for FY 2019-20

SI No.	Stations	Indigenous coal (%)	Imported coal (%)
1	D Station	54%	46%
2	E Station	90%	10%
3	F Station	82%	18%

Commission's analysis

The Commission, after due validation approve the percentage mix of coal as furnished by TPL- G (APP) for individual stations and considered the same for truing up purpose as these are uncontrollable items.

4.4.2 Wt. Av. Gross Calorific Value (GCV) of fuel

Petitioner's submission

TPL-G (APP) has furnished the actual Wt. Av. Gross Calorific Value of fuels for all the stations put together for FY 2019-20, as given in the Table below:

Table 4.17: Wt. Av. Gross Calorific value (GCV) of Different Fuels for Coal--based Stations for FY 2019-20

Particulars	Approved in MTR Order	Actuals for FY 2019-20
Indigenous Coal (kcal / kg)	4402	4353
Imported Coal (kcal / kg)	4886	4780
Secondary Fuel Oil (kcal / L)	9837	9985

Commission's analysis

The Commission, after due validation approve the Wt. Av. Gross Calorific Value of fuels as furnished by TPL-G (APP) for all the station together and considered the same for truing up purpose as these are uncontrollable items.

4.4.3 Wt. Av. Prices of Fuel

Petitioner's submission

TPL-G (APP) has furnished the actual Wt. Av. Price per unit of different fuels for all the stations put together for FY 2019-20, as given in the Table below:

Table 4.18: Wt. Av. Price / unit of fuels for FY 2019-20 (Actual)

Sl. No.	Station	Wt. Av. cost of Indigenous coal (Rs/MT)	Wt. Av. cost of Imported coal (Rs/MT)	Wt. Av. cost of Secondary Fuel Oil (Rs/Kl)
1	All the coal stations	5000.69	6350.50	39446.69

TPL-G (APP) has furnished the actual Wt. Av. cost / MT of different fuels for different stations for FY 2019-20, as given in the Table below:

Table 4.19: Av. Price / Unit of Fuels for FY 2019-20 (Actual) for Different Stations

Sl. No.	Station	Av. Price of Indigenous coal (Rs./MT)	Av. Price of Imported coal (Rs./MT)	Av. Price of Secondary oil (Rs./kL)
1	D Station	5606	6196	39542
2	E Station	5585	6108	39246
3	F Station	5585	6200	39596

Commission's analysis

It is noted that the percentage use of imported coal in FY 2019-20 in all stations is lower than that in FY 2018-19 as shown below:

Sl. No	Station	% of Imported Coal	
		FY 2018-19	FY 2019-20
1	D Station	49.00%	46.25%
2	E Station	20.00%	10.40%
3	F Station	28.00%	18.19%

On a query from the Commission while approving the true-up for FY 2018-19, TPL has stated that as per its inherent design characteristics, D station has less redundancy in its mills compared to E&F stations. Due to ageing and with only one standby mill, more wear and tear has been observed at D station's milling system over last one year. As imported coal has less ash content, use of imported coal causes less milling wear and tear and provides better firing in the boiler. Therefore, for ensuring efficient mill maintenance and better stability and reliability more imported coal was used in D station.

Wt. Av. GCV of indigenous coal and imported coal for each station considered by TPL as per actuals are as given below:

Particulars	D Station	E Station	F Station
GCV of Coal (K.Cal/Kg)	4594.72	4372.26	4411.92
GCV of Oil (K.Cal / L)	9972.10	9995.23	9994.85

Price of indigenous coal, imported coal and oil for each station considered by TPL as per actuals given below:

Particulars	D Station	E Station	F Station
Indigenous Coal (Rs / MT)	5606.01	5584.72	5584.65
Imported Coal (Rs / MT)	6195.50	6107.87	6200.29
Oil (Rs / KL)	39541.91	39246.34	39595.87

The Commission, after due validation, approves the Wt. Av. GCV of fuels, percentage mix of coal and prices of fuels (actual), as furnished by TPL-G (APP) for individual stations and considered for truing up purpose for FY 2019-20, as these are uncontrollable items.

4.5 Fuel Costs

Based on the performance and cost parameters, the normative fuel costs for each of the stations, along with actual furnished by TPL-G (APP), are as given in the Table below:

Table 4.20: Fuel Cost of TPL-G (APP) for truing up for FY 2019-20

Sl No.	Stations	As per actual submitted by TPL				As approved by the Commission			
		Gross generation (MU)	Net Gen (MUs)	Fuel cost (Rs. Crore)	Fuel cost per unit net (Rs./kW h)	Gross generation (MU)	Net Gen (MUs)	Normative Fuel cost (Rs. Crore)	Fuel cost per unit net (Rs./kWh)
1	D Station	781.57	710.59	229.56	3.23	781.57	711.23	230.52	3.24
2	E Station	753.21	688.06	224.99	3.27	753.21	685.42	228.01	3.31
3	F Station	783.21	713.57	228.97	3.21	783.21	712.72	233.25	3.27
	Total	**2317.98**	**2112.22**	**683.52**		**2317.99**	**2109.37**	**691.77**	

4.5.1 Variation between actual costs and approved costs

The Commission has computed the normative fuel cost for the purpose of computing the gains/losses, due to the controllable factors.

The Commission has verified the actual fuel cost submitted by TPL-G (APP) with the annual accounts. On a query form the Commission, the Petitioner clarified that fuel cost claimed in Petition is after netting of the provision for SECL compensation to the tune of Rs. 0.75 Crore.

The comparison between the fuel costs of all stations put together, as claimed in the petition for FY 2019-20 and the cost approved for truing up purpose is given in the Table below:

Table 4.21: Total Fuel Cost approved for TPL-G (APP) for truing up for FY 2019-20

(Rs. Crore)

Particulars	As per actual (Claimed)	Approved for 2019-20
Total Fuel Cost	683.52	691.77

4.5.2 Gains and losses in fuel costs due to controllable factors

TPL-G (APP) has arrived at the fuel expenses incurred for FY 2019-20, on the basis of the actual operational parameters, such as station heat rate (SHR), auxiliary consumption, specific fuel oil consumption (SFC) and transit loss of coal. The Commission has compared the fuel expenses, so derived by TPL-G (APP) with the fuel expenses, on the basis of the approved operational performance parameters for actual net generation for computation of gains / losses on account of variation in these parameters and approves the gains / losses station-wise, as given in the Table below:

Table 4.22: Approved Gains / (Losses) from Fuel Expenses (due to Controllable Factors) for FY 2019-20

(Rs. Crore)

Sl. No.	Station	Fuel cost arrived at with approved parameters for actual net generation for 2019-20*	Actual fuel cost at actual parameters for 2019-20	Gains / (Losses) due to controllable factors
1	D Station	230.52	229.56	0.96
2	E Station	228.01	224.99	3.02
3	F Station	233.25	228.97	4.28
	Total	**691.77**	**683.52**	**8.25**

**Note: Detailed computation of the fuel cost for each of the stations, with approved parameters for actual net generation, has been given in Annexure 1 to 3.*

4.5.3 Gains and losses in fuel costs due to uncontrollable factors

The Commission has computed the fuel expenses, so derived by considering the fuel costs as approved in the MTR Order dated 24th April, 2019 vis-à-vis the fuel costs as per actuals, on the basis of the approved operational performance parameters such as station heat rate (SHR), auxiliary consumption, specific fuel oil consumption (SFC) and transit loss of coal for actual net generation for computation of gains / losses on account of variation in the fuel costs and approves the gains / losses station-wise, which is uncontrollable, as given in the Table below:

Table 4.23: Approved Gains / (Losses) from Fuel Expenses (due to Uncontrollable Factors) for FY 2019-20

(Rs. Crore)

Sl. No.	Station	Fuel cost approved in the MTR Order for2019-20	Actual fuel cost approved with approved parameters for 2019-20	Gains / (Losses) due to uncontrollable factors
1	D Station	277.53	230.52	47.01
2	E Station	281.83	228.01	53.82
3	F Station	253.19	233.25	19.94
	Total	**812.54**	**691.77**	**120.78**

4.6 Fixed Charges

4.6.1 Operation and Maintenance (O&M) expenses

Petitioner's submission

TPL-G (APP) has claimed Rs.150.15 Crore as O&M expenses as against Rs.179.66 Crore of composite O&M expenses approved for FY 2019-20 in the MTR order dated 24.04.2019.

Table 4.24: O&M Expenses claimed by of TPL-G (APP) for FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR order	Claimed by the Petitioner
Operations and Maintenance Expenses	179.66	150.15

The Petitioner submitted that the O&M expenses of TPL- G (APP) are lower than the approved and stated the variation be considered as controllable except due to changes in law and the factors beyond the control.

The Petitioner further submitted that wage Revision w.e.f. 1st April, 2017 was concluded and its impact was crystalized in FY 2019-20 and stated that provision of Rs.7.08 Crore, Rs.6.24 Crore and Rs.(2.87) Crore for FY 2017-18, FY 2018-19 and FY 2019-20 respectively was made in the books. The wage revision has also resulted in increase in leave encashment by Rs.1.20 Crore.

It was further submitted that the Government of India vide Notification dated 29.03.2018 has increased the upper ceiling of gratuity to Rs.20 lakhs from Rs.10 lakhs resulting in increase in the employee cost. The said notification i.e. amendment in the Payment of Gratuity Act, 1972 is a change in law in terms of Regulations 2(15) of the MYT Regulations, 2016 and has resulted in the increase in Employee Cost by Rs.5.16 Crore for FY 2019-20.

The Petitioner has submitted that despite such increase, has been able to reduce the overall O&M expenses vis-à-vis approved and requested the Commission to consider the O&M expenses as claimed in the table above.

Commission's Analysis

TPL-G(APP) has submitted the actual O&M expenses at Rs. 150.15 Crore inclusive of impact of "Re-measurement of Defined Benefit Plans" of Rs. 9.47 Crore in the truing up for FY 2019-20.

It is observed that as per Annual Accounts, the O&M expenses are Rs. 172.23 Crore, whereas TPL has claimed O&M expenses of Rs. 150.15 Crore. The head-wise analysis is as under:

(a) Employee Expenses: Employee expenses as per annual accounts are Rs. 54.60 Crore net of expenses capitalized of Rs. 19.76 Crore.. The Petitioner has added commission to non-executive directors of Rs. 0.39 Crore (from A&G expense head) and expense towards Re-measurement of Defined Benefit Plans of Rs. 9.47 Crore as appearing in P & L Statement and deducted Rs. 0.10 Crore pertaining to expenses towards retired stations. Accordingly, the employee expenses are Rs. 64.36 Crore.

(b) A&G expenses: A&G expense as per annual accounts are Rs. 35.47 Crore net of expenses capitalized of Rs. 16.51 Crore. The Petitioner has claimed A&G expenses after reduction on account of Commission to Non-Executive Directors (Rs. 0.39 Crore), Water Charges (Rs. 15.26 Crore), Corporate Social Responsibility (Rs. 0.06 Crore), Advertisement Expenses (Rs. 0.02 Crore), Expenses relating to retired stations (Rs. 0.03

Crore), Provision carried forward (Rs. 0.25 Crore) and Insurance Claim Receipt (Rs. 0.12 Crore) and addition of Lease payments (Rs. 0.84 Crore) . Since the Commission has considered Insurance Claim Receipt as a part of Non-Tariff Income, the same has not been reduced from A&G expenses as per the approach adopted in previous Tariff Orders. Accordingly, the Commission approves the A&G expense of Rs. 20.30 Crore.

(c) Repairs & Maintenance (R&M) expenses: R&M expenses as per annual accounts are Rs. 65.65 Crore. The Petitioner has claimed R & M expense of Rs. 65.62 Crore net of Rs. 0.03 Crore against R & M expenses pertaining to retired assets. The Commission accordingly approves R & M expense of Rs. 65.62 Crore.

Further, the Commission has asked the Petitioner vide letter dated 27.01.2021 to clarify that the amount claimed as change in law due to change in Gratuity Act has been actually paid or provision made in the accounts. The Petitioner vide letter dated 06.02.2021 has submitted that re-measurement of the defined benefit plans is paid to Gratuity Fund with LIC.

The Commission, accordingly approves the O&M expenses of Rs. 150.28 Crore, for truing up of FY 2019-20.

Further, as per Regulation 22 of the GERC (MYT) Regulations, 2016, the variation in O & M expenses is to be considered as controllable except the change in law and wage revision. The increase in employee cost due to the amendment in the Payment of Gratuity Act, 1972 has resulted the increase in Employee Cost by Rs. 4.30 Crore (Gratuity Rs. 3.10 Crore and Leave encashment Rs. 1.20 Crore). Further, as submitted by the Petitioner, Wage Revision w.e.f. 1st April, 2017 was concluded and its impact was crystalized in FY 2019-20 and provision of Rs. 7.08 Crore, Rs. 6.24 Crore and Rs. (2.87) Crore was made during FY 2017-18, FY 2018-19 and FY 2019-20 respectively. However, those provisions of Rs. 7.08 Crore and Rs. 6.24 Crore were approved while truing up of FY 2017-18 and FY 2018-19 respectively and variations were treated as controllable.

