Before the

MAHARASHTRA ELECTRICITY REGULATORY COMMISSION
World Trade Centre, Centre No.1, 13th Floor, Cuffe Parade, Mumbai 400 005
Tel. No. 022 22163964/65/69 – Fax 022 22163976
E-mail: mercindia@merc.gov.in
Website: www.merc.gov.in

CASE No. 300 of 2019

Case of The Tata Power Company Ltd. (Generation) for approval of True-up of Aggregate Revenue Requirement (ARR) for FY 2017-18 and FY 2018-19, Provisional True-up of Aggregate Revenue Requirement for FY 2019-20, and approval of ARR and Tariff for the MYT 4th Control Period from FY 2020-21 to FY 2024-25

Coram

Anand B. Kulkarni, Chairperson

I. M. Bohari, Member

Mukesh Khullar, Member

ORDER

Date: 30 March, 2020

The Tata Power Company Limited (Generation Business) (**TPC-G**), 24, Homi Mody Street, Fort, Mumbai, has filed a Multi-Year Tariff (**MYT**) Petition for the 4th MYT Control Period comprising Truing-up of Aggregate Revenue Requirement (**ARR**) for FY 2017-18 and FY 2018-19, provisional Truing-up of ARR for FY 2019-20 and approval of ARR and Tariff from FY 2020-21 to FY 2024-25.

The Petition has been filed in accordance with the MERC (Multi Year Tariff) Regulations, 2015 ("**MYT Regulations, 2015**") for Truing-up of FY 2017-18 and FY 2018-19, and Provisional Truing-up of FY 2019-20, and in accordance with the MERC (Multi Year Tariff) Regulations, 2019 ("**MYT Regulations, 2019**") for approval of ARR and Tariff from FY 2020-21 to FY 2024-25.

The Commission, in exercise of the powers vested in it under Sections 61 and 62 of the Electricity Act (**EA**), 2003 and all other powers enabling it in this behalf, and after taking into consideration the submissions made by TPC-G, upon Public consultation process, and upon considering all other relevant material, has approved the Truing-up of ARR for FY 2017-18 and FY 2018-19, Provisional Truing-up of ARR for FY 2019-20 and ARR & Tariff for the Fourth Control Period from FY 2020-21 to FY 2024-25.

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List of Abbreviations

AAD	Advance Against Depreciation
A&G	Administrative and General
ABR	Average Billing Rate
AC	Alternating Current
ACOS	Average Cost of Supply
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal for Electricity
BARC	Bhabha Atomic Research Centre
BEST	Brihanmumbai Electric Supply & Transport Undertaking
BHEL	Bharat Heavy Electricals Limited
BPL	Below Poverty Line
CAGR	Compounded Annual Growth Rate
Capex	Capital Expenditure
CBA	Cost Benefit Analysis
COD	Date of Commissioning
CPD	Coincident Peak Demand
CPI	Consumer Price Index
CPP	Captive Power Plant
CSD	Consumer Security Deposit
CSR	Corporate Social Responsibility
CSS	Cross-subsidy Surcharge
DPC	Delayed Payment Charge
DPR	Detailed Project Report
DSM	Demand Side Management
DSS	Distribution Sub-station
EA, 2003	Electricity Act, 2003
FAC	Fuel Adjustment Charge
FBSM	Final Balancing and Settlement Mechanism
FBT	Fringe Benefit Tax
FY	Financial Year
GoM	Government of Maharashtra
GFA	Gross Fixed Assets
G, T & D	Generation, Transmission and Distribution
HO & SS	Head Office and Support Services
HP	Horse Power
HT	High Tension
IoWC	Interest on Working Capital

InSTS	Intra-State Transmission System
LMC	Load Management Charges
LT	Low Tension
kVA	kilo Volt Ampere
kW	kilo Watt
kWh	kilo Watt hour
LCC	Load Control Centre
LSHS	Low Sulphur Heavy Stock
MAT	Minimum Alternate Tax
MCGM	Municipal Corporation of Greater Mumbai
MERC/Commission	Maharashtra Electricity Regulatory Commission
MERC (SoP) Regulations, 2014	MERC (Standards of Performance of Distribution Licensees Period for Giving Supply and Determination of Compensation) Regulations, 2014
Tariff Regulations	MERC (Terms and Conditions of Tariff) Regulations, 2005
MIAL	Mumbai International Airport Ltd.
MMC Act	Mumbai Municipal Corporation Act
MOD	Merit Order Despatch
MSEDCL	Maharashtra State Electricity Distribution Company Ltd.
MSLDC/ SLDC	Maharashtra State Load Despatch Centre
MTDC	Maharashtra Tourism Development Corporation
MTR	Mid-Term Review
MU	Million Units
MVA	MegaVolt Ampere
MW	Mega Watt
MYT Regulations, 2015	MERC (Multi Year Tariff) Regulations, 2015
MYT Regulations, 2019	MERC (Multi Year Tariff) Regulations, 2019
NCPD	Non-coincident Peak Demand
NTI	Non-Tariff Income
OA	Open Access
O&M	Operation and Maintenance
OLA	Outside Licence Area
PBT	Profit Before Tax
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
RE	Renewable Energy
REC	Renewable Energy Certificate
RLNG	Re-gasified Liquefied Natural Gas
RoE	Return on Equity
RPO	Renewable Purchase Obligation

RPO Regulations, 2016	MERC (Renewable Purchase Obligation, its Compliance and implementation of REC framework) Regulations, 2016
RPO Regulations, 2019	MERC (Renewable Purchase Obligation, its Compliance and implementation of REC framework) Regulations, 2019
RPS	Renewable Purchase Specification
SAIDI	System Average Interruption Duration Index
SBAR	State Bank of India Advance Rate
SBI	State Bank of India
SBI PLR	State Bank of India Prime Lending Rate
SLDC	State Load Despatch Centre
TL	Transmission Loss
TOD	Time of Day
ToSE	Tax on Sale of Electricity
TPC	The Tata Power Company Limited
TPC-D	The Tata Power Company-Distribution Business
TPC-G	The Tata Power Company-Generation Business
TPC-T	The Tata Power Company-Transmission Business
TVS	Technical Validation Session
UI	Unscheduled Interchange
USO	Universal Service Obligation
VCOS	Voltage wise Cost of Supply
WPI	Wholesale Price Index
WL	Wheeling Loss

1 Background and Brief History

1.1 Background

1.1.1 The Tata Power Company Limited (TPC) is an integrated Utility engaged in Generation, Transmission and Distribution of electricity. TPC-G's installed generation capacity is 1,877 MW as on March 31, 2018, comprising 447 MW of Hydro Generation and 1430 MW of Coal/Gas/Oil-fired Thermal Generation. However, 500 MW Unit-6 Generating Capacity is no longer in use, and hence, the operational Thermal Generation Capacity is 1,377 MW as on date of filing of the Petition, which supplies power to BEST and TPC's own Distribution Business. The supply of power from TPC's 1377 MW is governed under Power Purchase Agreement/Arrangement (PPA) approved by the Commission and further extended for a term of 5 years i.e. up to FY 2023-24.

1.2 MYT Regulations, 2015

1.2.1 The Commission notified the Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2015 (hereinafter referred as "MYT Regulations, 2015") applicable for the 3rd Control Period from FY 2016-17 to FY 2019-20, on December 8, 2015 and further amended on November 29, 2017.

1.3 MYT Order for FY 2016-17 to FY 2019-20

1.3.1 Vide Order dated August 8, 2016 in Case No. 32 of 2016 ('previous MYT Order'), the Commission approved the ARR and Generation Tariff for Control Period from FY 2016-17 to FY 2019-20, along with True-up for FY 2014-15 and Provisional true-up for FY 2015-16. The Order also stated that the Commission would undertake Mid Term Review (MTR) of TPC-G's performance during the 3rd Quarter of FY 2017-18, and directed TPC-G to submit its Petition by November 30, 2017.

1.4 Mid Term Review Order for FY 2016-17 to FY 2019-20

1.4.1 Vide Order dated September 12, 2018 in Case No. 65 of 2018 (MTR Order), the Commission approved the revised ARR and Generation Tariff for FY 2018-19 and FY 2019-20, along with True-up for FY 2015-16 and FY 2016-17 and Provisional True-up for FY 2017-18.

1.4.2 Further, TPC-G filed a Review Petition on MTR Order, in Case No. 320 of 2018, on which the Commission issued its Order on January 2, 2019 and partly allowed the Review sought by TPC-G.

1.5 MYT Regulations, 2019

1.5.1 The Commission notified the Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2019 (hereinafter referred as "MYT Regulations, 2019") applicable for the 4th Control Period from FY 2020-21 to FY 2024-25, on August 1, 2019.

1.5.2 As per Regulation 5 (a), Generation Companies, Transmission Licensees and SLDC are required to file Multi Year Tariff (MYT) Petition by November 1, 2019.

1.6 MYT Petition for 4th Control Period, Admission of Petition and Public Consultation Process

1.6.1 TPC-G filed its Petition for approval of True-up for FY 2017-18, FY 2018-19, Provisional True-up of FY 2019-20 and ARR and Generation tariff for 4th Control Period from FY 2020-21 to FY 2024-25 on November 1, 2019.

1.6.2 The Office of the Commission issued the deficiency note to the Petitioner on November 11, 2019 and directed TPC-G to address the data gaps raised before the first Technical Validation Session (TVS). The Technical Validation Session (TVS) was held on November 25, 2019. The list of persons who attended the TVS is at **Appendix-1**.

1.6.3 During the TVS, TPC-G was directed to provide additional information and clarifications on the issues raised, and to submit a revised Petition after incorporating all the necessary data and changes. TPC-G submitted its replies to the data gaps and filed its revised Petition on December 10, 2019 with the following main prayers:

(a) Accept the Truing Up of FY 2017-18 and FY 2018-19 along with the past Gap / (Surplus) as worked out in this Petition in accordance with the guidelines & principles outlined in MYT Regulations, 2015 and its First Amendment dated 29th November 2017;

(b) Accept the Provisional Truing-up of FY 2019-20 and past Gap / (Surplus) as worked out in this Petition in accordance with the guidelines & principles outlined in MYT Regulations, 2015 and its First Amendment dated 29th November 2017;

(c) Allow the transfer of assets pertaining to Transmission from the Generation Business of Tata Power to the Transmission Business of Tata Power;

(d) Accept the ARR projections of Annual Revenue Requirement for each year of 4th MYT Control Period from FY 2020-21 to FY 2024-25 as worked out in this Petition in accordance with the guidelines & principles outlined in MYT Regulations, 2019;

(e) Determine the tariff of Thermal and Hydro Generating Stations for each year of 4th MYT Control Period from FY 2020-21 to FY 2024-25 as worked out in this Petition in accordance with the guidelines & principles outlined in MYT Regulations, 2019;…. "

1.6.4 The Commission admitted the revised MYT Petition on December 11, 2019. In accordance with Section 64 of the Act. the Commission directed TPC-G to publish its Petition in the prescribed abridged form and manner to ensure adequate public participation, and to reply expeditiously to the suggestions and objections received. TPC-G issued a Public Notice inviting suggestions and objections from the public. The Public Notice was published in the daily newspapers Indian Express and Financial Express (English), and Loksatta and Saamna (Marathi) on December 14, 2019. The copies of the Petition and its summary were made available for inspection/purchase at TPC-G's offices and on its website (ww.tatapower.com). The Public Notice and Executive Summary of the Petition were also made available on the websites of the Commission (www.merc.gov.in) in downloadable format. The Public Notice specified that the suggestions and objections, in English or Marathi, be filed with proof of service on TPC-G.

1.6.5 The Public Hearing was held on January 6, 2020 at 10.00 hrs at 13th Floor, Centre No. 1, World Trade Centre, Cuffe Parade, Colaba, Mumbai- 400 005. The list of persons who attended the Public Hearing is at **Appendix-2.**

1.6.6 The Commission has ensured that the due process contemplated under law to ensure transparency and public participation was followed at every stage and adequate opportunity was given to all concerned to express their views.

1.6.7 The suggestions and objections made in writing as well as during the Public Hearing, along with TPC-G's responses and the Commission's rulings have been summarised in Section 2 of this Order.

1.7 Organisation of the Order

1.7.1 This Order is organised in the following **Ten (10)** Chapters:

- **Chapter 1** provides a brief history of the regulatory process undertaken by the Commission.
- **Chapter 2** lists the suggestions and objections received in writing as well as during the Public Hearing. These have been summarized issue-wise, followed by the response of TPC-G and the rulings of the Commission.
- **Chapter 3** details impact of Review Order issued by the Commission on Review Petition filed by TPC-G on Mid Term Review Order.
- **Chapter 4** details the True-up of FY 2017-18 and FY 2018-19 as per MYT Regulations, 2015 and related Amendments, including sharing of efficiency gains/losses.
- **Chapter 5** details the Provisional True-up of FY 2019-20 as per MYT Regulations, 2015 and related Amendments.

- **Chapter 6** details the approval of ARR for 4th Control Period from FY 2020-21 to FY 2024-25 as per MYT Regulations, 2019.
- **Chapter 7** details Cumulative Revenue Gap till FY 2019-20 and approval of Generation Tariff for 4th Control Period from FY 2020-21 to FY 2024-25.
- **Chapter 8** summarises the Generation Tariff approved for 4th Control Period from FY 2020-21 to FY 2024-25.
- **Chapter 9** covers the Directives given in the MTR Order, TPC-G's response and the Commission Views. It also includes new directives given to TPC-G.
- **Chapter 10** covers the applicability of the Order

2 Suggestions/Objections, TPC-G's Responses and Commission's Rulings

2.1 Suggestions/Objections

2.1.1 The Commission received written objections/ suggestions/ comments on the Petition from only one stakeholder. However, no objection/suggestion was raised during the Public Hearing.

2.2 Standby Charges

Suggestions/Objections

2.2.1 AEML-D submitted that the Hon'ble Supreme Court has upheld the Judgment of Hon'ble ATE and ordered that the amount deposited or secured by way of bank guarantee by TPC as per Order dated February 7, 2007 lying with the Registrar of the Court to be released to AEML along with interest. The amount has been realized by AEML. Thus, by getting the refund as per Hon'ble ATE Judgment, AEML has already discharged its entire liability of Standby Charges along with carrying cost.

2.2.2 However, TPC-G has requested to recover the same back from all Distribution Licensees, including AEML, with carrying cost. AEML is entitled to refund after adjustment for its entire liability including interest, as per the judgment of the Hon'ble Supreme Court. It cannot be made to bear a portion of such charges again, along with interest cost. The Commission in its Order dated June 11, 2004 in Case No. 30 of 2003 appropriated certain reserves of TPC so as to meet the shortfall between Clear Profit and Reasonable Return created on account of, inter alia, refund of about Rs. 314 Crore. Similarly, in the instant case, the Commission can appropriate any remaining Reserves of TPC (including contingency reserves in the combined entity as reflected in the Tariff Order dated June 11, 2004.) Therefore, the recovery of the differential amount being claimed by TPC-G from AEML is not permissible.

2.2.3 This differential amount effectively is the amount which should have been paid to MSEB by TPC as its share of standby charges. The amount was paid by TPC after collecting it from BSES. In effect, Hon'ble ATE in its Judgment dated December 20, 2006 has recognized this amount as TPC's share of standby charges and had ruled it to be refunded to AEML (erstwhile BSES). By claiming it again in the ratio of sales of the three Distribution Licensees, TPC is again claiming a portion of the refunded amount from AEML.

2.2.4 AEML-D further submitted that, hypothetically, if this dispute was not created and the original refund, worked out by the Commission, would have been Rs. 339 Crore plus interest of Rs. 15.14 Crore. Then, in the Order dated June 11, 2004 in Case N. 30 of 2003, the Commission would have appropriated the Reserves of TPC to the extent of Rs. 354.14 Crore. As the said judgment of the Hon'ble Supreme Court only re-states the refund amount, the treatment of which should be the same i.e. if there is any shortfall with TPC, it should either be passed on to TPC consumers other than those of AEML or any additional reserves in the combined entity (TPC G/T/D put together as was existing in 2004) should be appropriated against the same.

TPC-G's Response

2.2.5 AEML-D submitted the comments after last date i.e., January 4, 2020 as per Public Notice for providing suggestions and objections in the matter.

2.2.6 The Hon'ble Supreme Court in its Judgment dated May 14, 2019 upheld the Judgment of Hon'ble ATE. Though Judgment of Hon'ble ATE was passed in December 2006, it was not given impact to in the Tariff Order by the Commission as it had been initially stayed by Hon'ble Supreme Court in month of February, 2007.

2.2.7 Earlier, the Commission in its Tariff Order dated June 11, 2004 incorporated the impact of its Order dated May 31, 2004, which was challenged before Hon'ble ATE. In Tariff Order, the Commission has adjusted the difference in the amount considered by Tata Power in their accounts and amount worked out as Standby Charges in Order dated June 11, 2004 on mercantile basis. It means that the amount payable for years prior to March 31, 2004 has been incorporated and adjusted in tariff workings for three distribution licensees viz. AEML-D (erstwhile BSES), BEST and Tata Power-Distribution.

2.2.8 TPC-G has presented the Standby Charge matter in generation Petition as it pertains to the period when Tata Power was an integrated Utility. Hence, the impact needs to be borne by all the three Distribution Licensees. The amount worked out by Hon'ble ATE towards Standby Charges is different than the amount worked out by the Commission, which has been given effect in Tariff Order. In the past, the Commission on the basis of Hon'ble ATE's Order has been restoring the amounts in future years along with carrying cost. Hence, the original amount payable gets modified to the extent of amount of disallowance and carrying cost till the time of restoration. Such modified amounts along with interest rate being borne by distribution licensee in the ARR for the year of adjustment. TPC-G has worked out the differential of amount worked out by Hon'ble ATE and the Commission and considered the carrying cost.

2.2.9 TPC-G has paid the amount of Rs. 514 Crore to AEML after Hon'ble Supreme Court Judgment comprising of principal amount and interest payable till 2019. However, the amount claimed in the present Petition is much lesser than the amount paid to AEML.

Regarding the adjustment of amount with reserves, TPC-G submitted that reserves were nothing but fund created from revenue recovered from Consumers only. The Commission has utilised the reserves to the extent applicable and available as explained on Page 150 to 154 of the Tariff Order for Tata Power dated June 11, 2004 and under Section 6.15 of Tariff Order for Tata Power dated October 3, 2006. Since, reserves were already utilised and there are no such reserves available with Tata Power now, any additional recovery has to be passed on to then consumers of TPC-G viz. TPC-D, BEST and AEML-D (erstwhile BSES)

Commission's View

2.2.10 After perusal of the submission of TPC-G and AEML-D, the Commission confirms that all reserves available with TPC are utilised by the Commission for adjustment of revenue gap in its Order dated October 3, 2006. The Commission approves the Standby Charges as claimed by TPC-G and allowed its recovery from the consumers of TPC for such period viz. BEST, TPC-D (its distribution consumers) and AEML-D (erstwhile BSES). **The detailed analysis and rulings of the Commission on Standby Charges is discussed in Chapter 6 of this Order**.

3 Impact of Review Order

3.1 Background

3.1.1 TPC-G had filed a Review Petition against the MTR dated September 12, 2018 in Case No. 65 of 2018 regarding certain issues with respect to Truing up of FY 2015-16 and FY 2016-17 under MYT Regulations, 2011 and MYT Regulations, 2015 respectively. The Commission issued Order dated January 2, 2019 in Case No. 320 of 2018 and partly allowed the Review sought by TPC-G. The relevant extract of the Order is as under:

"1. The Case No. 320 of 2018 is partly allowed.

2. The Commission allows the additional capitalization of Rs. 14.76 Crore for FY 2015-16 and Rs. 25.81 Crore for FY 2016-17 including the Unit 8 capitalization as against Rs. 36.40 Crore and Rs. 30.70 Crore claimed by TPC-G for respective years. ***<u>TPC-G may incorporate the impact of this additional capitalization while submitting its forthcoming Tariff Petition</u>****. As regards revised capitalization for FY 2017-18, FY 2018-19 and FY 2019-20 (due to restoration of the capitalization in FY 2015-16 and FY 2016-17), the Commission notes that these capitalizations have been approved on provisional basis in the impugned Order.* ***<u>Therefore, though the capitalization for these years have been revised, the Commission would take an appropriate view at the time of final truing-up for respective years based upon the actual cost details</u>****.*

3. The Commission also approves the following:
i. an additional impact of Rs. 0.24 Crore on account of revision in Interest on Working Capital for FY 2015-16 and FY 2016-17.
ii. an additional impact on account of revision in Efficiency loss for Unit 6 Auxiliary consumption for FY 2015-16 to be borne by TPC-G as Rs. (9.67) Crore instead of Rs. (10.04) Crore allowed in impugned Order with net impact Rs. 0.37 Crore.
iii. an additional impact of Rs. 3.50 Crore due to revised computation of past gap/(surplus) on account of Unit 6 operation under MSLDC direction for FY 2015-16.

4. TPC-G may reflect the above additional entitlements in its forthcoming Tariff Petition."

3.1.2 As directed in the above said Order, TPC-G computed the impact of the additional approvals for Truing up for FY 2015-16 and FY 2016-17 and submitted in the present Petition for approval.

3.1.3 The Commission after analysing the submissions made by TPC-G has approved the impact of Review Order as discussed in subsequent paragraphs:

3.2 Impact for Truing up of FY 2015-16

Impact of additional capitalisation

TPC-G's Submission

3.2.1 The Commission approved an additional capitalisation of Rs. 14.76 Crore for FY 2015-16 including Unit 8 capitalisation as against amount of Rs. 36.40 Crore claimed by TPC-G. Out of this additional capitalisation of Rs. 14.76 Crore, an amount of Rs. 13.36 Crore pertains to Unit 4 to 7 & Hydro and Rs. 1.40 Crore to Unit 8. TPC-G computed the impact of additional capitalisation on Depreciation, Interest on loan capital and Return on Equity.

3.2.2 The impact of additional capitalisation for Unit 4 to 7 & Hydro as Rs. 0.87 Crore, including impact of Rs. 0.27 Crore for Depreciation, Rs. 0.60 Crore for Interest on loan capital and Rs. 0.001 Crore for Return on Equity.

3.2.3 Similarly, TPC-G submitted the impact of additional capitalisation for Unit 8 as Rs. 0.09 Crore including impact of Rs. 0.04 Crore for Depreciation, Rs. 0.05 Crore for Interest on loan capital and Rs. 0.001 Crore for Return on Equity.

Commission's Analysis and Ruling

3.2.4 The Commission has analysed the submissions made by TPC-G and accordingly computed the impact of additional capitalisation for FY 2015-16. For the purpose of computation of impact, opening balance of Gross Fixed Assets, Normative Loan and Regulatory equity has been considered as per MTR Order.

3.2.5 The Commission approves the impact of additional capitalisation for FY 2015-16 as shown in the following Table:

Table 1 Impact of Additional Capitalisation for FY 2015-16 -Unit 4 to 7 & Hydro (Rs. Crore)

Particulars	Unit 4 to 7 & Hydro			Unit 8		
	MTR Order	**TPC-G's Petition**	**Approved in this Order**	**MTR Order**	**TPC-G's Petition**	**Approved in this Order**
Capitalisation						
Allowed in MTR Order	152.48	152.48	152.48	26.10	26.10	26.10
Add: Additional capitalisation allowed in Review Order	-	13.36	13.36	-	1.40	1.40
Add: 20% of Non-DPR	-	2.67	2.67	-	-	-
Total	**152.48**	**168.51**	**168.51**	**26.10**	**27.51**	**27.51**
Depreciation						
Opening GFA	4155.95	4155.95	4155.95	1158.42	1158.42	1158.42
Addition of GFA	152.48	168.51	168.51	26.10	27.51	27.51
Retirement of GFA	(13.63)	(13.63)	(13.63)	(0.57)	(0.57)	(0.57)

Particulars	Unit 4 to 7 & Hydro			Unit 8		
	MTR Order	TPC-G's Petition	Approved in this Order	MTR Order	TPC-G's Petition	Approved in this Order
Closing GFA	4294.80	4310.83	4310.83	1183.96	1185.36	1185.36
Depreciation Rate (%)	3.31%	3.31%	3.31%	5.16%	5.16%	5.16%
Depreciation	139.72	139.99	139.99	60.42	60.46	60.46
Impact on Depreciation		**0.27**	**0.27**		**0.04**	**0.04**
Interest on Loan Capital						
Opening loan balance	730.39	730.39	730.39	546.49	546.49	546.49
Reduction of loan during year	0.03	0.03	0.03	-	-	-
Addition of Loan	106.74	117.96	117.96	18.27	19.26	19.26
Repayment during year	139.72	139.99	139.99	60.42	60.46	60.46
Closing loan balance	697.38	708.33	708.33	504.34	505.29	505.29
Interest Rate (%)	10.89%	10.89%	10.89%	11.06%	11.06%	11.06%
Interest on loan	77.74	78.34	78.34	58.08	58.14	58.14
Impact on Interest on loan		**0.60**	**0.60**		**0.05**	**0.05**
Return on Equity						
Opening Equity	1517.48	1517.48	1517.48	347.53	347.53	347.53
Addition of Equity	45.74	50.55	50.55	7.83	8.25	8.25
Reduction of equity	(4.09)	(4.09)	(4.09)	(0.17)	(0.17)	(0.17)
Closing equity	1559.13	1563.94	1563.94	355.19	355.61	355.61
Return on Equity	235.21	235.21	235.21	53.87	53.87	53.87
Impact on Return on Equity		**0.001**	**0.001**		**0.001**	**0.001**
Total impact of additional capitalisation		**0.87**	**0.87**		**0.09**	**0.09**

The other impacts of the approvals in the Review order is as under:

Impact of revised Interest on Working Capital

TPC-G's Submission

3.2.6 The impact of revised Interest on Working Capital is Rs. 0.16 Crore for Unit 4 to 7 & Hydro for FY 2015-16 as per the review Order.