Accordingly, only 1/3rd of Losses due to controllable factor were passed to the consumers and remaining 2/3rd of such loss was borne by TPL in the Truing up of 2017-18 and 2018-19 as per Regulation 24.1 of the GERC (MYT) Regulations, 2016. However, as specified above, wage revision expenses are to be considered as uncontrollable. Therefore, such 2/3rd of Rs. 7.08 Crore and Rs. 6.24 Crore on account of wage revision pertaining to FY 2017-18 and FY 2018-19 along with Rs. 4.30 Crore pertaining to change in law related to Gratuity and Leave encashment shall be treated as uncontrollable. Further, the Commission has considered impact of Rs. (2.87) Crore on account of wage revision pertaining to FY 2019-20 as uncontrollable. The Commission has, accordingly, treated Rs. 12.32 (2/3rd of (7.08+6.24) + 4.30-2.87) Crore as uncontrollable Losses in truing up of FY 2019-20.

Accordingly, as per the GERC (MYT) Regulations, 2016 Gain/(Losses) on account of O&M expenses in the truing up of FY 2019-20 is approved by the Commission as given in the Table below:

Table 4.25: O&M Expenses and Gains / (Losses) Approved in truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MTR order	Approved in truing up for FY 2019-20	Deviation +(-)	Gains / (Losses) due to Controllable factor	Gains / (Losses) due to uncontrollable factor
O & M Expenses	179.66	150.28	29.38	41.75	(12.37)

4.7 Water Charges

Petitioner's submission

TPL-G (APP) has claimed Rs.15.26 Crore towards actual water charges in the truing up for FY 2019-20, as against Rs.12.96 Crore approved in the MTR order dated 24.04.2019.

The existing Regulation provides that water charges are to be allowed as per actual. The details are given in the Table below:

Table 4.26: Water Charges Claimed in the truing up by TPL-G (APP) for FY 2019-20

(Rs. Crore)

Particulars	Approved for in the MTR Order	Claimed by the Petitioner
Water Charges	12.96	15.26

Commission's analysis

Regulation 54 (b) of the GERC (MYT) Regulations, 2016 specify water charges shall be allowed separately as per actuals.

The Commission verified the water charges from the annual accounts and approves the water charges at Rs.15.26 Crore in the truing up.

The deviation is considered as uncontrollable and the gains and losses are considered, as detailed below:

Table 4.27: Gains / (Losses) Approved for Water Charges in the truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in MTR order	Approved in truing up for FY 2019-20	Deviation +/ (-)	Gains / (Losses) due to uncontrollable factor
Water Charges	12.96	15.26	(2.30)	(2.30)

4.8 Capital expenditure, Capitalisation and Sources of Funding

Petitioner's submission

TPL-G (APP) has claimed Rs.22.57 Crore towards actual capital expenditure in the truing up for FY 2019-20 as against Rs.51.30 Crore approved in the MTR Order dated 24.04.2019.

Table 4.28: Capital Expenditure Claimed by TPL-G (APP) For FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR Order	Claimed by the Petitioner
Shifting of services from C station	--	(0.70)
Boiler Works	16.80	12.00
Turbine Works	10.50	1.18
Electrical Works	11.00	4.20
C&I Works	4.00	2.31
CHP Works	6.50	0.61
Civil Works	2.50	0.83
Others	--	0.88
Misc.	--	1.26

Particulars	Approved in MTR Order	Claimed by the Petitioner
Total	**51.30**	**22.57**

The petitioner has submitted the main reasons for variation in the capital expenditure against the approved items are described below:

a) **Shifting of services from C station**– Since C station was being operated in reserve shutdown mode, the work of shifting of critical services from C station was initiated in FY 2017-18. During FY 2019-20, expenditure of Rs. 0.15 Crore was incurred for shifting of firefighting and associated system, panels and related works and returned back the unutilized materials to stores. All project related work is completed and the excess remaining material of Rs. 0.85 Crore which was not used returned back to stores.

b) **Normal Capital Expenditure** – TPL-G (APP) incurred the expenditure of Rs. 21.87 Crore against approval of Rs.51.30 Crore. The major variation is on account of the following:

- **Boiler Works-** Expenditure under this head has been incurred towards deferred projects pertaining to replacement of primary and secondary air heater and its associated components at F station, replacement of ESP hoppers in F station, replacement of mill components in E & F station and replacement of components of fans in D/E/F station.
- **Turbine Works -** Expenditure has been incurred under this head is towards procurement of cooling water pump spares including SS guide piece for F station. Overhauling of D & F station turbine has been dropped looking to the performance and behaviour of the turbines.
- **Electrical Works-** Capex incurred towards unit auxiliary transformer replacement at E station, HT/LT panel replacement in D/E/F station. The expenditure envisaged towards re-insulation of generator transformer, unit auxiliary transformer and procurement of unit auxiliary transformer for D station has been dropped based on actual plant requirement.
- **C&I Works-** Expenditure incurred towards procurement of critical parts of D station distributed control system.

- **CHP Works -** Expenditure was incurred towards auto coal sampler and engine for dozers, and dropped other procurements.
- **Civil Works -** Expenditure incurred towards chimney refurbishment of D/E/F station and fencing work and furniture.
- **Others -** Expenditure incurred towards fire alarm system (FAS), Gas detection system (GDS) mechanized material storage system and HVAC system.

c) **Misc. Capital Expenditure –** Incurred the expenditure of Rs.1.26 Crore towards CCTV camera installation near ash pond. Common server installation and IT.

TPL-G (APP) has claimed actual capitalisation of Rs.29.81 Crore in the truing up for FY 2019-20, as against Rs.38.36 Crore for FY 2019-20 approved in the MTR order dated 24.04.2019, as shown in the Table below:

Table 4.29: Capitalisation and Sources of Funding Claimed in truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR order	Actual submitted by the Petitioner
Opening GFA	1159.00	1092.35
Addition to GFA	38.36	29.81
Deletion to GFA		3.84
Closing GFA	1197.36	1118.32
Capitalization considered for Debt and Equity	38.36	25.97
Normative Debt @ 70%	26.85	18.18
Normative Equity @ 30%	11.51	7.79

Commission's analysis

The Petitioner has claimed capex of Rs.22.57 crore for FY 2019-20, however as per the audited annual accounts the capex is worked out to Rs.22.20 crore.

The Petitioner has furnished the details of project-wise breakup of actual capitalisation of Rs.29.81 Crore with details of Opening CWIP as on 1st April, 2019, CAPEX during the year and Closing CWIP as on 31st March, 2020 in form 4.3 of the petition.

The Petitioner has furnished the detailed project/scheme-wise explanation of the major capital expenditure incurred and capitalisation during FY 2019-20 as deliberated under Petitioner's submission and not repeated here due to brevity.

The variation in the value of Opening GFA in the annual accounts and Petition (Form 5) is on account of reporting the Fixed Asset Schedule on NFA basis as per IND AS in the annual accounts. However, TPL-G (APP) has reported the GFA in Form 5 of the Petition as per the GERC (MYT) Regulations, 2016.

The Commission has considered opening GFA for FY 2019-20 at Rs.1092.35 crore based on the closing GFA approved in truing up for FY 2018-19 in order dated 30.03.2020 and further updated with the capitalisation approved.

TPL-G (APP) has de-capitalised assets to the extent of Rs.3.84 Crore during FY 2019-20. However, it is observed that deductions from GFA is at Rs.2.33 crore as per (Note 4.1) of the audited annual accounts for FY 2019-20. The Commission vide letter dated 27.01.2021 has addressed the petitioner to furnish the details for the discrepancy. The Petitioner vide letter dated 06.02.2021 has reported that the fixed asset shown in the annual accounts is on Net Fixed Assets (NFA) basis as per Ind AS and the same is shown on Gross Fixed Assets (GFA) basis in the petition as per GERC MYT Regulations. Hence, the Commission considers de-capitalised assets at Rs.3.84 Crore and accordingly adjustments made to GFA in truing up for FY 2019-20

The Commission, accordingly, approves the opening GFA, addition to GFA during the year and closing GFA and funding of capitalisation for FY 2019-20 as given in the table below.

Table 4.30: Approved Capitalisation and Sources of Funding in truing up for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Claimed by the Petitioner	Approved in Truing up for FY 2019-20
A	Opening GFA	1092.35	1092.35
B	Addition to GFA	29.81	29.81
C	Deletion to GFA	3.84	3.84
D	Closing GFA (A+B-C)	1118.32	1118.32
E	Capitalization considered for Debt and Equity	25.97	25.97
F	Normative Debt @ 70% (E*70%)	18.18	18.18
G	Normative Equity @ 30% (E*30%)	7.79	7.79

4.8.1 Depreciation

Petitioner's submission

TPL-G (APP) has claimed depreciation of Rs.47.00 crore in the truing up for FY 2019-20, as against Rs.48.97 Crore approved in the MTR order dated 24.04.2019, as detailed in the Table below:

Table 4.31: Depreciation claimed by TPL-G (APP) for FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR order	Claimed by the petitioner
Depreciation	48.97	47.00

TPL-G (APP) has submitted that the depreciation rates, as per CERC (Terms and Conditions of Tariff) Regulations, 2004, are applied on the opening GFA of FY 2009-10 and for addition of assets from 1st April, 2009 onwards the depreciation has been computed at the rates specified in the GERC Regulations.

Commission's analysis

The details of opening balance of assets as on 1st April, 2019, addition and deduction to the Gross Block during FY 2019-20 and the depreciation on the assets, classification wise, are given in Form 5 of the petition. The opening and closing balances of assets are as per the annual accounts for FY 2019-20 after adjustment of Ind. AS.

The Commission has verified the depreciation from the annual accounts for FY 2019-20 and observed that depreciation as per annual accounts is Rs.47.44 Crore. However, the Petitioner has claimed depreciation of Rs.47.00 crore in truing up for FY 2019-20.

The Commission vide letter dated 27.01.2021 has addressed the Petitioner to furnish the details for the discrepancy. The Petitioner vide letter dated 06.02.2021 has reported that depreciation has been claimed in accordance with the applicable regulations. The fixed assets schedule of annual accounts is on net fixed assets basis as per Ind. AS.

The Commission, accordingly, approves the depreciation of Rs.47.00 Crore in the truing up for FY 2019-20.

The Commission has approved depreciation at Rs.48.97 crore in MTR order dated

24.04.2019. The deviation in depreciation is considered as uncontrollable loss as the depreciation is dependent on capitalisation.

The Commission, accordingly, approves the gains/ (losses) on account of depreciation in the truing up for FY 2019-20, as detailed in the Table below:

Table 4.32: Depreciation and Gains/Losses approved by the Commission for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MTR Order	Approved in Truing-up for FY 2019-20	Deviation +(-)	Gains/(Losses) due to Uncontrollable Factors
Depreciation	48.97	47.00	1.97	1.97

4.8.2 Interest expenses

Petitioner's submission

TPL-G (APP) has claimed a sum of Rs.2.65 Crore towards actual interest and finance expenses in the truing up for FY 2019-20 as detailed in the Table below:

Table 4.33: Interest and finance charges claimed in truing up for TPL-G (APP) for FY2019-20

(Rs. Crore)

Particulars	Approved in MTR order	Claimed by the petitioner
Interest and finance charges	-	2.66

TPL-G (APP) has submitted that the GERC (MYT) Regulations, 2016 provide for the calculation of interest expenses on normative basis by considering the amount of depreciation of assets as the amount of repayment. The Petitioner has considered the interest expenses as per the GERC (MYT) Regulations, 2016 on normative basis. The Petitioner has calculated the interest expenses by applying the Weighted Average Rate of interest of the actual loan portfolio during the year on the loan component and repayment is considered equal to the depreciation for the year. It is further submitted that the variation in interest expenses compared to the approved expenses is to be treated as uncontrollable as it depends on the quantum of actual capitalization and variation in the interest rates. The interest expense claimed by the petitioner for FY 2019-20 is shown in the table below.

Table 4.34: Interest and finance charges claimed by the Petitioner for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Claimed by the Petitioner
1	Capitalization During the Year	25.97
2	Normative Debt @ 70%	18.18
3	Opening Balance	41.18
4	New Borrowings	18.18
5	Repayments	47.00
6	Closing Balance	12.36
7	Rate of Interest	9.11%
8	Interest Expenses	2.44
9	Other Borrowings Cost	0.22
10	**Total Interest Expenditure**	**2.65**

Commission's analysis

The Commission has considered opening loan balance as on 01.04.2019 equal to the closing loan balance of Rs.41.18 crore approved in truing up FY 2018-19 in order dated 30.03.2020 in Case no.1843 of 2019. Addition to loan during the year is considered at 70% of net value of assets added during the year and repayment is considered equal to the depreciation for the year.

As per first proviso of Regulation 38.5 of the GERC (MYT) Regulations, 2016, at the time of truing up, the weighted average rate of interest calculated on the basis of the actual loan portfolio during the year applicable to the Generating Company shall be considered as the rate of interest.