Commission's Analysis and Ruling

3.2.7 The Commission in Review Order has computed the impact of revised Interest on Working Capital as Rs. 0.16 Crore and the same has been approved herein.

Impact of efficiency gain/(loss) on account of variation in Unit 6 Auxiliary Consumption

TPC-G's Submission

3.2.8 The impact of efficiency gain/(loss) on account of variation in Unit 6 Auxiliary Consumption for FY 2015-16 is Rs. 0.37 Crore as per the review Order for Unit 4 to 7 & Hydro.

Commission's Analysis and Ruling

3.2.9 The Commission notes that it has computed the impact of efficiency gain/(loss) on account of variation in Unit 6 Auxiliary consumption as Rs. 0.37 Crore in its review Order. Accordingly, the same has been approved herein.

Impact of incremental gap/(surplus) in case of Unit 6 operation under MSLDC direction

TPC-G's Submission

3.2.10 In its review Order, the Commission has approved the impact of Rs. 3.50 Crore on account of impact of incremental gap/(surplus) in case of Unit 6 operation under MSLDC direction.

Commission's Analysis and Ruling

3.2.11 Based on review Order dated January 2, 2019, the Commission approves the impact of Rs. 3.50 Crore on account of incremental gap/(surplus) in Case of Unit 6 operation under MSLDC direction.

Total impact of Review Order on Truing up for FY 2015-16

3.2.12 The Commission summarises the total impact of review Order on Truing up for FY 2015-16 allowed in this Order vis-à-vis submitted by TPC-G as shown in the following Table:

Table 2 Impact of Review Order for FY 2015-16 (Rs. Crore)

Sl. No.	Particulars	TPC-G's Petition	Approved in this Order
A	**Unit 4 to 7 & Hydro**		
1	Impact of Additional Capitalisation	0.86	0.86
2	Impact of revised Interest on Working Capital	0.16	0.16
3	Impact of efficiency gain/(loss) on account of variation in Auxiliary consumption of Unit 6	0.37	0.37
4	Impact of incremental gap/(surplus) in case of Unit 6 operation under MSLDC direction	3.50	3.50

Sl. No.	Particulars	TPC-G's Petition	Approved in this Order
B	**Unit 8**		
5	Impact of additional capitalisation	0.09	0.09
6	**Grand total (A) + (B)**	**4.98**	**4.98**

3.2.13 **The Commission has approved an amount of Rs 4.98 Crore towards the impact of Review Order for Truing up for FY 2015-16.**

3.3 Impact of review Order for Truing up of FY 2016-17

Impact of additional capitalisation

TPC-G's Submission

3.3.1 The Commission approved an additional capitalisation of Rs. 25.81 Crore for FY 2016-17 as against the capitalisation of Rs. 30.70 Crore claimed by TPC-G in Review Petition in Case No. 320 of 2018. Further, the capitalisation of Rs. 1.40 Crore pertaining to Unit 8 was to be considered in FY 2015-16 as against approval received for claiming in FY 2016-17 in the MTR Order in Case No. 65 of 2018. Accordingly, the capitalisation of FY 2016-17 for Unit 4 to 7 and Hydro Stations stands revised on account of additional DPR capitalisation approved and Non-DPR capitalisation equivalent to 20% of the additional DPR capitalisation approved. TPC-G computed the impact of additional capitalisation on Depreciation, Interest on loan capital and Return on Equity.

3.3.2 TPC-G submitted the impact of additional capitalisation for Unit 4 to 7 & Hydro as Rs. 4.57 Crore, including impact of Rs. 1.10 Crore for Depreciation, Rs. 2.01 Crore for Interest on loan capital and Rs. 1.47 Crore for Return on Equity.

3.3.3 Similarly, TPC-G submitted the impact of additional capitalisation for Unit 8 as Rs. 0.11 Crore including impact of Rs. 0.04 Crore for Depreciation, Rs. 0.04 Crore for Interest on loan capital and Rs. 0.03 Crore for Return on Equity.

Commission's Analysis and Ruling

3.3.4 The Commission has analysed the submissions made by TPC-G and accordingly computed the impact of additional capitalisation for FY 2016-17. For the purpose of computation of impact, opening balance of Gross Fixed Assets, Normative Loan and Regulatory equity has been considered as per revised closing balances of FY 2015-16 approved in previous Section of this Order. The Commission approves the impact of additional capitalisation for FY 2016-17 as shown in the following Table:

Table 3 Impact of Additional Capitalisation for FY 2016-17 (Rs. Crore)

Particulars	Unit 4 to 7 & Hydro			Unit 8		
	MTR Order	TPC-G's Petition	Approved in this Order	MTR Order	TPC-G's Petition	Approved in this Order
Capitalisation						
Allowed in MTR Order	59.93	59.93	59.93	13.45	13.45	13.45
Add: Additional capitalisation allowed in Review Order	-	25.81	25.81	-	(1.40)	(1.40)
Add: 20% of Non-DPR	-	5.16	5.16	-	-	-
Total	59.93	90.90	90.90	13.45	12.05	12.05
Depreciation						
Opening GFA	4294.80	4310.83	4310.83	1183.96	1185.36	1185.36
Addition of GFA	59.93	90.90	90.90	13.45	12.05	12.05
Retirement of GFA	(48.68)	(48.68)	(48.68)	(0.11)	(0.11)	(0.11)
Closing GFA	4306.05	4353.05	4353.05	1197.30	1197.30	1197.30
Depreciation Rate (%)	3.48%	3.48%	3.48%	5.12%	5.12%	5.12%
Depreciation	149.44	150.54	150.54	60.91	60.95	60.95
Impact on Depreciation		**1.10**	**1.10**		**0.04**	**0.04**
Interest on Loan Capital						
Opening loan balance	697.38	708.33	708.33	504.34	505.29	505.29
Loan reduction during year	0.92	0.92	0.92	-	-	-
Addition of Loan	41.95	63.63	63.63	9.42	8.44	8.44
Repayment during year	149.44	150.54	150.54	60.91	60.95	60.95
Closing loan balance	588.97	620.51	620.51	452.85	452.78	452.78
Interest Rate (%)	9.44%	9.44%	9.44%	9.44%	9.44%	9.44%
Interest on loan	60.75	62.75	62.75	45.20	45.24	45.24
Impact on Interest on loan		**2.01**	**2.01**		**0.04**	**0.04**
Return on Equity						
Opening Equity	1559.13	1563.94	1563.94	355.19	355.61	355.61
Addition of Equity	17.98	27.27	27.27	4.04	3.62	3.62
Reduction of equity	(14.61)	(14.61)	(14.61)	(0.03)	(0.03)	(0.03)
Closing equity	1562.50	1576.60	1576.60	359.20	359.20	359.20
Return on Equity	241.93	243.39	243.39	55.36	55.40	55.40
Impact on Return on Equity		**1.47**	**1.47**		**0.03**	**0.03**
Total impact of additional capitalisation		**4.57**	**4.57**		**0.11**	**0.11**

The other impact of the approvals in this Review order is as under

Impact of revised Interest on Working Capital

TPC-G's Submission

3.3.5 The impact of revised Interest on Working Capital is Rs. 0.08 Crore for Unit 4 to 7 & Hydro for FY 2016-17 as per the review Order.

Commission's Analysis and Ruling

3.3.6 The Commission in Review Order has computed the impact of revised Interest on Working Capital as Rs. 0.08 Crore and the same has been approved herein.

Total impact of Review Order on Truing up for FY 2016-17

3.3.7 The Commission summarises the total impact of review Order on Truing up for FY 2016-17 allowed in this Order vis-à-vis submitted by TPC-G as shown in the following Table:

Table 4 Impact of Review Order for FY 2016-17 (Rs. Crore)

Sl. No.	Particulars	TPC-G's Petition	Approved in this Order
A	**Unit 4 to 7 & Hydro**		
1	Impact of Additional Capitalisation	4.57	4.57
2	Impact of revised Interest on Working Capital	0.08	0.08
B	**Unit 8**		
5	Impact of additional capitalisation	0.11	0.11
6	**Grand total (A) + (B)**	**4.76**	**4.76**

3.3.8 **The Commission has approved an amount of Rs 4.76 Crore towards the impact of Review Order for Truing up for FY 2016-17**.

3.4 Impact of Brand Equity for FY 2015-16 and FY 2016-17

TPC-G's Submission

3.4.1 The Commission in MTR Order had approved the O&M Expenditure excluding the expenses towards Brand Equity and had directed to submit the necessary justification for claiming the same.

3.4.2 TPC-G has submitted the detailed justification for its claim of Brand Equity as under:

Benefits for acquiring the Tata Brand for Price:

The Brand equity extends the name of "Tata" to TPC-G which confers several benefits to TPC-G. The group promotes advertisement of TPC-G as part of group which leads to brand building of TPC. The group also makes available central services like recruitment, training courses, and common procurement services. It also facilitates the purchase at competitive prices and provide access to best credit facilities and loan facilities at very competitive rates. The brand helps in attracting good human resource talent. Further the group makes available the Tata Business Excellence Model and trains managers on the same and evaluates the company every year to enable the company to improve its processes and customer servicing abilities. This is of immense benefit to the company in the short and long run to run its operations to global standards and efficiencies. Several of the benefits are not quantifiable but nevertheless, the same accrue to consumers and enjoyed by them due to Tata Brand.

Higher Credit Rating:

Tata Power is presently rated AA- by CRISIL & ICRA and AA by CARE & India Ratings, reflecting a high degree of confidence among the lending institutions. Tata Power has been able to leverage its Tata Brand to get a better credit rating. As a result of better credit rating, the Company has secured borrowings at a cheaper rate than its competitors.

Interest on Term Loans:

Tata Power, owing to its Brand has been able to raise Term Loans for the Capital Expenditure in the Licensed Area at very competitive rates. The comparative statement for FY 19 indicates the rate of interest of various generating companies as shown in the following Table:

Table 5 Comparison of Interest Cost of various Generating Companies (FY 2019) as submitted by TPC-G

Sl. No.	Particulars	Credit Rating	Consolidated Avg. Debt (Rs. Crore)	Consolidated Interest Cost (Rs. Crore)	Rate of Interest (%)
1	Reliance Power	NA*	27,526.63	3208.49	11.66%
2	Adani	CARE BB+	49,907.26	5,656.52	11.33%
3	JSW Energy	CARE AA-	11,218.60	1,192.40	10.63%
4	CESC Limited	CARE AA	14,524.17	1,324.00	9.12%
5	Tata Power	CARE AA	48,547.64	4,170.00	8.59%

Source: Annual Report FY 2019

Tata Power raises debt at competitive terms even within the peers of same credit rating band, primarily on account of the creditworthiness the Tata Group companies enjoy amongst the lending communities. The difference in interest costs of long-term borrowings from banks is at least 1-1.25% between A and AA rated entities (due to higher credit risk and provisioning requirements of banks).

TPC-G further submitted that reduction in rate of interest due to better credit rating and brand TATA can also be observed in last MTR Order. TPC-G further submitted the comparative statement of rate of Interest of various generating companies, wherein rate of interest considered by CERC and the Commission are shown as 12.37% - 12.46% for GMR-Kamalganga Limited, 11.92% for Maithan Power Ltd., 10.65% - 11.32% for VIPL, 10.58% -11.28% for AEML-G and 9.44% for TPC-G. The savings because of lower interest rate is computed as Rs. 5.55 Crore to 10.84 Crore compared to rate of Interest of AEML-G and Rs. 8.44 Crore to Rs. 9.15 Crore compared to rate of interest of VIPL-G. However, the brand equity expenses are lower compared to these savings.

3.4.3 In view of the above, TPC-G requested to approve Brand Equity expenses of Rs. 2.69 Crore for FY 2015-16 and Rs. 5.43 Crore for FY 2016-17.