The Commission vide letter dated 27.01.2021 asked the Petitioner to furnish information relating to actual loan portfolio and computation of weighted average rate of interest. The Petitioner has submitted the information vide dated 06.02.2021. The Commission has calculated Wt. Avg. ~~the~~ rate of interest of as 9.09% against 9.11% claimed by the Petitioner for the actual loan portfolio submitted for FY 2019-20.

The Petitioner has claimed other borrowing cost of Rs.0.22 Crore which is less than the expenses depicted in the annual accounts and hence, the same (Rs.0.22 crore) is considered in truing up for FY 2019-20.

Accordingly, based on the actual capitalization achieved by TPL-G (APP) during FY 2019-20 and the approved normative borrowings considering the interest rate of 9.11%, the Commission has computed the interest, as detailed in the Table below:

Table 4.35: Interest Approved by the Commission in the truing up for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Claimed by the Petitioner	Approved in truing up for FY 2019-20
1	Opening Loan	41.18	41.18
2	New Loan during the year	18.18	18.18
3	Repayment During the Year	47.00	47.00
4	Closing Loan (1+2-3)	12.36	12.36
5	Average Loan (1+4)/2	26.77	26.77
6	Rate of Interest %	9.11%	9.09%
7	Interest (5x6)	2.44	2.43
8	Other Borrowing Costs	0.22	0.22
9	**Interest and Finance Charges (7+8)**	**2.65**	**2.65**

The Commission, accordingly, approves the interest and finance charges of Rs. 2.65 Crore in the truing up for FY 2019-20.

With regard to the computation of gains / losses, Regulation 22.2 of the GERC (MYT) Regulations, 2016 provides as under:

"Regulation 22.2 of the GERC (MYT) Regulations, 2016 considers variations in capitalization on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events, as a controllable factor. If the gain is on account of lesser capital expenditure and capitalization, it cannot be attributed to the efficiency of the utility to allow 2/3rd of the gain to the utility. Similarly, if the loss is on account of more capital expenditure and capitalization due to bonafide reasons, the utility cannot be penalized by allowing only 1/3rd of the loss in the ARR.

The Commission, in terms of regulations, has considered variation in capitalization as uncontrollable and accordingly dependent components of ARR of interest on loan, depreciation and Return on Equity are also considered as uncontrollable."

The Commission, accordingly, approves the gains / losses on account of interest and finance charges as uncontrollable, in the truing up for FY 2019-20, as detailed in the Table below:

Table 4.36: Gains / (Losses) Approved in the truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MTR Order	Approved in truing up for FY 2019-20	Deviation +/(-)	Gains / (Losses) due to uncontrollable factor
Interest and Finance Charges	-	2.65	(2.65)	(2.65)

4.8.3 Return on Equity

Petitioner's submission

TPL-G (APP) has claimed a sum of Rs.58.60 Crore towards return on equity in the truing up for FY 2019-20, as against Rs.61.65 Crore approved in the MTR order dated 24.04.2019 as detailed in the Table below:

Table 4.37: Return on Equity claimed by the TPL -G (APP) for FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR order	Claimed by the Petitioner
Opening Equity	434.58	414.70
Equity Addition	11.51	7.79
Closing Equity	446.09	422.50
Average Equity	440.33	418.60
Rate of Return on Equity	14%	14%
Return on Equity	61.65	58.60

TPL-G (APP) has submitted that closing balance of equity has been arrived at considering additional equity of 30% of the capitalisation during the year. The return on equity has been computed at 14% on the average of the opening and closing balance of equity for FY 2019-20

Commission's analysis

The Commission has considered opening equity as on 01.04.2019 equal to closing equity of FY 2018-19 as approved in the truing up order dated 30.03.2020. The additional equity is considered @ 30% of the value of net asset addition as approved above.

The Commission, accordingly, approves the return on equity in the truing up for

FY 2019-20, as detailed in the table below:

Table 4.38: Return on Equity approved in the truing up for FY 2019-20

(Rs. Crore)

Particulars	Claimed by the Petitioner in truing up	Approved in truing up for FY 2019-20
Opening Equity	414.70	414.70
Equity Addition	7.79	7.79
Closing Equity	422.50	422.49
Average Equity	418.60	418.60
Rate of Return on Equity	14%	14%
Return on Equity	58.60	58.60

The Commission, accordingly, approves the Gains/(Losses) on account of return on equity in the truing up for FY 2019-20, as detailed below:

Table 4.39: Return on Equity and Gains/(Losses) approved in the truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MYT Order	Approved in truing up	Deviation +(-)	Gains / (Losses) due to Uncontrollable Factors
Return on Equity	61.65	58.60	3.05	3.05

4.8.4 Income Tax

Petitioner's submission

TPL-G (APP) has claimed Rs.23.39 Crore towards income tax in truing up for FY 2019-20, as against Rs.15.34 Crore approved in the MTR order dated 24.04.2019, as detailed in the Table below:

Table 4.40: Income Tax Claimed for TPL-G (APP) for FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR order	Claimed by the Petitioner
Income Tax	15.34	23.39

TPL-G (APP) has submitted that it has claimed the income tax considering the total tax paid for TPL as a whole and the ratio of PBT of TPL-(G) (APP) and PBT of the company as a whole as per the annual accounts.

Commission's analysis

The Commission had asked TPL to furnish the details of segregation of income tax paid by TPL in respect of TPL-G (APP) along with copies of challans of income tax paid. In its reply, TPL-G (APP) stated that being a single corporate entity, income tax is paid for the company as a whole and submitted copies of challans of income tax paid for the year. The Petitioner has computed the Income Tax by applying the ratio of PBT and after adjustment of tax credit.

The Commission has verified the PBT figures from the annual accounts for FY 2019-20. The Petitioner has shown a PBT of Rs. 133.64 Crore including Re-measurement of Defined Benefit Plans. The PBT as per standalone financial statement of TPL (including Re-measurement of Defined Benefit Plans) is Rs. 1501.33 Crore and the total tax paid by the Company as a whole is Rs. 305.94 Crore. It is observed that during FY 2019-20, the Petitioner has paid Minimum Alternate Tax (MAT) of 17.472%, though the effective tax rate works out to be 20.38%. Applying the MAT rate of 17.472% on the PBT of TPL-G (APP), the income tax for TPL- G (APP) works out to be Rs. 23.35 Crore.

The petitioner has made adjustment of tax credit of (-) Rs.0.04 crore and total tax of Rs.23.39 crore claimed in truing up for FY 2019-20.

The Commission, accordingly, approves the income tax at Rs.23.39 Crore in the truing up for FY 2019-20.

The Commission has treated the income tax as an uncontrollable expense and accordingly, approves the gains/(losses) on account of income tax in truing up for FY 2019-20, as detailed in the Table below:

Table 4.41: Gains / (Losses) due to Income Tax Approved in the truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MTR Order	Approved in truing up for FY 2019-20	Deviation +(-)	Gains /(Losses) due to Controllable Factors	Gains /(Losses) due to Uncontrollable Factors
Income Tax	15.34	23.39	(8.05)		(8.05)

4.8.5 Non-Tariff Income

Petitioner's submission

TPL-G (APP) has submitted that the actual Non-Tariff income is at Rs.15.11 Crore for FY 2019-20, as against Rs.17.43 Crore approved in the MTR order dated 24.04.2019 as shown in the Table below:

Table 4.42: Non-Tariff Income for TPL-G (APP) claimed for FY 2019-20

(Rs. Crore)

Particulars	Approved in MTR Order	Claimed by the Petitioner
Non-Tariff Income	17.43	15.11

Commission's analysis

As per the annual accounts for FY 2019-20, the non-tariff income of TPL-G (APP) is Rs.15.23 Crore. The Petitioner has excluded insurance claim receipt of Rs.0.12 crore which is adjusted against the A&G expenses claimed in O&M expenses. However, as discussed in O & M Expenses at Para 4.61 of this Order, the Insurance Claim is a part of Non-Tariff Income and the same is considered accordingly.

The Commission, accordingly, approves the Non-Tariff Income at Rs.15.23 Crore in the truing up for FY 2019-20.

The deviation in non-tariff income is at Rs.2.20 Crore, which is a loss and considered as uncontrollable factor.

The Commission, accordingly, approves the gains / (losses) on account of non-tariff income in the truing up for FY 2019-20 as detailed below.

Table 4.43: Non-Tariff Income and gains/(losses) approved in the truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MTR Order	Approved in truing up for FY 2019-20	Deviation +(-)	Gains /(Losses) due to Uncontrollable Factors
Non-Tariff Income	17.43	15.23	2.20	2.20

4.8.6 Incentive

Petitioner's submission

As per the GERC (MYT) Regulations, 2016, the incentive payable to a Thermal Generating Station shall be calculated in accordance with the Plant Load Factor (PLF) achieved against the normative PLF of 85%. It is submitted that the PLF of Ahmedabad generating station is lower than 85% incentive is not claimed.

Commission's analysis

The GERC MYT Regulations, 2016 provide for payment of incentive to a thermal generating station, the relevant clause is reproduced below:

"60. Incentive to a thermal generating station or unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) as specified in Regulation 53.2."

Since, the petitioner has not achieved higher PLF than the normative PLF of 85% during FY 2019-20, the Commission has not considered incentive in truing up for FY 2019-20.

4.8.7 Interest on Working Capital

Petitioner's submission

TPL-G (APP) has claimed Rs.14.08 Crore towards interest on working capital in truing up of FY 2019-20, as against Rs.13.16 Crore approved in the MTR order dated 24.04.2019, as detailed in the Table below:

Table 4.44: Interest on Working Capital of TPL-G (APP) Claimed for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Approved in MTR order	Claimed by the Petitioner
1	Cost of Coal for 1 1/2 month	95.53	106.86
2	Cost of oil for 1 month	--	--
3	Secondary fuel oil for 2 months	1.50	1.78
4	O&M expenses for 1 month	14.97	12.51
5	Maintenance spares @1% of historical cost GFA (Opening)	11.59	10.92
6	Receivables for 1 month		
7	**Working capital requirement (1 to 6)**	**123.59**	**132.07**
8	Rate of interest %	10.65%	10.66%
9	**Interest on working capital (7 * 8)**	13.16	14.08

Commission's analysis

The Commission has examined the computation of normative working capital and interest thereon under the GERC (MYT) Regulations, 2016.

Regulation 40.1 of GERC (MYT) Regulations 2006 specify the norms for thermal generating stations for computation of working capital requirement and interest on working capital thereon. According to the regulations the working capital requirement comprises of 1 and ½ month of coal cost, 1 month cost of oil, 2 months' secondary fuel oil cost, 1-month O&M expenses, maintenance spares at 1% of historical cost of GFA and receivables equivalent to 1 month. Regulations specify *that in case of own generating stations, no amount shall be allowed towards receivables, to the extent of supply of power by the Generation Business to the Retail Supply Business, in the computation of working capital in accordance with these Regulations.* As such receivables equivalent to one month is not considered for working capital requirement.

With regard to rate of interest on working capital, the Commission vide notification No. 7 of 2016 dated 2nd December, 2016 has amended its Regulation 40.1 (d) of the GERC (MYT) Regulations, 2016 as given under:

"Interest on working capital shall be allowed at a rate equal to the State Bank Base Rate (SBBR) / 1 year State Bank of India (SBI) Marginal Cost of Funds Based Lending Rate

(MCLR) / any replacement thereof by SBI for the time being in effect applicable for 1 year period, as may be applicable as on 1st April of the financial year in which the Petition is filed plus 250 basis points:

Provided that at the time of truing up for any year, interest on working capital shall be allowed at a rate equal to the weighted average State Bank Base Rate (SBBR) / 1 year State Bank of India (SBI) Marginal Cost of Funds Based Lending Rate (MCLR) / any replacement thereof by SBI for the time being in effect applicable for 1 year period, as may be applicable prevailing during the financial year plus 250 basis points."

In line with the above proviso to Regulation 40.1 (d), the Commission has considered the weighted average of 1 year State Bank of India (SBI) Marginal Cost of Funds Based Lending Rate (MCLR) of 8.16% prevailing during the financial year 2019-20 plus 250 basis points. Accordingly, the rate of interest on working capital has been worked out to be 10.66%.

Based on the O&M expenses and other expenses now approved in the Truing up, the working capital and interest thereon calculated as detailed in the Table below:

Table 4.45: Interest on Working Capital approved in the truing up for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Claimed by TPL-G (APP) in truing up	Approved in truing up for FY 2019-20
1	Cost of Coal for 1 1/2 month	106.86	106.86
2	Cost of oil for 1 month	--	--
3	Secondary fuel oil for 2 months	1.78	1.78
4	O&M expenses for 1 month	12.51	12.52
5	Maintenance spares @1% of historical cost GFA (Opening)	10.92	10.92
6	Receivables for 1 month	--	--
7	**Working capital requirement (1 to 6)**	**132.07**	**132.01**
8	Rate of interest %	10.66%	10.66%
9	**Interest on working capital (7 * 8)**	14.08	14.08

The Commission, accordingly, approves the interest on working capital at Rs. 14.08 Crore in the truing up for FY 2019-20.

As indicated above, the Commission has analysed various components – controllable and uncontrollable to arrive at the approved figure of working capital, based on which, the interest on working capital has been calculated. After working out the interest on working capital, the Commission has treated the interest as an uncontrollable cost, for the purpose of estimating Gains / (Losses).

The Commission, accordingly, approves the Gains / (Losses) on account of interest on working capital in the truing up for FY 2019-20, as detailed in the Table below:

Table 4.46: Gains/(Losses) in Interest on Working Capital approved in truing up for FY 2019-20

(Rs. Crore)

Particulars	Approved for FY 2019-20 in the MTR Order	Approved in truing up for FY 2019-20	Deviation +(-)	Gains /(Losses) due to Controllable Factors	Gains /(Losses) due to Uncontrollable Factors
Interest on Working Capital	13.16	14.08	(0.92)		(0.92)

4.8.8 Trued up ARR for FY 2019-20

The Commission has reviewed the performance of TPL-G (APP) under Regulation 22 of the GERC (MYT) Regulations, 2016, with reference to the annual accounts for FY 2019-20. Accordingly, the Commission has computed the sharing of gains and losses for FY 2019-20, based on the truing up for each of the components discussed in the above paragraphs. The ARR approved in the MTR order dated 24.04.2019, as claimed by TPL-G (APP) and as approved in truing up for FY 2019-20 along with sharing of gains/(losses) computed in accordance with the GERC (MYT) Regulations, 2016, is given in the Table below:

Table 4.47: ARR Approved in truing up for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Approved in MTR order	Claimed by the Petitioner	Approved in truing up	Deviation +/(-)	Gains/(Losses) due to Controllable factors	Gains/(Losses) due to Uncontrollable factors
1	**2**	**3**	**4**	**5**	**6=(3-5)**	**7**	**8**
1	Variable cost	812.54	683.52	691.77	129.02	8.25	120.78
2	Water charges	12.96	15.26	15.26	(2.30)		(2.30)

Sl. No.	Particulars	Approved in MTR order	Claimed by the Petitioner	Approved in truing up	Deviation +/(-)	Gains/(Losses) due to Controllable factors	Gains/(Losses) due to Uncontrollable factors
1	2	3	4	5	6=(3-5)	7	8
3	O & M expenses	179.66	150.15	150.28	29.38	41.75	(12.37)
4	Depreciation	48.97	47.00	47.00	1.97		1.97
5	Interest and finance charges	0.00	2.66	2.65	(2.65)		(2.65)
6	Interest on working capital	13.16	14.08	14.08	(0.92)		(0.92)
7	Return on Equity	61.65	58.60	58.60	3.05		3.05
8	Income tax	15.34	23.39	23.39	(8.05)		(8.05)
9	Incentive	0.00	0.00	0.00	0.00		0.00
10	Less: Non-tariff income	17.43	15.11	15.23	2.20		2.20
11	**Net ARR**	**1126.85**	**979.55**	**986.86**	**147.30**	**50.00**	**97.31**

4.8.9 Sharing of Gains / Losses for FY 2019-20

The Commission has analysed the gains/(losses) on account of uncontrollable and controllable factors.

The relevant Regulations are extracted below:

Regulation 23. Mechanism for pass-through of gains or losses, on account of uncontrollable factors

“23.1 The approved aggregate gain or loss to the Generating Company or Transmission Licensee or SLDC or Distribution Licensee on account of uncontrollable factors shall be passed through as an adjustment in the tariff of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee over such period as may be specified in the Order of the Commission passed under these Regulations.

23.2 The Generating Company or Transmission Licensee or SLDC or Distribution Licensee shall submit such details of the variation between expenses incurred and revenue earned and the figures approved by the Commission, in the prescribed format to the Commission, along with the detailed computations and supporting documents as may be required for verification by the Commission.

23.3 Nothing contained in this Regulation 23 shall apply in respect of any gain or loss *arising out of variations in the price of fuel and power purchase, which shall be dealt with as specified by the Commission from time to time."*

Regulation 24. Mechanism for sharing of gains or losses on account of controllable factors

"24.1 The approved aggregate gain to the Generating Company or Transmission Licensee or SLDC or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:

(a) One-third of the amount of such gain shall be passed on as a rebate in tariffs over such period as may be stipulated in the Order of the Commission under Regulation 21.6;

(b) The balance amount, which will amount to two-thirds of such gain, may be utilized at the discretion of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee.

24.2 The approved aggregate loss to the Generating Company or Transmission Licensee or SLDC or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:

(a) One-third of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be stipulated in the Order of the Commission under Regulation 21.6; and

(b) The balance amount of loss, which will amount to two-thirds of such loss, shall be absorbed by the Generating Company or Transmission Licensee or SLDC or Distribution Licensee."

Petitioner's submission

The Petitioner has submitted that variation in variable cost is mainly on account of uncontrollable factors such as change in off-take, fuel price, mix and calorific value. It also includes the variation inefficiency parameters like secondary fuel consumption, auxiliary consumption, transit loss and station heat rate, which are controllable. The entire variation on account of efficiency parameters is attributed to the controllable factors for sharing of gains/losses as per the Regulations. The variation in fuel price, mix and calorific value along with off-take are uncontrollable and accordingly, the variation in variable cost due to these factors has been treated as uncontrollable.

Regarding O&M expenses, it is submitted that the variation should be considered as controllable except due to changes in law and the factors beyond the control. As stated in O & M Expenses above, the increase in Employee expenses owing to change in law and wage revision is considered as uncontrollable.

The variation in ROE, Interest expenses and depreciation on account of variation in capitalization and interest rates has been treated as uncontrollable. Similarly, the variation in income tax and non-tariff income has been treated as uncontrollable.

The variation in the working capital requirement is mainly due to variation in the fuel cost, which is uncontrollable. Similarly, the variation in interest rate is also uncontrollable. Therefore, as per the MYT Regulations, 2016, the variation in interest on working capital is to be treated as uncontrollable.

It is submitted that any variation on account of uncontrollable factor is a part of the (gap)/ surplus identified for the year and is passed on to the consumer through adjustment in tariff as per the Regulation 23 of the MYT Regulations, 2016. In case of variation due to controllable factors, the gains and losses have to be dealt with as per Regulation 24.

Based on the above, the sharing of gains and losses due to controllable factors is summarised below.

Table 4.48: Sharing of gains/losses claimed by TPL-G (APP) for FY 2019-20

(Rs. Crore)

Particulars	**Pass through by adjustment in tariff**	**To be retained / absorbed**	**Total**
Controllable	16.71	33.42	50.13
Uncontrollable			
Total	16.71	33.42	50.13

Out of the controllable gain of Rs.50.13 Crore, Rs.16.71 Crore is to be passed through to the consumers. The remaining gain of Rs. 33.42 Crore is to be retained by the Petitioner as per the Regulations detailed hereinabove. The same needs to be added to the ARR and the same would be collected in the form of tariff.

The following is the summary of ARR recoverable by TPL-G (APP) from TPL-D towards supply of electricity to TPL-D.

Table 4.49: Trued-up ARR claimed by TPL-G (APP) for FY 2019-20

Sl. No.	Particulars	Amount (Rs. crore)
A	ARR as per MTR	1126.85
B	Gains/(Losses) due to uncontrollable factors	97.18
C	Gains/(Losses) due to controllable factors	50.13
D	Pass through as tariff (B+(C/3))	113.89
E	ARR true up (A-D)	1012.96

Commission's analysis

The Commission based on the detailed analysis in earlier paragraphs has considered the gains/(losses) due to variation in the costs approved in truing up vis-à-vis costs approved for FY 2019-20 in the MTR order dated 24.04.2019. The Commission, accordingly considered the gains and adjusted against the ARR trued up for FY 2019-20 to arrive at the revenue (Gap)/Surplus to be carried forward in to the ARR of FY 2021-22.

With regards to the increase in Employee Cost owing to change in law resulting in variation in the employee expenses. TPL-G (APP) through their additional submission has submitted the actuarial certificate obtained from the actuaries. The Commission has observed that prior to the amendment of the Payment of Gratuity Act, 1972 vide the Notification dated 29th March 2018; the upper ceiling on gratuity amount payable under the Act was Rs.10 lakhs. Pursuant to the Amendment the ceiling has been raised to Rs.20 lakhs resulting in the increase of the employee costs. The Commission has verified the said amount of Rs. 12.37 Crore (Gratuity Rs.3.10 crore + Leave encashment Rs.1.20 crore + 2/3rd Arrears of salaries and wages Rs. 13.32 Crore) and from the actuarial certificate and the auditor certificate submitted by TPL-G and accordingly considers the same to be a change in law in terms of Regulations 2(15) of the GERC MYT Regulations, 2016.

The trued up ARR for FY 2019-20 as claimed by TPL-G (APP) and as approved by the Commission is summarized in the Table below:

Table 4.50: Approved Trued up ARR incl. Gains/(Losses) for TPL-G (APP) for FY 2019-20

(Rs. Crore)

Sl. No.	Particulars	Claimed by the Petitioner	Approved in truing up
A	ARR as per MTR order dated 24.04.2019	1126.85	1126.85
B	Gains/(Losses) due to uncontrollable factors	97.18	97.31
C	Gains/(Losses) due to controllable factors	50.13	50.00
D	Less: 1/3 of gains/(Losses) due to controllable factors (C/3)	16.71	16.67
E	Net Gains/(Losses) considered as pass through (B+D)	113.89	113.97
F	**True up ARR (A - E)**	**1012.96**	**1012.88**

The Commission approves the total ARR of Rs. 1012.88 Crore of TPL-G (APP) for FY 2019-20 and the same is considered for working out the Power Purchased from TPL-G (APP) for FY 2019-20 in the ARR of TPL Distribution.

5. Aggregate Revenue Requirement (ARR) for FY 2021-22 and Determination of tariff for FY 2021-22

The MYT Regulations, 2016 defines control period at Regulations 2 (17) by stipulating it to be from 1st April, 2016 to 31st March, 2021. The Regulation 1.2 of the MYT Regulations, 2016 provides that these Regulations shall remain in force till 31st March, 2021, unless otherwise reviewed/extended. The Commission, vide its order dated 22nd December, 2020, has directed the utilities to file the petition for truing up of FY 2019-20, ARR of FY 2021-22, and determination of tariff of FY 2021-22 as per the provisions of the MYT Regulations, 2016. Accordingly, the Petitioner has arrived at the ARR for the FY 2021-22 by computing each of the components as per the Regulations and principles enunciated by the Commission in the MYT Regulations, 2016.

5.1 TPL-Generation (APP)

5.1.1 Generating Stations of TPL-G (APP) and their performance

The details of generating stations of TPL-G (APP) as on 1st April, 2020 along with their capacities are as given in the table below:

Table 5.1 Capacity, COD and age of TPL-G (APP) Generating Stations as on 1st April, 2020

Name of the station	Capacity in MW	Year of COD	Age/ Years
Sabarmati Thermal Power Plant (Coal based)			
D Station	1X120MW	1978/2004* *(Uprating capacity)	42
E Station	1X110MW	1984	36
F Station	1X110MW	1988	32

5.1.2 Performance of generating stations

Operational Performance Parameters

TPL-G (APP) has submitted that the estimates of operational parameters & cost of generation is developed based on the GERC (MYT) Regulations, 2016.

5.1.3 Plant Availability Factor (PAF)

Petitioner's submission

TPL submitted that plant availability factor has been computed after considering annual planned shutdown of the unit without factoring the forced outage factor. Accordingly, the planned maintenance days for `each unit have been tabulated in the Table below:

Table 5.2: Annual Planned Maintenance of TPL-G (APP) for FY 2021-22

Sl. No.	Station	No. of days
1	D Station	30
2	E Station	12
3	F Station	12

TPL-G (APP) submitted that above planned maintenance is scheduled normally during November to February in order to carry out the maintenance works at a time when there is lower demand. Based on the above details, TPL-G (APP) has projected the PAF as shown in the Table below.

Table 5.3: Projected Plant Availability Factor (PAF) for FY 2021-22

Sl. No.	Station	PAF
1	D Station	87.08%
2	E Station	92.42%
3	F Station	93.49%

TPL – G (APP) also submitted that the PAF projected may be undergo change due to forced outages and other unforeseen circumstances.

Commission's analysis

The Commission has analysed the submission made by the petitioner keeping in view the vintage of the machines, past performance etc. The Commission approves the PAF of each station, as projected by TPL as given in the Table below:

Table 5.4: Approved Plant Availability Factor for TPL-G (APP) for FY 2021-22

Sl. No.	Station	Projected by Petitioner	Approved by Commission
1	D Station	87.08%	87.08%
2	E Station	92.42%	92.42%
3	F Station	93.49%	93.49%

5.1.4 Plant Load Factor (PLF)

Petitioner's submission

TPL has projected the plant load factor for all the stations for FY 2021-22 as given in the table below:

Table 5.5: Projected Plant Load Factor (PLF) for FY 2021-22

Sl. No.	Station	PLF
1	D Station	80.84%
2	E Station	86.18%
3	F Station	87.81%

TPL has submitted that the PLF is proposed considering the factors like, aging and minimum technical load etc. The same may undergo change depending upon the variation in demand. TPL-G (APP) has also submitted that it has not considered any incentive for FY 2021-22 in this petition. However, TPL-G (APP) shall claim the same during True-up exercise based on actuals in accordance with the applicable Regulations.