Commission's Analysis and Ruling

3.4.4 The Commission notes that Hon'ble ATE Judgment in Appeal No. 138 of 2008 related to Brand Equity Expenses has held as under:

> "*It is evident that the Tata Brand Equity entails many benefits to the Tata Power Company such as instilling confidence, attain market leadership through Tata Business Excellence Model of the Tata Code of Conduct. ……This facilitates purchases at competitive rates, provides access to credit and loan facilities at competitive rates. The Brand name helps in attracting good human resource talent etc.*"

3.4.5 Further, the Commission in MTR Order in Case No. 65 of 2018, directed TPC-G to submit all the necessary details and justification along with its next Petition, for being allowed pass through of the Brand Equity expenses. The relevant para of the Order is reproduced below:

> *"4.3.7.13. Thus, the ATE, had allowed pass through of the Brand Equity expenses for TPC-G, on the premise that TPC-G was benefiting in several ways on account of the arrangement with Tata Sons. While the Commission has since been allowing pass through of the Brand Equity expenses in accordance with the ATE Judgment, the Commission is of the view that it is necessary to evaluate whether TPC-G is still benefiting from the arrangement, to avail which, it is paying the Brand Equity fees to Tata Sons. Hence, though the amount of Brand Equity is approved, it is being kept aside by the Commission, and not being passed through at this point in time.* ***TPC-G is directed to submit all the necessary details and justification for being allowed pass through of the Brand Equity expenses along with its next Petition, and if the Commission is satisfied that TPC-G is benefiting from the arrangement, then the Brand Equity expenses shall be allowed to be passed through, with the associated Carrying Cost, if applicable****. " (emphasis added)*

3.4.6 The Commission has gone through the detailed submission made by TPC-G in the present Petition regarding the various benefits accruing to TPC on account of Brand Equity Expenses and the said arrangement with Tata Sons. Further, the Commission observes that benefits submitted by TPC-G cannot be directly related to the benefits from the Brand.

3.4.7 In response to the Commission's query seeking the justification and evidence of advertisement of TPC made by Tata Sons, TPC submitted that Tata group promotes the advertisement of TPC as a part of group. Some of such advertisements made by Tata Sons for Tata Power includes usage of the brand "Tata" in the Annual Reports of Tata Power. Further, it has shared the screenshots of Media announcements promoted on Tata World of Tata Group. It has also shared the screenshots of Social media handles of Tata Group. In addition to this, TPC-G submitted that, Tata Experience Centre (TXC) located at Bombay House, which is a digital museum and experience centre that showcases facets of the Tata Group, since 1868. The display panel at the TXC showcases the journey, history and achievements of Tata Power. This experience centre is visited by various dignitaries, Expats, amongst others and helps promote Tata Power. The direct benefits of these advertisements and the excellence centre justifying the expenditure are not submitted.

3.4.8 Further, in response to the Commission's query regarding the recruitment services provided by Tata Sons, when TPC has its own Corporate HR-cadre recruitment division, TPC-G clarified that Tata Group facilitates the recruitment and subsequent induction of Tata Administrative Services (TAS) officers in Tata Power. TAS recruit candidates from top Management Institutes. After a successful completion of a rigorous induction program by Tata Sons, TAS managers are placed in Tata group companies thus providing them talented leaders. During period from FY 2014-15 to FY 2019-20, 45 nos. of TAS officials was provided to Tata Power.

3.4.9 Further, regarding the training facilities provided by Tata Sons, TPC-G submitted that Tata Group facilitates training of Tata Power employees at Tata Management Training Centre (TMTC), Pune. TMTC offers around 250 programs a year, conducted by in-house senior faculty from academics and business, supported by experts from the best of Indian and international B schools. As part of the Brand Equity Agreement, Tata Power has access to all these programs and based on organisational needs, employees get trained at this centre. In addition, other facilities like Regular weekly webinars which bring experts face to face with users helping reuse of knowledge and experience are available to Tata Power.

3.4.10 Regarding the common procurement services provided by Tata Sons and how it has benefitted TPC, TPC-G clarified that Tata Power has its own procurement and contract department. Some contracts for products and services, that are independent of nature of the business, such as Laptops, desktops, ACs, lubricants, office supplies, travel services, etc. are consolidated at the Tata Group level. Consolidating the requirements at the Group level helps in negotiating competitive prices considering the volumes. Group level agreements that create preferred relationships with partners, improved commercial terms, service levels and quality.

3.4.11 The Commission observes that TPC-G has not submitted the benefits of Brand Equity arrangement like recruitment, training courses and common procurement services. TPC-G has also not been able to quantify such benefits, in terms of cost savings. Further, TPC has its own HR department for recruitment and training, the cost of which is allocated to TPC-G under Head Office & Support Services (HOSS) allocation which is considered and approved. Also, regarding the utilisation of training facility at TMTC, TPC-G does not confirm whether the separate expenses are booked for such training and the commensurate benefits, if any have accrued to TPC-G.

3.4.12 The Commission notes that TPC-G has compared the rate of interest of with other Generating Companies. As regards the lower interest rates on Term Loans, TPC-G may have got the lower interest rates based on its financial position, negotiation with the lending agencies, etc which is creditable.

3.4.13 Also, TPC-G's Generation Business is well established with fixed ROE. All units have been commissioned much before and useful life of the some of units will be over in near future. There was no uncertainty regarding recovery of ARR. Further, the Commission notes that TPC-G has sought approval for cost of refinancing which was done in FY 2016-17. The effect of re-financing of loan will be seen in the years after FY 2016-17. Further, TPC has replied that payment of Brand Equity has helped it to refinance its long-term loans at lower rates of interest. The Commission is of the view that had the benefits of the Tata Brand been available earlier, then TPC may not have had such high interest rate loans in the first place. Based on the comparison submitted by TPC-G, it is observed that there is difference in rate of interest of 0.63% and 0.03% with rate of interest of MSPGCL and AEML-G respectively. The data submitted by TPC-G for FY 2015-16 to FY 2018-19 also shows that the interest rates were quite high in FY 2015-16, a period for which TPC-G has claimed Brand Equity expenses.

3.4.14 Therefore, TPC-G has not been able to conclusively demonstrate that the payment of Brand Equity to Tata Sons has benefitted TPC-G in terms of lower rate of interest. In view of the above, the Commission is of the view that the justification provided by TPC-G is insufficient and hence the amount of Brand Equity expenses for FY 2015-16 and FY 2016-17 is not approved and cannot be considered for pass through.

4 Truing up of ARR for FY 2017-18 and FY 2018-19

4.1 Background

4.1.1 The Commission in MTR Order has undertaken the provisional Truing up for FY 2017-18 and approved revised forecast of ARR and Tariff for FY 2018-19. In the present Petition, TPC-G has filed Truing up of ARR for FY 2017-18 and FY 2018-19 based on expenditure and revenue as per audited accounts and in line with provisions of MYT Regulations, 2015. It has also stated the reasons for differences between the actual expenses for FY 2017-18 and FY 2018-19 and those approved in the MTR Order.

4.1.2 The Commission in MTR Order has approved the combined ARR for Unit 4 to 7 & Hydro Station and separate ARR for Unit 8. The Commission has undertaken separate Truing up for Unit 5 to 7 & Hydro Station and Unit 8 as per approach adopted in the previous Tariff Orders.

4.1.3 The Commission notes that TPC-G submitted the Audited Allocation Statement between Generation, Transmission and Distribution Business. TPC-G also submitted the separate Audited Accounts for TPC-G for FY 2017-18 and FY 2018-19. However, it is noted that the Petition is filed based on the Audited Allocation Statement. The Commission sought the reconciliation with the values submitted in the present Petition, Audited Allocation Statement and Audited Annual accounts for TPC-G, which was duly submitted by TPC-G. Based on the same, the Commission has undertaken the Truing up for FY 2017-18 and FY 2018-19.

4.1.4 Further, the Commission notes that capacity tied up for PPA has changed from FY 2017-18 to FY 2018-19. Specially, Unit 6 was not tied up during FY 2018-19. However, TPC-G submitted the combined computation for Unit 5 to 7 and Hydro Stations. Also, TPC-G has claimed transfer of assets from Generation to Transmission as well as allocation of Unit 6 assets to other Units. Hence, to reconcile the same, the Commission sought Unit-wise details from TPC-G such as Gross Fixed Assets, actual capitalisation, Depreciation, Equity, Loan balances, O&M Expenses, Revenue from sale of power, etc. In response to this, TPC-G submitted that it has followed approach for submission of combined Annual Fixed cost and then apportioned to individual Unit/Station. As the percentage of share of Distribution Licensees across all units is same, hence, the requirement of unit-wise computation is not significant. Also, it does not affect the recovery of Annual Fixed Cost.

4.1.5 The Commission, in the past Tariff Orders has approved combined Annual Fixed Cost for Unit 5 to 7 and Hydro Stations, since the percentage of share of Distribution Licensee is same across all these units. However, from FY 2018-19 onwards, Unit 6 was not tied up and it was subsequently retired. Hence, the Annual Fixed cost is required to be determined after excluding Unit 6. The Commission notes that TPC-G has not submitted the Unit-wise computation. In the absence of Unit-wise information, the Commission relied on the information placed before it in the Petition, subsequent replies of data gaps, and approach adopted in past Order. Accordingly, the Commission has computed Annual Fixed Cost for Unit 5 to 7 and Hydro Stations for FY 2018-19, after excluding Annual Fixed cost for Unit 6 for FY 2018-19.

4.1.6 The detailed analysis of the True-up undertaken by the Commission is provided below.

4.2 TPC's Generation Capacity for PPA

4.2.1 TPC-G submitted brief details of generating units, which were operational during FY 2017-18 and FY 2018-19 in the following Table:

Table 6 Operational Capacity of TPC-G Generating Units during FY 2017-18 and FY 2018-19 (MW)

Sl. No.	Generating Unit	Type of Fuel	Capacity for FY 2017-18 (MW)	Capacity for FY 2018-19 (MW)
1	Unit 5	Coal, Oil & Gas	500	500
2	Unit 6	Oil & Gas	500	-
3	Unit 7	Gas	180	180
4	Unit 8	Coal	250	250*
5	**Total Thermal (A)**		**1,430**	**930**
6	Bhira	Hydro	300	300
7	Bhivpuri	Hydro	75	75
8	Khopoli	Hydro	72	72
9	**Total Hydro (B)**		**447**	**447**
10	**Grand Total (A) + (B)**		**1,877**	**1,377**

** Tied-up capacity with Distribution Licensee is 222 MW during FY 2018-19*

4.2.2 During FY 2017-18, the generation capacity of 1,877 MW was tied up with two Distribution Licensees viz. BEST Undertaking and TPC-D and the power purchase agreement for the same was approved by the Commission.

4.2.3 Further, existing PPAs with BEST and TPC-D came to an end at the close of March 31, 2018. The Commission vide its Order dated February 27, 2018 in Case No. 176 of 2017 and its Order dated March 27, 2018 in Case No. 39 of 2017 approved the extension of existing PPAs of BEST and TPC-D for 676 and 672 MW respectively for one more year i.e. up to March 31, 2019.

4.2.4 As per these Orders of the Commission, capacity of 500 MW of Unit 6 remained untied for FY 2018-19 and removed from the tariff determination computations. However, TPC-G submitted allocation of common assets, which would remain in service and apportioned to other units viz. Unit 5, Unit 7 and Unit 8. Considering this and fixed cost methodology followed during previous Tariff Orders, TPC-G has removed Unit 6 and associated components for the purpose of Truing up for FY 2018-19. The treatment of removal of Unit 6 has been discussed in relevant sections of this Chapter.

4.2.5 In view of the above, for the purpose of Truing up for FY 2018-19 in the present Order, the Commission has considered the tied-up capacity of 1,349 MW for FY 2018-19. The details of Unit-wise capacity considered for Truing up purpose for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 7 Tied-up Capacity considered for Truing up for FY 2017-18 and FY 2018-19 (MW)

Sl. No.	Generating Unit	FY 2017-18			FY 2018-19		
		BEST	TPC-D	Total	BEST	TPC-D	Total
1	Unit 5	256	244	500	256	244	500
2	Unit 6	256	244	500	-	-	-
3	Unit 7	92	88	180	92	88	180
4	Unit 8	100	150	250	100	122	222
5	**Total Thermal (A)**	**704**	**726**	**1,430**	**448**	**454**	**902**
6	Bhira	154	146	300	154	146	300
7	Bhivpuri	38	37	75	38	37	75
8	Khopoli	37	35	72	37	35	72
9	**Total Hydro (B)**	**229**	**218**	**447**	**229**	**218**	**447**
10	**Grand Total (A) + (B)**	**677**	**700**	**1,877**	**677**	**672**	**1,349**

4.3 Performance of Unit 5 to 7 and Hydro Stations

4.3.1 As discussed earlier, the Commission has undertaken the Truing up for Unit 5 to 7 and Hydro Stations and Unit 8 separately. The performance of Unit 5 to 7 and Hydro Stations for FY 2017-18 and FY 2018-19 is discussed in subsequent paragraphs.