Commission's analysis

The Commission has analysed the submission made by TPL with regard to projecting the PLF taking into account the aging of the equipments and planned maintenance schedules. The Commission accordingly approved PLF for different stations as projected by TPL in the Table below:

Table 5.6: Approved Plant Load Factor for TPL-G (APP) for FY 2021-22

Sl. No.	Station	Projected by Petitioner	Approved by Commission
1	D Station	80.84%	80.84%
2	E Station	86.18%	86.18%
3	F Station	87.81%	87.81%

It is to clarify here that for the purpose of incentive calculation during truing up, the PLF shall be considered for each station of TPL-G (APP) as per Regulation 53.2 of the MYT Regulations, 2016. TPL-G (APP) shall submit a certificate from SLDC certifying annual PLF for each station separately while truing up.

5.1.5 Auxiliary consumption

Petitioner's submission

TPL has projected the auxiliary consumption for all the stations for FY 2021-22 based on the principle and methodology enunciated in MYT Regulations, 2016, as given in the Table below:

Table 5.7: Projected Auxiliary Consumption (Aux. Con.) for FY 2021-22

Sl. No.	Station	Auxiliary Consumption
1	D Station	9.00 %
2	E Station	9.00 %
3	F Station	9.00 %

Commission's analysis

The Commission has analysed the submission made by the petitioner on vintage of the machines, past performance etc. accordingly approves auxiliary consumption norms for different stations on the basis of the GERC (MYT) Regulations, 2016 as given in the Table below:

Table 5.8: Approved Auxiliary consumption for TPL-G (APP) for FY 2021-22

Sl. No.	Station	Projected by Petitioner	Approved by Commission
1	D Station	9.00%	9.00%
2	E Station	9.00%	9.00%
3	F Station	9.00%	9.00%

The Commission may revise the norms for the auxiliary energy consumption for the above, mentioned generating stations in case of Renovation and Modernization of the generating stations as envisaged in Regulation 53.7 (b) of the GERC (MYT) Regulations, 2016.

5.1.6 Station Heat Rate (SHR)

Petitioner's submission

TPL has projected the SHR of different stations for FY 2021-22 based on the principle and the methodology enunciated in the MYT Regulation, 2016, as given in the table below:

Table 5.9: Projected Station Heat Rate (SHR) for FY 2021-22

(Kcal/kWh)

Sl. No.	Station	SHR
1	D Station	2450
2	E Station	2455
3	F Station	2455

Commission's analysis

The Commission has analysed the submission made by the TPL. The SHR proposed for the stations are in accordance with those permitted levels, as per Regulation 53.3 (b) of the GERC (MYT) Regulations, 2016. In view of the above, the Commission approves the SHR for different stations for FY 2021-22 as given in the Table below:

Table 5.10: Approved Station Heat Rate for TPL-G (APP) for FY 2021-22

(Kcal/kWh)

Sl. No.	Station	Projected by Petitioner	Approved by Commission
1	D Station	2450	2450
2	E Station	2455	2455
3	F Station	2455	2455

The Commission may revise the norms for the SHR for the above, mentioned generating stations in case of Renovation and Modernization of the generating stations as envisaged in Regulation 53.3 (b) of the GERC (MYT) Regulations, 2016.

5.1.7 Secondary Fuel Oil Consumption (SFC)

Petitioner's submission

TPL-G (APP) has projected SFC at the levels specified by the Commission in the GERC MYT Regulations, 2016 as shown in the Table below for each station:

Table 5.11: Projected Secondary Fuel Oil Consumption (SFO Con.) for FY 2021-22

(ml/kWh)

Sl. No.	Station	SFO Consumption
1	D Station	1.00
2	E Station	1.00
3	F Station	1.00

Commission's analysis

The Commission has analysed the submission made by TPL and approves secondary fuel oil consumption for different stations taking into account the GERC (MYT) Regulations, 2016 as given in the Table below:

Table 5.12: Approved secondary fuel oil consumption for TPL-G (APP) for FY 2021-22

(ml/kWh)

Sl. No.	Station	Projected by Petitioner	Approved by Commission
1	D Station	1.00	1.00
2	E Station	1.00	1.00
3	F Station	1.00	1.00

The Commission may consider to revise the norms for the secondary fuel consumption for the above mentioned generating stations, in case of Renovation and Modernization undertaken by the generating stations as envisaged in Regulation 53.5 (C) of the GERC (MYT) Regulations, 2016.

5.1.8 Transit loss of coal

Petitioner's submission

TPL has projected transit loss of coal for FY 2021-22 based on the principle and the methodology enunciated in the MYT Regulation, 2016 as given in the Table below:

Table 5.13: Projected Transit loss of coal for FY 2021-22

Station	Transit loss
All stations	0.80%

Commission's analysis

Presently TPL-G (APP) has proposed transit loss for all the stations at the levels approved by the Commission in the GERC (Multi Year Tariff) Regulations, 2016. Accordingly, the Commission approves the transit loss in accordance with the GERC (MYT) Regulations, 2016 as given in the Table below:

Table 5.14: Approved Transit loss of coal for TPL-G (APP) for FY 2021-22

Station	Projected by Petitioner	Approved by Commission
All stations	0.80%	0.80%

5.1.9 Performance parameters approved

Based on the decisions in the earlier paragraphs the performance parameters approved by the Commission for the FY 2021-22 for different stations are summarized as in the table below:

Table 5.15: Approved parameters of PAF, PLF, Auxiliary consumption, station heat rate, specific oil consumption and coal transit loss for TPL-G (APP) for FY 2021-22

Station	PAF (%)	PLF (%)	Aux. Con (%)
D	87.08	80.84	9.00
E	92.42	86.18	9.00
F	93.69	87.81	9.00
Station	**SHR**	**SFO con.**	**Transit Loss (%)**
D	2450	1.00	0.80
E	2455	1.00	0.80

Station	PAF (%)	PLF (%)	Aux. Con (%)
F	2455	1.00	0.80

5.2 Projected Gross and Net Generation

Petitioner's submission

TPL has projected the gross and net generation of different stations with the projected PLF and auxiliary consumption for FY 2021-22 as given in the table below:

Table 5.16: Projected gross and net generation for FY 2021-22

Particulars	FY 2021-22
Plant D	
Capacity in MW	120
PLF in %	80.84%
Gross Generation in MU	849.78
Auxiliary Consumption in MU	76.48
Net Generation in MU	773.30
Plant E	
Capacity in MW	121
PLF in %	86.18%
Gross Generation in MU	913.47
Auxiliary Consumption in MU	82.21
Net Generation in MU	831.26
Plant F	
Capacity in MW	121
PLF in %	87.81%
Gross Generation in MU	930.80
Auxiliary Consumption in MU	83.77
Net Generation in MU	847.03
Total	
Gross Generation in MU	2,694.06
Auxiliary Consumption in MU	242.46
Net Generation in MU	2,451.59

5.2.1 Approved Gross and Net Generation

The gross and net generation for different stations of TPL-G (APP) as approved by the Commission based on the permissible parameters of PLF and auxiliary consumption as discussed in the earlier paragraphs are as given in the table below:

Table 5.17: Approved gross and net generation for TPL-G (APP) for FY 2021-22

Sl. No	Station	Gross (MUs)	Aux. Consumption (MUs)	Net (MUs)
1	D Station	849.78	76.48	773.30

Sl. No	Station	Gross (MUs)	Aux. Consumption (MUs)	Net (MUs)
2	E Station	913.47	82.21	831.26
3	F Station	930.80	83.77	847.03

5.3 Generation Costs – Variable (Energy) and Capacity (Fixed) charges

5.3.1 Variable costs (Energy charges)

The performance parameters for different stations are as discussed in the earlier paragraphs and approved for FY 2021-22. The variable cost (mostly fuel cost) depends on the cost parameters such as GCV of fuel used, blending ratio of coal and price of fuel. TPL-G (APP) stations run on coal. For coal stations, a mix of indigenous and imported coal is used.

TPL projections and Commission's analysis on the mix of coal, Wt. Av. GCV of fuels to be consumed and Wt. Av. Price of fuel for different stations are discussed below:

5.3.2 Blending ratio of coal

Petitioner's submission

TPL has considered blending of indigenous and imported coal in the ratio of 76:24 for all station of TPL – G (APP).

Commission's analysis

The Commission has approved the blending ratio of coal of 74:26 for FY 2020-21 in the MTR Order dated 24th April, 2019. TPL has considered blending of indigenous and imported coal in the ratio of 76:24 for all station of TPL – G (APP). Commission opines that the Petitioner should decide on the blending ratio of indigenous and imported coal, to optimise the generation performance parameters and cost of generation without compromising the environmental norms. Accordingly, for FY 2021-22 the Commission approves the blending ratio of coal of 76:24 for indigenous and imported coal respectively.

5.3.3 Weighted Average Gross Calorific Value of fuel

Petitioner's submission

TPL has considered the calorific value of primary & secondary fuel as shown in the Table below.

Table 5.18: Projected Gross Calorific Value (GCV) of fuel for FY 2021-22

Particulars	GCV
Indigenous Coal (Kcal/Kg)	4,378
Imported Coal (Kcal/Kg)	4,750
Secondary Fuel Oil (Kcal/L)	9,984

Commission's analysis

The Commission has analysed the submission of TPL in respect to GCV of indigenous coal, imported coal and oil. The GCV of coal for individual station has been computed by considering the GCV of indigenous coal and imported coal in the blending ratio. Accordingly, the Commission has considered the GCV of blended coal and GCV of oil of individual station as projected by the Petitioner.

The actual values are bound to change from the approved level in accordance with the quality of fuels actually supplied. Any difference in fuel costs due to the variation in the approved values is to be passed on to the consumers based on the approved FPPPA formula. The Wt. Av calorific value of different fuels approved for FY 2021-22 are as given in the table below:

Table 5.19: Approved Wt Av GCVs of fuels of TPL-G (APP) for FY 2021-22

Sl. No.	Station	Wt Av GCV of mix of coal as per approved blending ratio (Kcal/ kg)	Wt Av GCV of secondary fuel (oil) (Kcal/L)
1	D	4465	9984
2	E	4465	9984
3	F	4465	9984

5.3.4 Weighted Average price of fuel

TPL has projected the Wt. Avg. price of primary and secondary fuel for FY 2021-22 as given in the table below:

Table 5.20: Projected price of different fuels for FY 2021-22

Type of fuel	Price
Wt Av cost of indigenous coal (Rs/Tonne)	5354.31
Wt Av cost of Imported coal (Rs/ Tonne)	6394.18
Wt Av cost of Secondary fuel oil (Rs/K.Litre)	39507.16

Commission's analysis

The Commission has noted that the prices of indigenous coal, imported coal and secondary fuel oil as considered by the Petitioner for calculating fuel costs for FY 2021-22 are as given in the Table below:

Table 5.21: Wt. Av prices of different fuels considered for TPL-G (APP)

Type of fuel	Price
Wt Av cost of indigenous coal (Rs/MT)	5597.95
Wt Av cost of Imported coal (Rs/MT)	6243.99
Wt Av cost of Secondary fuel oil (Rs/Kl)	39507.16

However, the Commission has considered actual fuel wise and station wise fuel purchase price of FY 2019-20 for the purpose of calculating fuel cost for FY 2021-22 as shown in the table below:

Table 5.22:Approved Wt. Avg. prices of different fuels of TPL-G (APP) for FY 2021-22

Type of Fuel	D-Station	E-Station	F-Station
Wt. Avg. Cost of indigenous Coal (Rs / MT)	5606.01	5584.73	5584.65
Wt. Avg. Cost of Imported Coal (Rs / MT)	6195.50	6107.87	6200.29
Wt. Avg. Cost of Secondary Fuel Oil (Rs / KL)	39541.91	39246.34	39595.87

The Commission has decided to arrive at the fuel cost for the control period based on the cost parameters approved in the Tables 5.15 and 5.22. Any difference in the fuel cost due to variation in cost parameters is to be passed on to the consumers as per approved FPPPA formula.

The other charges for FY 2021-22 are considered as projected by the Petitioner in the Form 2.2.

5.4 Fuel costs

The station-wise approved fuel costs for FY 2021-22 based on the decisions of the

Commission in the earlier paragraphs are as given in the table below:

Table 5.23: Approved Fuel cost of different stations of TPL-G (APP) for FY 2021-22

(Rs. Crore)

Sl. No.	Station	Projected by Petitioner	Approved by Commission
1	D Station	264.35	264.24
2	E Station	285.45	283.44
3	F Station	291.04	290.15
	Total	**840.84**	**837.84**

**Note: Detailed computation of the fuel cost for each of the stations, with approved parameters for actual net generation, has been given in Annexure 4 to 6.*

5.4.1 Fuel cost per unit (kWh)

The fuel costs of different stations per unit of gross and net generation as approved by Commission are as given in the table below:

Table 5.24: Approved Fuel cost per unit of different stations of TPL-G (APP) for FY 2021-22

(Rs/kWh)

Sl. No.	Station	Gross	Net
1	D Station	3.11	3.42
2	E Station	3.10	3.41
3	F Station	3.12	3.43

5.5 Fixed Charges

5.5.1 Operation and Maintenance (O&M) Expenses

Petitioner's submission

The Petitioner has submitted that the Commission in the Order dated 22nd December, 2020 has noted that it would be difficult to make realistic projection and accordingly directed the utilities to consider principles and methodology as provided in the MYT

Regulations, 2016. It is stated that the Commission in the Order dated 9th June, 2017 has stipulated trajectory of O&M expenses with escalation of 5.72% for each year. The petitioner accordingly, following the methodology, has extended the trajectory and projected the O&M expenses for FY 2021-22 as detailed in the Table below:

Table 5.25: O&M expenses claimed by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the petitioner
O&M Expenses	200.80

The Petitioner has submitted that the variation in O&M expenses does not take into account the uncontrollable expenses such as the wage revision, change in law, change in levies/duties/taxes and charges, etc. and requested these components of uncontrollable factors and any such expenses on account of these factors are to be allowed over and above the normal allowable components.

Commission's analysis

The Commission in the MYT Order had approved O & M Expenses for the ensuing years based on the average of actual O & M expenses for the previous three years escalated @ 5.72%. Accordingly, for projecting O & M expense for FY 2021-22, the Commission has considered the actual O & M Expenses for FY 2017-18 to FY 2019-20. The average of these three years expenses considered to be O & M Expenses of FY 2018-19. The O & M Expenses arrived for FY 2018-19 are escalated @ 5.72% year-on-year to arrive at O & M Expenses for FY 2021-22 at Rs. 170.08 Crore.

The Commission, accordingly, approves the O&M expenses for FY 2021-22 as given hereunder.

Table 5.26: O&M Expenses approved by the Commission for FY 2021-22

(Rs. Crore)

Particulars	Claimed in Petition	O&M expenses approved for FY 2021-22
O&M Expenses	200.80	170.08

5.6 Water Charges

Petitioner's submission

TPL-G (APP) has projected Rs.23.91 Crore towards water charges for FY 2021-22 as given in the Table below:

Table 5.27: Water Charges projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the petitioner
Water Charges	23.91

Commission's analysis

The Commission provisionally considers the water charges at Rs. 15.26 crore for FY 2021-22 based on the actual expenses allowed in FY 2019-20 in terms of Regulation 54 (b) of the GERC (MYT) Regulations, 2016.

Table 5.28: Water Charges Approved for FY 2021-22

(Rs. Crore)

Particulars	Projected by the petitioner	Approved by Commission
Water Charges	23.91	15.26

5.7 Capital Expenditure, Capitalization and Sources of Funding

a) Capital Expenditure

Petitioner's submission

The Petitioner has projected capital expenditure of Rs.21.31 Crore for FY 2021-22 as per the details given in the Table below:

Table 5.29: Capital expenditure claimed by TPL-G (APP) for FY 2021-221

(Rs. Crore)

Particulars	Projected by the Petitioner
Boiler works	5.00
Turbine works	4.00
Electrical works	7.45
C & I Works	2.10
Civil works	0.50
Others	2.00
Sub-total (Normal capex)	**21.05**
Miscellaneous	0.26

Particulars	Projected by the Petitioner
Total Capex	**21.31**

It is submitted that the Petitioner endeavors to operate the generating plants efficiently to meet the normative operational parameters despite vintage of the plants. To ensure smooth and consistent operations with higher level of efficiency periodical capex is needed on account of upgradation and modernisation of the plants.

The petitioner has furnished the details of major capital expenditure as given below:

1. Normal Capital expenditure: The Capex is towards replacement of important parts/system due to ageing effect on equipment and wear and tear in normal operations.
   - Boiler works: Capex planned from FY 2021-22 towards
     (i) Replacement of RC variator, Mill components like classifier assembly, coal air pipes & bends, mill body in D, E and F Station,
     (ii) Replacement in strategic areas of Boiler comprising of the Water wall, Steam cooled wall & LTSH, tube nest in TG side etc. along with auxiliaries,
     (iii) Refurbishment of Dry and Wet ash handling system piping of Sabarmati plant, and
     (iv) Pressure Part Replacement for D station and E station.
   - Turbine works: Capex planned from FY 2021-22 towards Turbine overhauling of D, E and F station as per the OEM guidelines and Refurbishment / replacement of BFP, CEP, CW pumps and related system components.
   - Electrical works: Capex for Replacement of MCC in D station and PMCC in French well, Upgradation of lighting system by replacing the existing lights with flameproof /energy efficient lights, procurement of F station centac air compressor motor (6.6 KV, 400KW), and DC Charger with Battery bank for D & F stations.
   - Control & Instrumentation Works: Capex for water SCADA System Upgradation of D station and Replacement of F station battery bank and SW SCADA along with Procurement of D station Turbine Supervisory system.
   - Capex planned for civil works for D, E, F CW pump house and RFO Pump House, Refurbishment of French well and borewell systems and replace of cooling

system (Air and Water) and ventilation system.

- Miscellaneous: Capex towards office equipment, vehicles and facility works.

TPL-G (APP) further submitted that the Ministry of Environment & Forests (MoEF) has revised the environmental norms for thermal power plants vide its notification dated 07.12.2015. In order to comply with these revised norms, all the existing generating stations are required to incur capex for providing FGD and TPL-G (APP) was also directed to install FGD. However, representations are being made before the MoEF to grant relief in this regard. Hence, the Petitioner has not considered any capex towards compliance with the MoEF notification in the present petition and shall approach the Commission at appropriate stage.

Commission's analysis

The Petitioner has projected Capex of Rs.21.31 Crore for FY 2021-22 as detailed in the Table 5.29 above. The Petitioner has furnished the project/work-wise justification for the capex projected for FY 2021-22.

The Commission opines that in order to operate the generating plants efficiently to meet the normative operational parameters and to ensure smooth and consistent operations with higher level of efficiency. the Capex planned by the petitioner is needed and accordingly provisionally approves the Capex for FY 2021-22 as projected by the Petitioner (Table 5.29 above)

The Commission, accordingly, approves the Capital expenditure (Capex) at Rs.21.31 crore for FY 2021-22.

b) Capitalization and Gross Fixed Assets

Petitioner's submission

The Petitioner has projected Rs.27.38 Crore towards capitalization for FY 2021-22 and furnished the project/work-wise details of capitalisation in Form 4.3 to the Petition.

Commission's analysis

The Commission has approved the capex for FY 2021-22 keeping in view, the need for capex in order to operate the generating plants efficiently to meet the normative operational parameters and to ensure smooth and consistent operations with higher level of efficiency.

The Commission observed that during previous three years i.e. from FY 2017-18 to FY 2019-20, the Petitioner has capitalized close to 100% amount of the Capital Expenditure approved for the respective year.

Thus, for FY 2021-22, the Commission accordingly approves capitalization of Rs. 21.31 Crore for FY 2021-22.

The Commission has approved closing GFA at Rs.1118.32 crore in true up for FY 2019-20 and the same is considered as opening GFA for FY 2019-20. Further, the Commission has considered capitalisation of Rs.60.86 crore as approved in MTR order dated 24.04.2019 for FY 2020-21 and arrived at the closing GFA for FY 2020-21 at Rs.1179.18 crore (1118.32+60.86) and the same is considered as opening GFA for FY 2021-22.

The Commission, as deliberated above has considered the opening GFA, additions during the year and closing GFA for FY 2021-22 as given in the table below:

Table 5.30: Gross Fixed Assets approved for FY 2021-22 for TPL-G (APP)

(Rs. Crore)

Sl. No.	Particulars	Approved for FY 2021-22
1	Opening GFA	1179.18
2	Asset additions during the year	21.31
3	**Closing GFA (1+2)**	**1200.49**

The Commission, accordingly, approves the GFA for FY 2021-22 as detailed in the table above.

c) Funding of CAPEX

Petitioner's submission

The Petitioner has submitted the capitalisation and funding of CAPEX, as detailed in the

Table below:

Table 5.31: Funding of capitalization projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Opening GFA	1147.90
Addition to GFA	27.38
Closing GFA	1175.28
Balance Capitalization	27.38
Normative Debt @ 70%	19.17
Normative Equity @ 30%	8.21

Commission's analysis

The Commission as deliberated in earlier paragraph has considered the opening GFA, addition to GFA and Closing GFA as approved in Table 5.30 above.

The Commission in terms of GERC (MYT) Regulations 2016 has approved the funding of capitalisation for normative debt-equity as shown in the Table below for FY 2021-22:

Table 5.32: Funding of capitalization approved for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner	Approved by the Commission
Opening GFA	1147.90	1179.18
Addition to GFA	27.38	21.31
Closing GFA	1175.28	1200.49
Balance Capitalization	27.38	21.31
Normative Debt @ 70%	19.17	14.92
Normative Equity @ 30%	8.21	6.39

The Commission approves the funding of capitalization for FY 2021-22 as shown in the above Table.

5.7.1 Depreciation

Petitioner's submission

The Petitioner has projected Rs.50.07 Crore towards depreciation for FY 2021-22 as shown in the Table below:

Table 5.33: Depreciation projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Depreciation	50.07

Commission's analysis

The Commission has approved the closing value of depreciable GFA at Rs.1101.63 crore in truing up for FY 2019-20 and the same is considered as opening depreciable GFA for FY 2020-21. The GFA is further updated with the capitalisation approved for FY 2020-21 in the MTR order dated 24.04.2019 and the addition to GFA during FY 2021-22 is considered based on the capitalisation approved for FY 2021-22.

The rate of depreciation on assets is considered as projected by the petitioner and accordingly computed the depreciation for FY 2021-22 as given in the table below:

Table 5.34: Depreciation approved for FY 2021-22

(Rs. Crore)

Sl. No.	Particulars	Approved by the Commission
1	Opening value of depreciable GFA	1162.49
2	Additions during the year	21.31
3	Closing GFA (1+2)	1183.80
4	Average depreciable assets (1+3)/2	1173.15
5	Weighted average rate of depreciation	4.26%
6	Depreciation allowed in ARR	49.94

The Commission approves the depreciation for FY 2021-22 as shown in the above table.

5.7.2 Interest and Finance Charges

Petitioner's submission

The Petitioner has submitted that interest is calculated on normative loans in terms of the GERC (MYT) Regulations, 2016 by applying estimated opening Weighted Average Rate of interest of the actual loan portfolio of the Petitioner at the beginning of the year while repayment has been considered equal to the depreciation of the assets for the year. TPL-G (APP) has claimed Nil interest on loans for FY 2021-22 as detailed in the Table below.

Table 5.35: Interest on loans projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Opening Balance of Loans	--
Loan addition during the year	19.17
Repayments	50.07
Closing Balance of Loans	--
Average Loan	--
Weighted average rate of interest	9.00%
Interest Expense	**--**

Commission's analysis

The Commission has approved the normative closing loan balance at Rs.12.36 crore in truing up for FY 2019-20 and the same is considered as opening loan for FY 2020-21. Additions to loan is further updated with the normative loan based on capitalisation approved for FY 2020-21 in the MTR order dated 24.04.2019 and the capitalisation approved for FY 2021-22.

The rate of interest is considered as projected by the petitioner and accordingly computed the interest on loan for FY 2021-22 as given in the table below:

Table 5.36: Interest on loans approved for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner	Approved by the Commission
Opening Balance of Loans	--	3.93
Loan addition during the year	19.17	19.17
Repayments	50.07	49.94
Closing Balance of Loans	--	--
Average Loan	--	--
Weighted average rate of interest	9.00%	9.00%
Interest Expense	**--**	**--**

The Commission, accordingly, approves the interest on loan as NIL for FY 2021-22 as detailed in the table above.

5.7.3 Return on Equity

Petitioner's submission

TPL-G (APP) has projected Rs.60.97 Crore towards Return on Equity @ 14% for FY 2021-22 as detailed in the Table below:

Table 5.37: Return on Equity projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Opening Equity	431.37
Equity addition during the year	8.21
Closing Equity	439.58
Average of Opening and Closing Equity	435.48
Rate of Return on Equity	14%
Total Return on Equity	60.97

Commission's analysis

The petitioner has adopted incorrect opening equity of Rs.431.37 crore for FY 2021-22 instead of Rs.440.75 crore (closing equity for FY 2019-20 Rs.422.49 crore + equity addition during FY 2020-21 Rs.18.26 crore being the 30% of capitalisation of Rs.60.86 crore as per MTR order)

The Commission has approved the closing equity at Rs.422.49 crore in truing up for FY 2019-20 and the same is considered as opening equity for FY 2020-21. The addition to equity is further updated based on capitalisation approved for FY 2020-21 in the MTR order dated 24.04.2019 and the capitalisation approved for FY 2021-22. The Commission accordingly computed the Return on equity for FY 2021-22 as given in the table below:

Table 5.38: Return on Equity approved by the Commission for FY 2021-22

(Rs. Crore)

Sl. No.	Particulars	Projected by the Petitioner	Approved by the Commission
1	Opening Equity	431.37	440.75
2	Equity addition during the year	8.21	6.39
3	Closing Equity	439.58	447.14
4	Average of Opening and Closing Equity	435.48	443.95
5	Rate of Return on Equity	14%	14%
6	Return on Equity on opening equity	60.97	62.15

The Commission, accordingly, approves the Return on Equity for FY 2021-22 as detailed in the table above.