4.4 Gross generation and Availability

TPC-G's Submission

4.4.1 The actual availability for all Thermal Units and Hydro Generating Stations are more than normative availability. The actual availability for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 8 Availability for FY 2017-18 and FY 2018-19

Sl. No.	Generating Unit	Normative	FY 2017-18 Actual	FY 2018-19 Actual
	Thermal			
1	Unit 5	85.00%	93.87%	92.64%
2	Unit 6	85.00%	100.00%	-
3	Unit 7	85.00%	98.10%	97.04%
	Hydro			
4	Bhira	90.00%	98.72%	99.34%
5	Bhivpuri	90.00%	99.36%	100.00%
6	Khopoli	90.00%	100.00%	99.91%

4.4.2 TPC-G has achieved a total gross generation of 6082.74 MU in FY 2017-18 and

6095.05 MU in FY 2018-19 from Unit 5 to 7 and Hydro Generating Stations. The Unit-wise performance is detailed below.

4.4.3 Unit-5: TPC-G has achieved gross generation of 3204.15 MU in FY 2017-18 and 3108.34 MU in FY 2018-19. The actual generation from Unit 5 is higher than generation approved in MTR Order for both years on account of better system demand.

4.4.4 Unit-6: Unit 6 has been under economic shutdown, based on the request of its beneficiaries i.e. TPC-D and BEST. Hence, there was no generation from Unit 6 during FY 2017-18. There was no generation due to no tied-up capacity from Unit 6 for FY 2018-19.

4.4.5 Unit-7: TPC-G has achieved gross generation of 1353.67 MU in FY 2017-18 and 1410.81 MU in FY 2018-19. The actual generation from Unit 7 was higher than gross generation approved in the MTR Order, in view of better availability of gas.

4.4.6 Hydro Generating Stations: The Gross Hydro Generation was recorded as 1524.92 MU during FY 2017-18 and 1575.91 MU during FY 2018-19. The actual generation from Hydro Generating Stations was marginally higher than generation approved in MTR Order.

Commission's Analysis and Ruling

4.4.7 The Commission notes that, the Generation Availability of all the Thermal Generating Units is greater than the normative availability of 85% for FY 2017-18 and FY 2018-19 as specified in Regulation 44.1 (a) of the MYT Regulations, 2015. Further, actual Annual Plant Availability Factor (APAF) in case of all the Hydro Generating Stations has been greater than the Normative Annual Plant Availability Factor (NAPAF) of 90% for FY 2017-18 and FY 2018-19 as specified in Regulation 46.1 of the MYT Regulations, 2015. Accordingly, all Thermal Generating Units and Hydro Generating Stations are entitled for recovery of full Annual Fixed Cost (AFC) for FY 2017-18 and FY 2018-19.

4.4.8 The Commission verified the actual gross generation achieved by Thermal Generating Units and Hydro Generating Stations of TPC-G from the MSLDC certificate and found it to be in order and considered it accordingly. The Commission notes that there was no generation from Unit 6 during FY 2017-18.

4.4.9 The summary of Unit-wise gross generation approved by the Commission is as shown in the Table below:

Table 9 Gross Generation for FY 2017-18 and FY 2018-19 as approved by the Commission (MU)

Generating Station	FY 2017-18			FY 2018-19		
	MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
Hydro Stations						
Khopoli	308.82	308.32	308.32	287.00	323.02	323.02
Bhivpuri	317.75	324.33	324.33	289.00	343.12	343.12
Bhira	895.26	892.27	892.27	894.00	909.77	909.77
Total Hydro	1521.83	1524.92	1524.92	1470.00	1575.91	1575.91
Unit -5	3144.64	3204.15	3204.15	2960.00	3108.34	3108.34
Unit-6	-	-	-	-	-	-
Unit-7	1303.56	1353.67	1353.67	1348.00	1410.81	1410.81
Total Thermal	4448.20	4557.82	4557.82	4308.00	4519.14	4519.14
Total	**5970.03**	**6082.74**	**6082.74**	**5778.00**	**6095.05**	**6095.05**

4.4.10 Regarding the Actual Availability and Generation submitted by TPC-G, the Commission sought MSLDC Certificate for FY 2017-18 and FY 2018-19 to certify the same. After analysing the month-wise data, the Commission observed that availability of Unit 5 dropped to 51% in Jan 2018. In response to this, TPC-G clarified that the planned outage was taken for Unit 5 for the period from January 2, 2018 to January 17, 2018 for Boiler recertification and primary water flushing.

4.4.11 **The Commission approves the Gross Generation for FY 2017-18 and FY 2018-19 as per Table 9 of this Order**.

4.5 Heat rate

TPC-G's Submission

4.5.1 TPC-G submitted the following regarding Heat Rate of Thermal Units as under:

4.5.2 Unit-5: For FY 2017-18, the actual Heat Rate of 2520 kcal/kwh is lower than the normative Heat Rate of 2533 kcal/kwh. Also, for FY 2018-19, the actual Heat Rate of 2509 kcal/kwh is lower than normative Heat Rate of 2541 kcal/kwh.

4.5.3 Unit-6: As explained in the earlier paragraphs, Unit 6 has been under economic shut down during FY 2017-18 on account of its high generating cost.

4.5.4 Unit-7: The Commission has approved normative Heat Rate for Unit 7 as 2027 kcal / kwh for FY 2017-18 and 2031 kcal/kwh for FY 2018-19 under Combined Cycle operation and 2900 kcal/kwh under Open Cycle operation in its MYT Order. Based on the actual Generation during combined cycle mode and open cycle mode, the revised normative heat rate has been worked out as 2028 kcal/kwh for FY 2017-18 and 2031 kcal/kwh for FY 2018-19. As against this, TPC-G submitted the actual Heat Rate of

2015 kcal/kWh for FY 2017-18 and 1998 kcal/kwh for FY 2018-19.

Commission's Analysis and Ruling

4.5.5 The Commission scrutinized the normative SHR computation provided based on the combined cycle and open cycle operation of the Unit 7 and found that TPC-G has considered provided heat rates for both the years. The Commission notes that actual Heat Rate for Unit 5 and Unit 7 are better than normative Heat Rate for both years. The summary of actual Heat Rate and Normative Heat Rate approved by the Commission for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 10 Heat Rate (kcal/kWh) for FY 2017-18 and FY 2018-19 as approved by the Commission

Generating Stations	FY 2017-18		FY 2018-19	
	Actuals	Normative Approved in this Order	Actuals	Normative Approved in this Order
Unit 5	2520	2533	2509	2541
Unit 7	2015	2028	1998	2031

4.5.6 The Commission has considered the SHR as a controllable parameter in accordance with the MYT Regulations, 2015. Hence, the difference between the actual SHR as submitted by TPC-G and normative SHR as approved by the Commission in this Order has been considered for computing the sharing of efficiency gains as per principles laid out in MYT Regulations, 2015.

4.6 Auxiliary consumption

TPC-G's Submission

4.6.1 TPC-G made the following submissions regarding the auxiliary consumption for FY 2017-18 as well as FY 2018-19:

4.6.2 **Unit 5:** As against the normative Auxiliary consumption of 6.00%, the actual Auxiliary consumption was 5.53% for FY 2017-18 and 5.79% for FY 2018-19, which is lower than norms.

4.6.3 **Unit 6:** The actual consumption for Unit 6 is 20.07 MU. As regards Auxiliary consumption for Unit 6, TPC-G submitted that the unit was kept under economic shut down on the request of its beneficiaries, to be brought in service as per requirement, to lower the impact on cost of generation, resulting in benefit to the consumers of Mumbai. However, it is pertinent to note that Unit 6 was declaring its availability and like any other thermal generating plant, needs basic minimum amount of energy to keep it and its critical auxiliaries in service worthy condition to enable pickup of generation as and when required by the beneficiaries. TPC-G has approached the Commission as a part of its MTR Petition in Case No. 6 of 2015 as well as its MYT Petition in Case No. 32 of 2016, to provide a norm for this minimum level of consumption of energy and not consider the same to calculate the efficiency gain /(loss) on account of controllable factors. However, the Commission had rejected the claim of the TPC-G.

4.6.4 TPC-G further submitted that the approach adopted by the Commission is resulting into a double impact (i) by not allowing the cost of energy consumption in standby mode and (ii) not excluding the energy required during standby operation from gain/(loss) calculations. It is pertinent to note that the Unit was in standby mode for the entire year.

4.6.5 Further, it is also noted that TPC-D and BEST have saved a significant expenditure towards the cost of power purchase by keeping Unit 6 Generation under economic shutdown which they ought to have purchased at least at technical minimum level with bilateral purchase over past 5 to 6 years. On the contrary, TPC-G has been taking the adverse impact in terms of efficiency loss as the actual Auxiliary consumption under standby mode has not been approved separately. It is further added that, in absolute terms (in MUs) the Auxiliary Consumption is not high but when it is considered as a percentage of the generation it works out to be higher as the PLF of the Unit is 0% whereas the norms specified are at 85% loading. Hence, such Auxiliary Consumption does not represent the true performance of the Unit 6 and same is not comparable with the performance of the unit under normal operating conditions. Hence, considering this as a genuine requirement where the Auxiliary consumption has been experienced, TPC-G requested to treat the Auxiliary Consumption of Unit 6 during its Standby mode separately.

4.6.6 **Unit 7:** As against the normative Auxiliary Consumption of 3%, the actual Auxiliary consumption of unit is 2.90% for FY 2017-18 and 2.79% for FY 2018-19, which is lower than norms specified.

Hydro Generating Station:

4.6.7 The Auxiliary Consumption of Hydro Generating Stations is 2.06% for FY 2017-18 and 1.72 % for FY 2018-19 as compared to the normative auxiliary consumption of 1.55% as approved by the Commission in MTR Order. The various components of same are explained as under:

Auxiliary Consumption including Static Excitation:

4.6.8 Auxiliary Energy Consumption under this head at 0.73% for FY 2017-18 and 0.70% for FY 2018-19 is lower than the approved value of 1%.

Pumping Energy for Nallah Diversion

4.6.9 Auxiliary Energy Consumption under this head at 0.34% for FY 2017-18 and 0.27% for FY 2018-19 is lower than the approved value of 0.37%.

GT Losses:

4.6.10 The Auxiliary Energy Consumption under this head is at 0.86% for FY 2017-18 and 0.61% for FY 2018-19.

Headworks Consumption:

4.6.11 The Commission had approved additional Auxiliary Energy Consumption of 0.18% under this head. As against this, actual Auxiliary consumption under this head is 0.13% for FY 2017-18 and FY 2018-19.

Colony Consumption

4.6.12 As per the methodology approved by the Commission in its MTR Tariff Order, TPC-G has excluded the colony consumption from the total Auxiliary Consumption.

4.6.13 Considering all the above, the actual auxiliary consumption in comparison with the normative auxiliary consumption for FY 2017-18 and FY 2018-19 works out as follows:

Table 11 Auxiliary Consumption (%) for Hydro Stations as submitted by TPC-G

Particulars	FY 2017-18		FY 2018-19	
	MTR Order	TPC-G Petition	MTR Order	TPC-G Petition
Auxiliary Consumption including Static Excitation	1.00%	0.73%	1.00%	0.70%
Energy for Nallah Division	0.37%	0.34%	0.37%	0.27%
GT Losses	-	0.86%	-	0.61%
Total Losses	**1.37%**	**1.93%**	**1.37%**	**1.58%**
Head Works Consumption	0.18%	0.13%	0.18%	0.13%
Condenser mode Operation	-	0.002%	-	-
Total Auxiliary Consumption	**1.55%**	**2.06%**	**1.55%**	**1.72%**

Commission's Analysis and Ruling

4.6.14 The Commission notes that the actual Auxiliary Consumption of Unit 5 and Unit 7 is less than normative values for both years. The Commission considers the same for the purpose of truing up.

4.6.15 As regards the Auxiliary Consumption of Unit 6, TPC-G submitted that actual Auxiliary consumption of 20.07 MU shall not be considered for sharing of efficiency gains and losses. The Commission sought the details of consumption against each equipment during the year. It is noted that, actual consumption of 20.07 MU includes the consumption towards SCADA, Air Compressor, Control fluid pump, Screen wash pump, Seal water pump, etc. The Commission notes that Unit 6 was under Standby mode during FY 2017-18. The operation of Unit 6 under Standby mode was as per directives of MSLDC and it would have been run for demand of Mumbai System if required. In view of the above, the Commission approves the actual Auxiliary Consumption for Unit 6. The Commission in MTR Order held as under:

> *"5.3.2.12 As regards the Auxiliary Energy Consumption of Unit-6 (when not operating under MSLDC directions), TPC-G has considered the actual Auxiliary Energy Consumption stating that Unit 6 has operated completely under standby mode in FY 2016-17 and like any other Thermal Generating Plant, needs basic minimum amount of energy to keep it and its critical auxiliaries in service worthy condition. Further TPC-G stated that, like Unit 4 which was provided with Auxiliary Energy Consumption for standby mode, Unit 6, under similar conditions also need to be provided with the Auxiliary Energy Consumption under standby mode.*
>
> *5.3.2.13* ***The Commission has not considered separate norms for Auxiliary Energy Consumption under stand-by mode for the purpose of Truing up, in accordance with the methodology followed in the Truing up of FY 2015-16 described in the earlier sections in this Order. Considering this, the Commission has considered the actual Auxiliary Energy Consumption of Unit 6 for FY 2016- 17 for sharing of Efficiency Gains/Losses****. " (***emphasis added)***

4.6.16 Further, the same auxiliary consumption has been considered for calculation of sharing of efficiency gains and losses, in line with the approach adopted in previous Orders and not being treated separately as requested by TPC-G.

4.6.17 Regarding Hydro Generating Station, TPC-G submitted the actual Auxiliary consumption of 2.06% for FY 2017-18 and 1.72% for FY 2018-19. These actual Auxiliary consumptions include GT Losses of 0.86% for FY 2017-18 and 0.61% for FY 2018-19. The Commission notes that, in MTR Order, it has approved energy consumption of Nallah diversion and Head Works Consumption over and above the normative Auxiliary consumption for Hydro Stations. However, TPC-G submitted actual Auxiliary consumption towards GT losses and Condenser mode operation. The Commission has already decided the matter in MTR Order and provided the relaxation to TPC-G. The relevant extract of MTR Order is as under:

> *"5.3.2.14 As regards the Auxiliary Energy Consumption towards GT losses in respect of the Hydro Generating Stations, the Commission has set out its view in the MYT Order and had also specified that these views are equally applicable to the 3rd Control Period. Moreover, the MYT Regulations, 2015 do not provide for any transformation losses. Accordingly, the Commission has not considered any additional transformation losses for Hydro Generating Stations. In line with the MYT Order, the Commission has not considered Auxiliary Energy Consumption for Condensor mode of operation and has considered Auxiliary Energy Consumption of 0.18% towards headworks. "*

4.6.18 Hence, the Commission does not approve GT Losses and consumption for condenser mode operation.

4.6.19 The Commission notes that TPC-G has submitted the Auxiliary Consumption combined for all Hydro Stations. Further, in response to the Commission's query, TPC-G submitted Station wise Auxiliary Consumption. The actual Auxiliary consumption is 1.84% for Bhira, 1.67% for Bhivpuri and 2.81% for Khopoli. **The Commission notes that, in MYT Order, it has approved the combined Auxiliary consumption for Hydro Stations. Hence, the same approach is adopted and Auxiliary consumption combined for all Hydro Stations is approved for the purpose of truing up**.

4.6.20 The Commission in its MYT Order had approved normative auxiliary consumption of 1% for Control Period FY from FY 2016-17 to 2019-20. Over and above such normative Auxiliary consumption, the Commission approved energy consumption for Nallah diversion of 0.37% and headworks distribution losses of 0.18% for FY 2017-18 and FY 2018-19.

4.6.21 As regards Nallah diversion schemes, the Commission notes that one scheme of Male Nallah Diversion was commissioned in FY 2009-10 as per the DPR approved by the Commission(on post facto basis)on 31 January, 2011 with the actual capitalised cost of Rs. 10.67 Crore. Also, balance schemes had been commissioned prior to FY 2004. With regard to benefit of the scheme, TPC-G submitted that these schemes help to utilise the water streams which are near the lakes, but not going into the lake, which otherwise flows outside the basin. Further, these schemes pump the water into the lakes with heads ranging from 10 metres to 50 metres. However the head available for generation becomes 500 metres, giving a benefit of additional generation to the extent of approximately 20 times generation to that of energy consumed as shown in the following Table:

Table 12 Details of Nallah Diversion Schemes as submitted by TPC-G

Particulars	Water Pumped (MCM)	Energy Consumed (MU)	Energy Generated from Pumped Water (MU)	Net Generation available due to Pumping (MU)	Total Generation (MU)
FY 2017-18	95.40	5.21	106.00	100.79	669.89
FY 2018-19	82.10	4.27	91.22	86.96	798.99

4.6.22 From the above Table, it is observed that, additional energy has been generated from the pumped water due to Nallah diversion and hence the Capex incurred towards these schemes is helping in increasing the generation of hydro stations.

4.6.23 Hence the total normative auxiliary consumption norm approved for hydro stations including nallah diversion and headworks distribution losses works out to be 1.55% as shown in Table below and the Commission has considered the same as normative auxiliary consumption for sharing of efficiency gains and losses.

Table 13 Auxiliary Consumption (%) for Hydro Stations as approved by the Commission

Particulars	FY 2017-18			FY 2018-19		
	MTR Order	TPC-G Petition	Approved after Truing up	MTR Order	TPC-G Petition	Approved after Truing up
Auxiliary Consumption including Static Excitation	1.00%	0.73%	1.00%	1.00%	0.70%	1.00%
Energy for Nallah Division	0.37%	0.34%	0.37%	0.37%	0.27%	0.37%
GT Losses	-	0.86%	-	-	0.61%	-
Total Losses	**1.37%**	**1.93%**	**1.37%**	**1.37%**	**1.58%**	**1.37%**
Head Works Consumption	0.18%	0.13%	0.18%	0.18%	0.13%	0.18%
Condenser mode Operation	-	0.002%	-	-	-	-
Total Auxiliary Consumption	**1.55%**	**2.06%**	**1.55%**	**1.55%**	**1.72%**	**1.55%**

4.6.24 The actual Auxiliary consumption and normative Auxiliary consumption approved by the Commission after truing up is shown in the following Table:

Table 14 Auxiliary Consumption (%) for FY 2017-18 and FY 2018-19 as approved by the Commission

Generating Stations	FY 2017-18		FY 2018-19	
	Actuals	Approved in this Order	Actuals	Approved in this Order
Unit 5	5.53%	6.00%	5.79%	6.00%
Unit 6	20.07 MU	3.5%	-	-
Unit 7	2.90%	3.00%	2.79%	3.00%
Hydro	2.06%	1.55%	1.72%	1.55%

4.6.25 The Commission has considered the Auxiliary Consumption as a controllable parameter in accordance with the MYT Regulations, 2015. Hence, the difference between the actual Auxiliary Consumption as submitted by TPC-G and normative Auxiliary Consumption as approved by the Commission in this Order has been considered for computing the sharing of efficiency gains as per principles laid out in MYT Regulations, 2015.

4.7 Fuel cost

TPC-G's Submission

4.7.1 TPC-G submitted the Fuel cost of Rs. 1,272.43 Crore for FY 2017-18 and Rs. 1383.39 Crore for FY 2018-19 as shown in the following Table:

Table 15 Fuel Consumption and Cost for FY 2017-18 and FY 2018-19 as submitted by TPC-G

Particulars	FY 2017-18 (Actual)	FY 2018-19 (Actual)
Consumption (MT)		
Gas-APM	231655	306716
Gas-Non APM	233	-
Gas-RLNG	1538	274
Coal	1624985	1378007
Oil (combined)	1127	739
GCV (Kcal/kg)		
Gas-APM	13139	13169
Gas-Non APM	13168	-
Gas-RLNG	13031	13077
Coal	4778	4765
Oil	10348	10384
Price (Rs./MT)		
Gas-APM	9982	12829
Gas-Non APM	9813	-
Gas-RLNG	38877	44847
Coal	6331	7144
Oil	54760	55447
Total Cost (Rs. Crores)	**1272.43**	**1383.39**

4.7.2 As the various fuel price parameters were provisionally trued up during the MTR Order, the variation between the fuel parameters for FY 2017-18 as approved in the MTR Order vis-à-vis the final audited actuals parameters for FY 2017-18 is negligible.

4.7.3 Further, TPC-G submitted that, as per the directions of the Commission in MTR Order, it has not included the claim of Rs. 135.53 Crore in FY 2017-18 for Custom Duty Share and would approach the Commission based on the final judgement of the Hon'ble Supreme Court of India on this matter.

4.7.4 Further, during FY 2018-19, TPC-G submitted that there is an adjustment in entry tax amount of Rs. 21.08 Crore pertaining to previous period. In this regards, TPC-G made the following submission:

(a) In 2002, the Government of Maharashtra (GoM) had introduced the Entry Tax which included Entry Tax on Local and imported Furnace oil. Tata Power had challenged this tax liability in the Bombay High Court. The Bombay High Court had issued an Order dated January 16, 2004, in which it held the levy of this tax as unauthorized and unconstitutional. The GoM then filed a Special Leave Petition (SLP) with the Hon’ble Supreme Court of India.

(b) Meanwhile, GoM amended the Sales Tax Act by allowing partial set-off of Entry tax against Sales tax. Simultaneously, the Hon'ble Supreme Court dismissed the Petition on grounds that the GoM had removed the levy of Entry Tax, which was still in effect, but allowed only partial set-off. Tata Power has ever since been consistently claiming that Entry Tax is not leviable on the basis of the Hon'ble High Court & Hon'ble Supreme Court judgments.

(c) As only partial set off had been allowed, Tata Power received a demand notice from GoM to the tune of Rs. 23.34 Crore in respect of the Entry Tax Liabilities including interest and penalty for FY 2013-14 (since Assessment for these years is complete) respectively under the Maharashtra Tax on the Entry of Goods into Local Areas Rules, 2002.

(d) However, as per the provisions of the Entry Tax Act, set off is allowed on payment of Entry Tax. Hence, though the gross tax is 12.5% (claimed by the GoM), the effective rate after the eligible set-off against VAT is 3% to 4%. Tata Power has paid to the GoM the amount after adjusting VAT Refund of Rs. 19.94 Crore based on the VAT assessment order by the authorities for FY 2013-14.

(e) Thus, the amount towards the payment of entry tax during FY 2017-18 works out to be Rs. 21.08 Crore. Tata Power has paid the net liability of Rs. 1.14 Crore to the tax department on May 22, 2018.

(f) This amount was claimed in MTR Petition. Since the date of actual payment made was in falling in FY 2018-19, the Commission in MTR Order deicide to take view in this matter at time of final truing up for FY 2018-19.

Commission's Analysis and Ruling

4.7.5 The Commission sought the monthly fuel bills and monthly Unit wise fuel receipts, calorific value and price of fuel for FY 2017-18 and FY 2018-19. The Commission has gone through the such details of monthly fuel receipts, calorific value and price. The variation in fuel price and calorific value has been considered as part of FAC and has already been passed through monthly under that mechanism.

4.7.6 The Commission has carried out the prudence check of actual fuel cost for FY 2017-18 and FY 2018-19. The Commission analysed the components of prices of Coal. The taxes and duties have increased from Rs. 558.95/MT in FY 2017-18 to Rs. 733.41/MT during FY 2018-19. This increase was on account of increase in clean energy cess by Rs. 200/MT. Also, freight rates have also increased from Rs. 557.83/MT in FY 2017-18 to Rs. 722.27/MT in FY 2018-19. In response to query, TPC-G submitted that shipping rates are volatile and depends largely on trade of global bulk commodities. The freight rates are discovered through competitive bidding who could meet the requirement of 4-5 supermax/panama vessels per month, to be supplied from Indonesia to Trombay. Also, it has been observed that different freight rates are applicable during monsoon period and non-monsoon period as per existing coal contracts of TPC-G. The freight rates which are in the range of $7.97 /MTto $8.99/MT are higher (¬$1.02 /MT) during monsoon period.

4.7.7 The Commission observed the difference between the Fuel Cost submitted in the present Petition vis-à-vis audited accounts for FY 2017-18 and FY 2018-19 and sought clarification from TPC-G. The Fuel cost as submitted in the petition and audited accounts is as under:

Table 16 Total Fuel Cost (Rs Crore) as submitted in the Petition and as per Audited Accounts

Year	**TPC-G's Petition**			**Audited Accounts**
	Unit 5 to 7	**Unit 8**	**Total**	
Fuel Cost for FY 2017-18	1,271.76	524.34	1,796.09	1,795.36
Fuel Cost for FY 2018-19	1,383.39	611.64	1,995.02	1,986.74

4.7.8 TPC-G submitted the reconciliation of the fuel cost. It is observed that the difference in fuel cost is on account of reversal entry of Rs. 1.02 Crore in FY 2017-18 and, Foreign exchange loss of Rs. 0.73 Crore for FY 2017-18 and Rs. 8.28 Crore for FY 2018-19.