5.7.4 Income Tax

Petitioner's submission

The Petitioner has projected the Income Tax at Rs.23.39 crore based on the actual tax paid for FY 2019-20 and in proportion to the PBT of TPL-G (APP).

Table 5.39: Income tax projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Income Tax	23.39

Commission's analysis

The Commission has approved Rs.23.39 crore towards income tax in true up for FY 2019-20 and accordingly has provisionally considered Rs.23.39 crore towards income tax for FY 2021-22 in terms of regulation 41.1 subject to true up based on the actual tax paid for the relevant year as specified in regulation 41.2 of the GERC (MYT) Regulations 2016. as given in the Table below:

Table 5.40: Income Tax approved for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner	Approved by the Commission
Income Tax	23.39	23.39

The Commission, accordingly, approves the income tax for FY 2021-22 as detailed in the table above.

5.7.5 Non-Tariff Income

Petitioner's submission

The Petitioner has projected Non-Tariff Income at Rs.14.31 Crore for FY 2021-22 considering the current trend. The Petitioner has requested the Commission to approve the non-tariff income for FY 2021-22 as estimated and shown in the table below.

Table 5.41: Non-Tariff Income projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Non-Tariff Income	14.31

Commission's analysis

The Commission in the MYT Order had approved Non-Tariff Income for ensuing years equal to the actual Non-Tariff Income approved in latest True Up. Accordingly, the Commission approves Non-Tariff Income for FY 2021-22 as Rs. 15.23 Crore as approved in the Truing up of FY 2019-20.

Table 5.42: Non-Tariff Income approved for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner	Approved by the Commission
Non-Tariff Income	14.31	15.23

5.7.6 Interest on Working Capital

Petitioner's submission

The Petitioner has submitted that interest on working capital is computed as per the MYT Regulations, 2016 and the interest rate of 10.25%, being the SBI MCLR rate on 1st April 2020 plus 250 basis points, is applied on the working capital requirement arrived at in accordance with the Regulations.

The Petitioner has computed the working capital requirement and interest on working capital as shown in the table below.

Table 5.43: Interest on Working Capital projected by TPL-G (APP) for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Cost of Coal for 1 1/2 month	106.64
Cost of oil for 1 month	--
Secondary fuel oil for 2 months	1.77
O&M expenses for 1 month	16.73
Maintenance spares @1% of historical cost GFA (Opening)	11.48
Receivables for 1 month	--
Working capital requirement (1 to 6)	136.63
Rate of interest %	10.25%
Interest on working capital (7 * 8)	14.00

Commission's analysis

Regulation 40.1 of GERC (MYT) Regulations 2006 specify the norms for thermal generating stations for computation of working capital requirement and interest on working capital thereon. According to the regulations the working capital requirement comprises of 1 and ½ month of coal cost, 1 month cost of oil, 2 months' secondary fuel oil cost, 1-month O&M expenses, maintenance spares at 1% of historical cost of GFA and receivables equivalent to 1 month. Regulations specify *that in case of own generating stations, no amount shall be allowed towards receivables, to the extent of supply of* *power by the Generation Business to the Retail Supply Business, in the computation of working capital in accordance with these Regulations.* As such receivables equivalent to one month is not considered for working capital requirement.

The Commission has considered the rate of interest at 10.25% being the 1-year SBI MCLR as on 1st April 2020 (7.75%) including 250 basis points as per regulations for computation of interest on working capital for FY 2021-22.

The working capital requirement and the interest on working capital computed for FY 2021-22 is as shown in the Table below:

Table 5.44: Interest on Working Capital approved for FY 2021-22

(Rs. Crore)

Sl. No.	Particulars	Projected by the Petitioner	Approved by the Commission
1	Cost of Coal for 1 1/2 month	106.64	104.81
2	Cost of oil for 1 month	--	--
3	Secondary fuel oil for 2 months	1.77	1.77
4	O&M expenses for 1 month	16.73	14.20
5	Maintenance spares @1% of historical cost of GFA	11.48	11.79
6	Receivables for 1 month	--	--
7	**Working capital requirement (1 to 6)**	**136.63**	**132.58**
8	Rate of interest %	10.25%	10.25%
9	**Interest on working capital (7 * 8)**	**14.00**	**13.59**

The Commission, accordingly, approves interest on working capital for FY 2021-22 as detailed in the table above.

5.7.7 Aggregate Revenue Requirement (ARR) for FY 2021-22

Petitioner's submission:

The Petitioner has projected the ARR for FY 2021-22 as given in the table below:

Table 5.45: ARR projected by the Petitioner for FY 2021-22

(Rs. Crore)

Particulars	Projected by the Petitioner
Cost of Coal	830.21
Cost of Secondary Oil	10.64
Water charges	23.91
O & M expenses	200.80
Depreciation	50.07
Interest on loans	--
Interest on working capital	14.00
Return on Equity	60.97
Income tax	23.39
Less: Non-tariff income	14.31
ARR	**1199.68**

Commission's analysis:

The Commission based on the costs/expenses approved in the preceding paragraphs has computed the ARR as given in the Table below:

Table 5.46: ARR approved in respect of TPL-G (APP) for FY 2021-22

(Rs. Crore)

Sl. No.	Particulars	Projected by the Petitioner	Approved by the Commission
1	Cost of Coal	830.21	827.21
2	Cost of Secondary Oil	10.64	10.63
3	Water charges	23.91	15.26
4	O & M expenses	200.80	170.41
5	Depreciation	50.07	49.94
6	Interest on loans	--	--
7	Interest on working capital	14.00	13.59
8	Return on Equity	60.97	62.15
9	Income tax	23.39	23.39
10	**Less**: Non-tariff income	14.31	15.23
11	**ARR**	**1199.68**	**1157.34**
12	**Total fixed charges**	**358.83**	**319.51**
13	**Total variable charges**	**840.85**	**837.84**

5.8 Determination of Fixed Charges for FY 2021-22

The Commission has approved total fixed charges at Rs. 319.51 crore for FY 2021-22.

5.9 Determination of Variable Charges for FY 2021-22

The Table given below gives the Station wise energy charges for FY 2021-22

Table 5.47: Approved variable charges for TPL-G (APP) FY 2021-22

Sl. No.	Station	Fuel cost approved in this order for FY 2021-22 (Rs. crore)	Fuel cost per unit Gross (Rs./kWh)	Fuel cost per unit Net (Rs./kWh)
1	D Station	264.24	3.11	3.42
2	E Station	283.44	3.10	3.41
3	F Station	290.15	3.12	3.43
	Total	**837.84**	**3.11**	**3.42**

6. Compliance of Directives

The Commission had issued directives to the Petitioner in its order dated 30th March, 2020 in Case No. 1843/2019. In this regard, TPL-G (APP) has already submitted the compliances. The status on compliance of the directives issued by the Commission is reproduced as under.

6.1 Earlier Directives

Directive No 1: Implementation plan for meeting the new environment norms of MoEF

The Commission had directed the Petitioner to submit final proposal for capital expenditure after doing cost benefit analysis, including implementation plan for the new environment norms of MoEF (GoI), if required.

Compliance:

TPL – G (APP) has submitted that it will approach the Commission with its proposal in due course.

Commission's Comment:

The Commission has noted the submission and directs the Petitioner to approach the Commission with its proposal at the earliest.

Directive No 2: Phasing out plan for generating units

The Commission has directed the Petitioner to submit final plan for phasing out, if any, for its generating units and explore cost effective option for replacing such capacity.

Compliance:

TPL – G (APP) has submitted that it will approach the Commission with its proposal in due course.

Commission's Comment:

The Commission has noted the submission and directs the Petitioner to approach the Commission with its proposal at the earliest.

6.2 Directives issued in the Tariff Order dated 30th March, 2020

Directive No 1: Improvement in performance parameters due to Capital Expenditure incurred

The Commission has directed the Petitioner to submit the details of improvement in performance parameters due to the capex incurred towards running the plant.

Compliance:

TPL – G (APP) has submitted that it has already furnished the relevant details to the Commission.

Commission's Comment:

The Commission has noted the submission of the Petitioner.

Directive No 2: Submission of final proposal with respect to Capex requirement for meeting Environment norms:

The Commission has directed the Petitioner to submit a consolidated plan for Capex for FGD for TPL-G (APP) along with cost benefit analysis with respect to consumers.

Compliance:

TPL – G (APP) has submitted that it will approach the Commission with its the proposal in due course.

Commission's Comment:

The Commission has noted the submission and directs the Petitioner to submit the plan at the earliest.

COMMISSION'S ORDER

The Commission approves the Aggregate Revenue Requirement for TPL-G (APP) for FY 2021-22, as shown in the Table below:

Approved ARR for TPL-G (APP) for FY 2021-22

(Rs. Crore

Particulars	**FY 2021-22**
Variable Cost	837.84
O&M Expenses	170.41
Water Charges	15.26
Depreciation	49.94
Interest & Finance Charges	-
Interest on Working Capital	13.59
Return on Equity	62.15
Income Tax	23.39
Less: Non-tariff Income	15.23
Net ARR	**1157.34**

This order shall come into force with effect from 1st April, 2021.

Sd/-	**Sd/-**	**Sd/-**
S. R. Pandey	**Mehul M. Gandhi**	**ANAND KUMAR**
Member	**Member**	**Chairman**

Place: Gandhinagar

Date: 31.03.2021

Annexure 1: Approved Fuel Costs for FY 2019-20 for True up D - Station

Sl. No.	Item	Derivation	Unit	FY 2019-20
1	Total Capacity	A1	MW	120.00
2	Actual PLF	A2	%	74.15%
3	Gross Generation	A=A1 x A2 x 8760 or 8784 (leap year)	MUs	781.57
4	Auxiliary Consumption	C	%	9.00%
5	Auxiliary Consumption	B	MUs	70.34
6	Net Generation	Y=A - B	MUs	711.23
7	Station Heat Rate	D	Kcal/KWh	2,450.00
8	Sp. Oil Consumption	E	ml/kWh	1.00
9	Gross Calorific Value of Coal	F	kcal/kg	4,594.72
10	Calorific value of Oil	G	kcal/l	9,972.10
11	Overall Heat	H=A x D	G Cal	19,14,845.77
12	Heat from Oil	I=(A x E x G)/1000	G Cal	7,793.89
13	Heat from Coal	J=H-I	G Cal	19,07,051.87
14	Transit losses	K	%	0.80%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	53.75%
17	B) Washed Coal	X2	%	-
18	C) Imported Coal	X3	%	46.25%
19	Actual Oil Consumption	L=A x E	kl	781.57
20	Actual Coal Consumption	M=(J X 1000)/F	MT	4,15,052.94
21	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	2,24,901.09
22	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	-
23	C) Imported Coal	Q3=M* X X3	MT	1,91,951.06
24	Price of Coal			
25	A) Indigenous Coal	P1	Rs/MT	5,606.01
26	B) Washed Coal	P2	Rs/MT	-
27	C) Imported Coal	P3	Rs/MT	6,195.50
28	Price of Oil	P4	Rs/kl	39,541.91
29	Coal cost			
30	A) Indigenous Coal	N1=Q1 X P1	Rs Lakh	12,607.99
31	B) Washed Coal	N2=Q2 X P2	Rs Lakh	-
32	C) Imported Coal	N3=Q3 X P3	Rs Lakh	11,892.33
33	Total Coal Cost	N4=N1+N2+N3	Rs Lakh	24,500.32
34	Oil Cost	N5=P4 x L/10^5	Rs Lakh	309.05
35	Other Charges (Please specify details)	N6	Rs Lakh	-1,736.94
36	Other Adjustments (Please specify details)	N7	Rs Lakh	-
37	Total Fuel Cost	O=N4+N5+N6+N7	Rs Lakh	23,072.43
38	Fuel Cost/Unit Gross	P=O/(A*10)	Rs/kWh	2.95
39	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs/kWh	3.24
40	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs/Gcal	1,204.92
41	Actual Net Generation	S	MUs	710.59
42	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	230.52