4.7.9 In response to the Commission's query regarding the reversal of fuel cost in FY 2017-18, TPC-G submitted that the amount of Rs. 1.02 Crore was reversed in respect of expenses towards the coal berth dredging activity. Since, the billing of March 2018 was already over, the same could not be passed on to beneficiaries through billing. Hence, TPC-G has reduced the fuel cost to Rs. 1271.76 Crore for FY 2017-18, after reducing the amount of Rs. 0.68 Crore pertaining to Unit 5. The Commission agrees with the submission of TPC-G and hence considered the actual fuel cost of Rs. 1271.76 Crore for FY 2017-18.

4.7.10 Regarding the fuel exchange loss, TPC-G clarified that fuel exchange loss of Rs. 0.73 Crore for FY 2017-18 and Rs. 8.28 Crore for FY 2018-19 are resultant of the exchange rate variation with respect to the payment made for procurement of imported coal. The Commission verified the contracts submitted by TPC-G and observes that such fuel exchange variation is passed through in bills as per present contractual arrangement. Hence, the Commission has considered the such fuel exchange loss in actual fuel cost.

4.7.11 **In view of the above, the Commission has approved the Unit-wise actual Fuel cost for FY 2017-18 and FY 2018-19 for the purpose of truing up as shown in the following Table**:

Table 17 Actual Fuel Cost for FY 2017-18 and FY 2018-19 as approved by the Commission (Rs. Crore)

Particulars	FY 2017-18	FY 2018-19
Unit 5	1,063.21	1,110.77
Unit 7	208.55	272.62
Grand Total	**1,271.76**	**1,383.39**

4.7.12 As regards the entry tax of Rs. 21.08 Crore, the Commission has taken holistic view on the issue of Entry Tax in next Chapter on provisional True-up for FY 2019-20. In true-up for FY 2018-19, the Commission has allowed the Entry tax amount of Rs. 21.08 Crore for FY 2018-19.

4.8 Allocation of Assets of Unit 6 used by Unit 5, 7 and 8

TPC-G's Submission

4.8.1 Unit 6 was not tied up from April 1, 2018. As per the existing approach followed by the Commission in the Tariff Orders, the Annual Fixed cost is approved for Unit 4 to 7 and Hydro Stations together as a whole and then it used to allocate between generating units. It is further submitted that, even though, Unit 6 is taken out of service, there are certain assets of Unit 6, which would continue to serve the other generating units in Trombay Thermal Power Station. These assets include Chlorination Plant, Cooling Water Jetty, De-mineralisation Plant, 220 kV Switchyard, Condensate Polishing Unit, SCADA System.

4.8.2 Accordingly, TPC-G proposed that total Gross Fixed Assets of Rs. 26.03 Crore has been apportioned to Unit 5, 7 and 8 in proportion to their installed capacities. The details of Common Assets are as under:

Table 18 Gross Fixed Assets of Unit 6 used by Unit 5, 7 and 8

Particulars	Acquisition Value (Rs. Crore)
U6-Common	3.51
U6-Common – Chlorination	0.68
U6-Common-CW Jetty	4.19
U6-Common- DM Plant	1.66
U6-Common- Switchyard	9.78
U6-CPU	2.29
U6-SCADA	3.92
Grand Total	**26.03**

Commission's Analysis and Rulings

4.8.3 The Commission notes that Unit 6 was not tied up after FY 2017-18. As per the approach adopted in the previous Tariff Orders, the Commission used to approve the total Gross Fixed Asset and Depreciation for Unit 4 to 7 and Hydro Generating Stations and allocate the values to each Unit/Stations, including Unit 6. Since, Unit 6 is retired, the impact of removal of its assets is required to be considered in ARR.

4.8.4 The Commission notes TPC-G's submission that some of Assets which are booked under Unit 6 are still being used by Other Units. The Commission asked TPC-G to submit the complete details of assets which are being used by other units. TPC-G in response to the Commission's query clarified that certain assets related to Chlorination Plant, Cooling Water Jetty, De-mineralisation Plant, 220 kV Switchyard, Condensate Polishing Unit, SCADA System are going to continue to be in service irrespective of Unit 6.

4.8.5 As per the present methodology, the cost of Common assets is allocated to each Unit and recovery of such assets is allowed through Annual Fixed Charges of such Unit. If the Unit is retired or not tied up, having considered the same principle adopted in the previous Orders, cost allocated to such Units is also not to be considered for recovery. But after perusal of list of assets given by TPC-G, it is noted that some of assets which are commonly used e.g., 220 kV Switchyard, SCADA, etc. are entirely booked under Unit 6. These assets are required to be considered for computation of fixed costs for Other units. However, there is no clarity on use of assets by other Units by perusing list provided as to whether all the assets proposed to be allocated to other Units and there is no duplicity of the Assets.

4.8.6 In view of the above, the Commission opines that mere consideration of assets on basis of list provided would not be appropriate as it has cost implication in tariff. Also, it is important to understand use, nature and cost of Common assets based on verification of assets on site for each Unit. The Commission will consider this issue separately after TPC-G submits verifiable details of the assets with proper justification confirming the usage of common assets by the running units. The Commission, on the basis of the detailed submission by TPC-G on this issue will initiate a third party verification of assets and will take final view in the matter. In this regard, the Commission at this stage has not considered the assets of Rs. 26.03 Crore pertaining to allocation of Unit 6 to other Units for determination of fixed costs for Other Units and the Commission will take appropriate view in the matter during the MTR proceedings.

4.8.7 Accordingly, the Commission at this stage has decided to remove entire amount of Gross Fixed Assets of Unit 6 from Gross Fixed Assets as on March 31, 2018 for Unit 5 to 7 and Hydro Generating Station. Subsequently, the adjustment has been made in removal of normative debt amount and regulatory equity amount.

4.9 Operation and Maintenance Expenses

TPC-G's Submission

4.9.1 TPC-G has revised normative O&M Expenses for FY 2017-18 based on the revised normative O&M expenses for FY 2016-17 (including Brand Equity expenditure) and the escalation rate as per First Amendment of MYT Regulations, 2015. TPC-G submitted the revised normative O&M Expenses of Rs. 495.68 Crore with Brand equity expenses for FY 2016-17 and subsequently, Rs. 520.18 Crore for FY 2017-18 including Brand equity expenses.

4.9.2 For computation of normative O&M Expenses for FY 2018-19, TPC-G has considered the escalation factor of 2.11% based on MYT Regulations, 2015, as amended from time to time.

4.9.3 Further, TPC-G submitted that, since post FY 2018-19, Unit 6 is not tied up with any utilities and has been decommissioned now, the same does not form the part of the ARR being put up for the approval of the Commission. Accordingly, the O&M expenses of the Unit 6 needs to be removed for computation of the revised normative expenses for FY 2018-19. TPC-G has adopted the following methodology for consideration of the same:

(a) The expenditure includes the actual O&M expenses of Unit 6 as well as the allocation of O&M expenses of common facilities at Trombay and HOSS. Hence, even though, the Unit 6 is de-commissioned, this bare minimum cost is continued to be incurred. This cost needs to be allocated to other generating units.

(b) In order to assess the minimum expenses that would continue, the actual allocated O&M expenses of Unit 6 for FY 2017-18 is considered as base. As the Unit 6 was completely standby condition during entire year in FY 2017-18, the same would represent the true picture of the minimum O&M expenses that would get allocated to Unit 6 irrespective of its operation. As per the existing unit wise cost allocation methodology, the actual allocated O&M expenditure of Unit 6 for FY 2017-18 worked out as Rs. 36.67 Crore.

(c) Further, the share of Normative O&M expenses as apportioned to Unit 6 by the Commission in the MYT Order in Case No. 32 of 2016 is Rs. 100.29 Crore. By taking the differential of above two amounts, i.e. Rs. 36.67 Crore and Rs. 100.29 Crore, TPC-G has removed the amount of Rs. 63.62 Crore from the revised normative O&M expenses of FY 2017-18.

4.9.4 In view of the above, TPC-G computed the normative O&M Expenses of Rs. 465.94 Crore for FY 2018-29 as shown in the following Table:

Table 19 Normative O&M Expenses for Unit 5 to 7& Hydro as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	FY 2017-18	FY 2018-19
1	Normative O&M Expenses for previous year	495.68	520.18
2	Less: Reduction of share of Unit 6	-	63.62
3	Less: Water Charges	-	11.46
4	O&M Expenses considered for escalation	495.68	445.10
5	Escalation Factor (%)	2.63%	2.11%
6	Normative O&M Expenses	508.72	454.48
7	**Normative O&M Expenses, including Water Charges**	**520.18**	**465.94**

4.9.5 Further, TPC-G submitted the actual O&M Expenses for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 20 Actual O&M Expenses for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	MTR Order	TPC-G Petition	MTR Order	TPC-G Petition
Employee Expenses		169.38		164.20
Administration & General Expenses		115.47		111.06
Repairs and Maintenance Expenses		162.97		100.81
Total	**508.72**	**447.82**	**454.48**	**376.07**
Less: Brand Equity expenses		7.49		(0.01)
Add: Allocation of Brand equity expenses as per MERC Methodology		6.02		0.00
Add: Water Charges	11.46	8.76	11.46	1.87
Grand Total	**520.18**	**455.11**	**465.94**	**377.95**

4.9.6 TPC-G submitted that total actual O&M expenses are Rs. 447.82 Crore for FY 2017-18 and Rs. 376.07 Crore for FY 2018-19, before any adjustment. However, based on the Truing Up Orders of previous years and the methodology adopted by the Commission therein, the total O&M expenditure of Unit 5 to 7 & Hydro Generating Stations is adjusted for the following:

Brand Equity:

4.9.7 The Commission had directed to compute the Brand Equity based on the revenue earned in the previous year i.e. based on revenue of FY 2016-17 for Truing up for FY 2017-18 and revenue of FY 2017-18 for Truing up for FY 2018-19. In view of this, there is a small difference between the actual Brand Equity paid and the amount arrived at based on the methodology as directed by the Commission. The actual overall O&M expenditure has been adjusted to this extent of differential amount.

4.9.8 For FY 2018-19, there is no Brand Equity payable on account of loss reported by it in accounts for FY 2017-18. Hence, the Brand Equity applicable for FY 2018-19 is Nil. The O&M expenses is accordingly adjusted.

Expenditure related to Corporate Social Responsibility (CSR):

4.9.9 The Commission in its previous Orders on Generation had disallowed the expenditure towards CSR. On account of the same, the CSR expenditure has been removed from the overall O&M expenditure.

4.9.10 As can be seen from the above Table, actual O&M Expenses for FY 2017-18 and FY 2018-19 are lower than normative O&M Expenses for respective year. Accordingly, TPC-G requested to approve the actual O&M expenditure of Rs. 455.11 Crore for FY 2017-18 and Rs. 377.95 Crore for FY 2018-19 for the purpose of truing up.

Commission's Analysis and Ruling

4.9.11 The Commission notes that TPC-G has revised the normative O&M Expenses after considering the Brand Equity expenses for FY 2016-17. As discussed in earlier Chapter of this Order, the Commission at this stage has not considered the Brand Equity Expenses from FY 2015-16 onwards. Accordingly, for computing the normative O&M Expenses for FY 2017-18, the Commission has considered the normative O&M Expenses as approved in True-up for FY 2016-17 as base for previous year.

4.9.12 The Commission has notified Maharashtra Electricity Regulatory Commission (Multi Year Tariff) (First Amendment) Regulations, 2017 on November 29, 2017 wherein the Regulation 45.1 a to d were amended as follows:

> *"Amendments to Regulation 45.1 (a) to (d)-*
> *Regulation 45.1 (a) to (d) of the principal Regulations applicable to Generating Stations that have achieved commercial operations prior to 26 August, 2005 shall be substituted by the following :-*
>
> *"45.1…(a) The Operation and Maintenance expenses for Generating Stations which achieved COD before the date of coming into effect of the MERC (Terms and Conditions of Tariff) Regulations, 2005, shall be computed in accordance with this Regulation.*
>
> *(b) The Operation and Maintenance expenses, excluding water charges and including insurance, shall be derived on the basis of the Final Trued-up Operation and Maintenance expenses after adding/deducting the sharing of efficiency gains/losses, for the year ending March 31, 2016, excluding abnormal expenses, if any, subject to prudence check by the Commission, and shall be considered as the Base Year Operation and Maintenance expenses.*

(c) The Operation and Maintenance expenses for each subsequent year shall be determined by escalating these Base Year expenses of FY 2015-16 by an inflation factor with 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the past five financial years as per the Office of Economic Advisor of Government of India and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the past five financial years as per the Labour Bureau, Government of India, as reduced by an efficiency factor of 1% or as may be stipulated by the Commission from time to time, to arrive at the permissible Operation and Maintenance expenses for each year of the Control Period :

Provided that, in the Truing-up of the O&M expenses for any particular year of the Control Period, an inflation factor with 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the past five financial years (including the year of Truing-up) and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the past five financial years (including the year of Truing-up), as reduced by an efficiency factor of 1% or as may be stipulated by the Commission from time to time, shall be applied to arrive at the permissible Operation and Maintenance Expenses for that year."