Annexure 2: Approved fuel costs for FY 2019-20 for True up – E Station

Sl. No.	Item	Derivation	Unit	FY 2019-20
1	Total Capacity	A1	MW	121.00
2	Actual PLF	A2	%	70.87%
3	Gross Generation	A=A1 x A2 x 8760 or 8784 (leap year)	MUs	753.21
4	Auxiliary Consumption	C	%	9.00%
5	Auxiliary Consumption	B	MUs	67.79
6	Net Generation	Y=A - B	MUs	685.42
7	Station Heat Rate	D	Kcal/KWh	2,455.00
8	Sp. Oil Consumption	E	ml/kWh	1.00
9	Gross Calorific Value of Coal	F	kcal/kg	4,372.26
10	Calorific value of Oil	G	kcal/l	9,995.23
11	Overall Heat	H=A x D	G Cal	18,49,127.60
12	Heat from Oil	I=(A x E x G)/1000	G Cal	7,528.49
13	Heat from Coal	J=H-I	G Cal	18,41,599.11
14	Transit losses	K	%	0.80%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	89.60%
17	B) Washed Coal	X2	%	-
18	C) Imported Coal	X3	%	10.40%
19	Actual Oil Consumption	L=A x E	kl	753.21
20	Actual Coal Consumption	M=(J X 1000)/F	MT	4,21,200.35
21	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	3,80,455.97
22	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	-
23	C) Imported Coal	Q3=M* X X3	MT	43,788.03
24	Price of Coal			
25	A) Indigenous Coal	P1	Rs/MT	5,584.73
26	B) Washed Coal	P2	Rs/MT	-
27	C) Imported Coal	P3	Rs/MT	6,107.87
28	Price of Oil	P4	Rs/kl	39,246.34
29	Coal cost			
30	A) Indigenous Coal	N1=Q1 X P1	Rs Lakh	21247.46
31	B) Washed Coal	N2=Q2 X P2	Rs Lakh	0.00
32	C) Imported Coal	N3=Q3 X P3	Rs Lakh	2674.52
33	Total Coal Cost	N4=N1+N2+N3	Rs Lakh	23921.97
34	Oil Cost	N5=P4 x L/10^5	Rs Lakh	295.61
35	Other Charges (Please specify details)	N6	Rs Lakh	-1,504.19
36	Other Adjustments (Please specify details)	N7	Rs Lakh	0.00
37	Total Fuel Cost	O=N4+N5+N6+N7	Rs Lakh	22713.39
38	Fuel Cost/Unit Gross	P=O/(A*10)	Rs/kWh	3.02
39	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs/kWh	3.31
40	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs/Gcal	1228.33
41	Actual Net Generation	S	MUs	688.06
42	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	228.01

Annexure 3: Approved fuel costs for FY 2019-20 for True up – F Station

Sl. No.	Item	Derivation	Unit	FY 2019-20
1	Total Capacity	A1	MW	121.00
2	Actual PLF	A2	%	73.69%
3	Gross Generation	A=A1 x A2 x 8760 or 8784 (leap year)	MUs	783.21
4	Auxiliary Consumption	C	%	9.00%
5	Auxiliary Consumption	B	MUs	70.49
6	Net Generation	Y=A - B	MUs	712.72
7	Station Heat Rate	D	Kcal/KWh	2,455.00
8	Sp. Oil Consumption	E	ml/kWh	1.00
9	Gross Calorific Value of Coal	F	kcal/kg	4,411.92
10	Calorific value of Oil	G	kcal/l	9,994.85
11	Overall Heat	H=A x D	G Cal	19,22,768.52
12	Heat from Oil	I=(A x E x G)/1000	G Cal	7,828.02
13	Heat from Coal	J=H-I	G Cal	19,14,940.50
14	Transit losses	K	%	0.80%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	81.81%
17	B) Washed Coal	X2	%	-
18	C) Imported Coal	X3	%	18.19%
19	Actual Oil Consumption	L=A x E	kl	783.21
20	Actual Coal Consumption	M=(J X 1000)/F	MT	4,34,038.16
21	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	3,57,929.97
22	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	-
23	C) Imported Coal	Q3=M* X X3	MT	78,971.62
24	Price of Coal			
25	A) Indigenous Coal	P1	Rs/MT	5,584.65
26	B) Washed Coal	P2	Rs/MT	-
27	C) Imported Coal	P3	Rs/MT	6,200.29
28	Price of Oil	P4	Rs/kl	39,595.87
29	Coal cost			
30	A) Indigenous Coal	N1=Q1 X P1	Rs Lakh	19,989.14
31	B) Washed Coal	N2=Q2 X P2	Rs Lakh	-
32	C) Imported Coal	N3=Q3 X P3	Rs Lakh	4,896.47
33	Total Coal Cost	N4=N1+N2+N3	Rs Lakh	24,885.60
34	Oil Cost	N5=P4 x L/10^5	Rs Lakh	310.12
35	Other Charges (Please specify details)	N6	Rs Lakh	-1,899.04
36	Other Adjustments (Please specify details)	N7	Rs Lakh	-
37	Total Fuel Cost	O=N4+N5+N6+N7	Rs Lakh	23,296.68
38	Fuel Cost/Unit Gross	P=O/(A*10)	Rs/kWh	2.97
39	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs/kWh	3.27
40	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs/Gcal	1,211.62
41	Actual Net Generation	S	MUs	713.57
42	Normative Fuel Cost for actual Net Generation	T=S*Q/10	Rs. Crore	233.25

Annexure 4: Approved fuel costs for FY 2021-22 for – D Station

Sl. No.	Item	Derivation	Unit	FY 2021-22
1	Total Capacity	A1	MW	120.00
2	Target PLF	A2	%	80.84%
3	Gross Generation	A=A1 x A2 x 8760 or 8784 (leap year)/1000	MUs	849.78
4	Auxiliary Consumption	C	%	9.00%
5	Auxiliary Consumption	B	MUs	76.48
6	Net Generation	Y=A – B	MUs	773.30
7	Station Heat Rate	D	Kcal/KWh	2,450.00
8	Sp. Oil Consumption	E	ml/kWh	1.00
9	Gross Calorific Value of Coal	F	kcal/kg	4,465.43
10	Calorific value of Oil	G	kcal/l	9,984.00
11	Overall Heat	H=A x D	G Cal	20,81,964.68
12	Heat from Oil	I=(A x E x G)/1000	G Cal	8,484.22
13	Heat from Coal	J=H-I	G Cal	20,73,480.46
14	Transit losses	K	%	0.80%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	76.00%
17	B) Washed Coal	X2	%	-
18	C) Imported Coal	X3	%	24.00%
19	Actual Oil Consumption	L=A x E	kl	849.78
20	Actual Coal Consumption	M=(J X 1000)/F	MT	4,64,340.60
21	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	3,55,744.82
22	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	-
23	C) Imported Coal	Q3=M* X X3	MT	1,11,441.74
24	Price of Coal			
25	A) Indigenous Coal	P1	Rs/MT	5,606.01
26	B) Washed Coal	P2	Rs/MT	-
27	C) Imported Coal	P3	Rs/MT	6,195.50
28	Price of Oil	P4	Rs/kl	39,541.91
29	Coal cost			
30	A) Indigenous Coal	N1=Q1 X P1/10^5	Rs Lakh	19,943.10
31	B) Washed Coal	N2=Q2 X P2/10^5	Rs Lakh	-
32	C) Imported Coal	N3=Q3 X P3/10^5	Rs Lakh	6,904.38
33	Total Coal Cost	N4=N1+N2+N3	Rs Lakh	26,847.48
34	Oil Cost	N5=P4 x L/10^5	Rs Lakh	336.02
35	Other Charges (Please specify details)	N6	Rs Lakh	-759.15
36	Other Adjustments (Please specify details)	N7	Rs Lakh	-
37	Total Fuel Cost	O=N4+N5+N6+N7	Rs Lakh	26,424.35
38	Fuel Cost/Unit Gross	P=O/(A*10)	Rs/kWh	3.11
39	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs/kWh	3.42
40	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs/Gcal	1,269.20

Annexure 5: Approve fuel costs for FY 2021-22 for – E Station

Sl. No.	Item	Derivation	Unit	FY 2021-22
1	Total Capacity	A1	MW	121.00
2	Target PLF	A2	%	86.18%
3	Gross Generation	A=A1 x A2 x 8760 or 8784 (leap year)/1000	MUs	913.47
4	Auxiliary Consumption	C	%	9.00%
5	Auxiliary Consumption	B	MUs	82.21
6	Net Generation	Y=A - B	MUs	831.26
7	Station Heat Rate	D	Kcal/KWh	2,455.00
8	Sp. Oil Consumption	E	ml/kWh	1.00
9	Gross Calorific Value of Coal	F	kcal/kg	4,465.43
10	Calorific value of Oil	G	kcal/l	9,984.00
11	Overall Heat	H=A x D	G Cal	22,42,579.84
12	Heat from Oil	I=(A x E x G)/1000	G Cal	9,120.13
13	Heat from Coal	J=H-I	G Cal	22,33,459.71
14	Transit losses	K	%	0.80%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	76.00%
17	B) Washed Coal	X2	%	-
18	C) Imported Coal	X3	%	24.00%
19	Actual Oil Consumption	L=A x E	kl	913.47
20	Actual Coal Consumption	M=(J X 1000)/F	MT	5,00,166.77
21	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	3,83,192.29
22	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	-
23	C) Imported Coal	Q3=M* X X3	MT	1,20,040.03
24	Price of Coal			
25	A) Indigenous Coal	P1	Rs/MT	5,584.73
26	B) Washed Coal	P2	Rs/MT	-
27	C) Imported Coal	P3	Rs/MT	6,107.87
28	Price of Oil	P4	Rs/kl	39,246.34
29	Coal cost			
30	A) Indigenous Coal	N1=Q1 X P1/10^5	Rs Lakh	21,400.27
31	B) Washed Coal	N2=Q2 X P2/10^5	Rs Lakh	-
32	C) Imported Coal	N3=Q3 X P3/10^5	Rs Lakh	7,331.89
33	Total Coal Cost	N4=N1+N2+N3	Rs Lakh	28,732.16
34	Oil Cost	N5=P4 x L/10^5	Rs Lakh	358.51
35	Other Charges (Please specify details)	N6	Rs Lakh	-746.55
36	Other Adjustments (Please specify details)	N7	Rs Lakh	-
37	Total Fuel Cost	O=N4+N5+N6+N7	Rs Lakh	28,344.11
38	Fuel Cost/Unit Gross	P=O/(A*10)	Rs/kWh	3.10
39	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs/kWh	3.41
40	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs/Gcal	1,263.91

Annexure 6: Approved fuel costs for FY 2021-22 for– F Station

Sl. No.	Item	Derivation	Unit	FY 2021-22
1	Total Capacity	A1	MW	121.00
2	Target PLF	A2	%	87.81%
3	Gross Generation	A=A1 x A2 x 8760 or 8784 (leap year)/1000	MUs	930.80
4	Auxiliary Consumption	C	%	9.00%
5	Auxiliary Consumption	B	MUs	83.77
6	Net Generation	Y=A - B	MUs	847.03
7	Station Heat Rate	D	Kcal/KWh	2,455.00
8	Sp. Oil Consumption	E	ml/kWh	1.00
9	Gross Calorific Value of Coal	F	kcal/kg	4,465.43
10	Calorific value of Oil	G	kcal/l	9,984.00
11	Overall Heat	H=A x D	G Cal	22,85,112.62
12	Heat from Oil	I=(A x E x G)/1000	G Cal	9,293.10
13	Heat from Coal	J=H-I	G Cal	22,75,819.52
14	Transit losses	K	%	0.80%
15	Coal Blend			
16	A) Indigenous Coal	X1	%	76.00%
17	B) Washed Coal	X2	%	-
18	C) Imported Coal	X3	%	24.00%
19	Actual Oil Consumption	L=A x E	kl	930.80
20	Actual Coal Consumption	M=(J X 1000)/F	MT	5,09,652.94
21	A) Indigenous Coal	Q1=M* x X1/(1-K)	MT	3,90,459.91
22	B) Washed Coal	Q2=M* x X2 / (1-K)	MT	-
23	C) Imported Coal	Q3=M* X X3	MT	1,22,316.71
24	Price of Coal			
25	A) Indigenous Coal	P1	Rs/MT	5,584.65
26	B) Washed Coal	P2	Rs/MT	-
27	C) Imported Coal	P3	Rs/MT	6,200.29
28	Price of Oil	P4	Rs/kl	39,595.87
29	Coal cost			
30	A) Indigenous Coal	N1=Q1 X P1/10^5	Rs Lakh	21,805.82
31	B) Washed Coal	N2=Q2 X P2/10^5	Rs Lakh	-
32	C) Imported Coal	N3=Q3 X P3/10^5	Rs Lakh	7,583.99
33	Total Coal Cost	N4=N1+N2+N3	Rs Lakh	29,389.81
34	Oil Cost	N5=P4 x L/10^5	Rs Lakh	368.56
35	Other Charges (Please specify details)	N6	Rs Lakh	-743.21
36	Other Adjustments (Please specify details)	N7	Rs Lakh	-
37	Total Fuel Cost	O=N4+N5+N6+N7	Rs Lakh	29,015.15
38	Fuel Cost/Unit Gross	P=O/(A*10)	Rs/kWh	3.12
39	Fuel Cost/Unit Net	Q=O/(Y*10)	Rs/kWh	3.43
40	Cost of fuel/G.Cal	R=(O/H)*10^5	Rs/Gcal	1,269.75