4.9.13 Following the same approach, the Commission has computed the annual escalation factor for FY 2017-18 to give effect to the First Amendment to the MYT Regulations, 2015. The revised escalation factor has been computed considering the base inflation series of 2004-05, as the same series was considered at the time approval of O&M expense for FY 2017-18 in the MYT Order. The computation of the same is as follows:

Table 21 Escalation Factor considered by the Commission for FY 2017-18

Particulars	**Inflation (%)**
Average WPI Increase in FY 2013-14 to FY 2017-18	2.42%
Average CPI Increase in FY 2013-14 to FY 2017-18	5.76%
Weightage to WPI	50%
Weightage to CPI	50%
Less: Efficiency Factor	1.00%
Escalation Factor	**3.09%**

4.9.14 Similarly, the escalation factor for FY 2018-19 has been computed as shown in the following Table:

Table 22 Escalation Factor considered by the Commission for FY 2018-19

Particulars	**Inflation (%)**
Average WPI Increase in FY 2014-15 to FY 2018-19	2.08%
Average CPI Increase in FY 2014-15 to FY 2018-19	4.92%
Weightage to WPI	50%
Weightage to CPI	50%
Less: Efficiency Factor	1.00%

Particulars	Inflation (%)
Escalation Factor	**2.50%**

4.9.15 Considering the above amendment and escalation factor, the revised O&M Expenses for FY 2017-18 and FY 2018-19 are worked out.

4.9.16 The Commission notes that normative O&M Expenses for FY 2017-18 includes normative O&M Expenses towards Unit 6. Hence, for computation of normative O&M Expenses for FY 2018-19, the expenses towards Unit 6 are required to be removed. TPC-G has proposed a methodology for computation of normative O&M Expenses for Unit 6. TPC-G has proposed to consider the difference of normative cost approved in MYT Order and actual O&M Expenses for Unit 6. Accordingly, TPC-G has considered the O&M Expenses of Rs. 63.62 Crore towards Unit 6,

4.9.17 The Commission notes that in MYT Order, it has approved the total O&M Expenses of Rs. 525.27 Crore (including water charges of Rs. 11.46 Crore). Out of these expenses, O&M Expenses of Rs. 100.29 Crore was allocated to Unit 6, which is 19% of total O&M expenses. The Commission notes that TPC-G has not submitted Unit-wise actual O&M Expenses and allocation of common (HO cost, etc.) to each Unit. As discussed earlier, the Commission has not considered the allocation of common assets of Unit 6 to other Units. Hence, its subsequent impact cannot be considered. In the present Order, the Commission has computed the revised normative O&M Expenses for Unit 5 to 7 and Hydro Stations. The normative O&M Expenses for Unit 6 are considered in the same proportion of 19.09% of total normative O&M Expenses. Accordingly, the Commission reduces the base expenses for FY 2018-19.

4.9.18 The normative O&M Expenses for FY 2017-18 and FY 2018-19 is determined as under:

Table 23 Normative O&M Expenses for Unit 5 to 7& Hydro as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18	FY 2018-19
1	Normative O&M Expenses for previous year	493.21	508.46
2	Less: Reduction of share of Unit 6	-	97.08
3	O&M Expenses considered for escalation	493.21	411.38
4	Escalation Factor (%)	3.09%	2.50%
5	Normative O&M Expenses	508.46	421.65
6	Water Charges	8.76	1.87
7	**Normative O&M Expenses, including Water Charges**	**517.22**	**423.52**

4.9.19 As regards actual O&M expense components, the Employee Expenses and Administration & General Expenses claimed by TPC-G in the Petition were not matching with the Audited Allocation Statement. On a query of the Commission, TPC-G provided reconciliation of the O&M expenses as per Audited Allocation Certificate and Audited Accounting Statement.

4.9.20 Further, the Commission notes that cost of HO-Services expenses for *Regulations - Delhi (Cost Centre 19000022013)* is booked under the actual A&G Expenses. In response to the Commission's query, TPC-G clarified that activities related to dealing with legal matters for representing TPC-G in various forums like ATE, Supreme Court, CEA, MoP, MNRE on all issues pertaining to Licensed businesses in Mumbai Area are dealt with through Regulations Delhi Office. It is noted that, during FY 2017-18, out of total cost of Rs. 2.61 Crore, cost of Rs. 1.97 Crore was allocated Licensed business in Mumbai area. Similarly, during FY 2018-19, cost of Rs. 2.26 Crore was allocated to Licensed business in Mumbai area out of total expenses of Rs. 3.01 Crore. Accordingly, cost booked against TPC-G is Rs. 0.96 Crore for FY 2017-18 and Rs. 0.98 Crore for FY 2018-19. The Commission notes that the expenses are related to TPC-G but booked in centralised head. These expenses are allowed by the Commission for the purpose of truing up.

4.9.21 Further, the Commission notes that actual A&G expenses in FY 2017-18 are Rs. 115.47 Crore which is much higher than actual A&G Expenses of Rs. 94.31 Crore in FY 2016-17. In response to the Commission's query regarding the same, TPC-G clarified that the increase is mainly on account of payment of Rs. 16 Crore towards Non-Agricultural Land Usages Tax on account of revision of tax revision announced by Government of Maharashtra vide its GR (Government Resolution) dated February 5, 2018 with effect from 1996 in the slabs of 5 (1996 – 2001), 10 (2001 – 2011) & 10 (2011 – 2021) years. TPC-G further submitted that this expenditure is uncontrollable in nature and accordingly, in line with Regulations, such expenditure has to be treated separately while carrying out Gain / Loss computation for O&M. However, since a similar matter related to property tax is subjudice (property tax matter), TPC-G has not given the treatment of uncontrollable expenditure to the above expenditure while arriving at Gain / Loss. The Commission accepts the submission of TPC-G and considered the actual A&G Expenses for the purpose of truing up.

4.9.22 As discussed in earlier Chapter, the Commission has not considered expenses related to Brand equity in actual O&M Expenses for FY 2017-18 and FY 2018-19. The Actual O&M Expenses approved by the Commission for the purpose of truing up for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 24 Approved Actual O&M Expenses for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Employee Expenses	169.38	169.38	164.20	164.20

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Administration & General Expenses	115.47	115.47	111.06	111.06
Repairs and Maintenance Expenses	162.97	162.97	100.81	100.81
Total	**447.82**	**447.82**	**376.07**	**376.07**
Less: Brand Equity expenses	7.49	7.49	(0.01)	(0.01)
Add: Allocation of Brand equity expenses as per MERC Methodology	6.02	-	0.00	-
Add: Water Charges	8.76	8.76	1.87	1.87
Grand Total	**455.11**	**449.09**	**377.95**	**377.94**

4.9.23 The Commission has considered the O&M Expenses as a controllable in accordance with the MYT Regulations, 2015. Hence, the difference between the actual O&M Expenses as submitted by TPC-G and normative O&M Expenses as approved by the Commission in this Order has been considered for computing the sharing of efficiency gains as per principles laid out in MYT Regulations, 2015.

4.10 Capitalisation and Means of Finance

TPC-G's Submission

4.10.1 Regarding Capitalisation of FY 2017-18, TPC-G submitted that, after issuance of MTR Order, the Commission reviewed the deferred approved capitalisation and accorded its approval for 16 Schemes in Review Order. The impact of the same has already been submitted in separate Section of this Order.

4.10.2 TPC-G has executed capital expenditure schemes resulting into a total capitalisation of Rs. 79.84 Crore in FY 2017-18. Out of total capitalisation of Rs. 79.84 Crore, the capitalisation of Rs. 66.66 Crore was towards DPR schemes. Hence, ratio Non-DPR capitalisation to DPR capitalisation is around 19.77% for FY 2017-18 and the same is within the limit of 20% specified by the Commission.

4.10.3 TPC-G submitted the actual capitalisation of Rs. 61.61 Crore for FY 2018-19. The capitalisation on account of DPR schemes (including merged DPRs) is Rs. 36.14 Crore and balance Rs. 25.47 Crore is on account of Non-DPR Schemes. The Ratio Non-DPR capitalisation to DPR capitalisation is around 70.47% on account lower DPR Capitalisation in FY 2018-19. It further submitted that capitalisation on account of Non-DPR schemes is significantly higher as it involves small schemes pertaining to Hydro Divisions, which cannot be clubbed to form a merged DPR. Also, the DPR capitalisation of thermal units has significantly reduced as the units are completing their useful life and hence only minimum required capex of Non-DPR nature is being executed to ensure safe and reliable operation of the power plant. In view of this, TPC-

G requested the Commission to exercise its power to remove difficulties as provided in Regulation 102 of MYT Regulations 2015 and also under the proviso to the Regulation 23.6 of MYT Regulations, 2015 to approve the Non DPR capitalisation beyond 20% with an upper limit of 1% of the Opening GFA for FY 2018-19.

Commission's Analysis and Ruling

4.10.4 Regulation 23.6 of MYT Regulations, 2015 specifies that amount of capitalisation towards non-DPR schemes for any year shall not exceed 20% of amount of capitalisation approved against the DPR Schemes for that respective year. The Commission notes that non-DPR capitalisation submitted by TPC-G for FY 2018-19 is more than 20% of DPR Capitalisation.

4.10.5 Regarding the DPR capitalisation, the Commission has gone through details of capitalisation undertaken by TPC-G during FY 2017-18 and FY 2018-19 for Unit 5 to 7 and Hydro Station towards each DPR scheme.

4.10.6 Further, the Commission verified on least cost approach adopted by TPC-G while undertaking the DPR schemes. In response to the Commission's query, TPC-G submitted that it has initiated an open competitive bidding process for procurement of equipment/services for capex schemes for procurement values more than Rs. 1 Crore with effect from 1st June, 2017. However, in case of DPR schemes against which the capitalisation has been claimed during FY 2017-18 and FY 2018-19, the fresh procurement took place in only one merged DPR for Replacement of various electrical equipment's at Hydro stations. In case of rest of the DPR schemes, no fresh procurement has been done during FY 2017-18 and FY 2018-19 as the procurement process was already completed before June 2017 as per the existing competitive bidding process.

4.10.7 The Commission sought additional details from TPC-G such as cost benefit analysis reports, put to use details, actual benefits realized etc. It is observed that, the major capitalization is on account of the DPR for Replacement of U-5 ESP top plate & baffle. The claimed capitalization towards this scheme is Rs. 29.75 Crore for FY 2017-18 and Rs. 22.38 Crore for FY 2018-19. The DPR approved cost is Rs. 92.62 Crore.

4.10.8 The objective of the scheme was to enhance life of Electrostatic Precipitator (ESP) and to reinstate its performance, which had deteriorated due to completion of service life of more than 29 years. In FY 2017-18, complete refurbishment of 2 streams of ESP (Stream -1 and stream -2) have been completed and put to use. During FY 2018-19, balance 2 streams (Stream-3 & 4) have been refurbished and capitalized after taking refurbished streams into load service. Under the scheme, the worn-out components such as discharge and collecting electrodes, top plates, baffle plates, support insulators, etc.

have been replaced by TPC-G. The copies of test reports for the tests carried out after competition of refurbishment of the ESP streams and the photographs have also been submitted by TPC-G. Further, as submitted by TPC-G in the cost benefit analysis reports, due to execution of scheme, TPC-G has been able to comply with the revised MoEF norms of SPM level below 100 ppm. Also, the availability of ESP has been increased with reduction in maintenance required. In light of the benefits achieved due to asset put to use, the Commission has considered the capitalization towards this scheme.

4.10.9 In similar manner, rest of the DPR schemes have been examined by the Commission and the respective capitalization has been allowed by the Commission except for the two DPRs, viz. Replacement of Protection Relays and Fire hydrant system upgradation.

4.10.10 Capitalization towards these two schemes have not been considered as proposed by TPC-G for the reasons indicated in following table:

Table 25 Capitalisation considered for FY 2017-18 (Rs. Crore)

Sr. No.	Scheme details	Capitalization Claimed	Capitalisation Allowed	Reasons
1	G.0731210 Replacement of Protection Relays (DPR)	0.08	-	The actual cost is exceeding the approved DPR cost. TPG-G stated the cost increase is on account of procurement cost of materials as well as services, however, no specific details have been furnished. Hence, capitalization has been restricted to the approved DPR cost.
2	G.0721429- Fire hydrant system upgradation (DPR)	14.90	11.60	TPC-G stated that it has submitted a revised DPR indicating the reasons for cost overrun. It has been observed that the cost increase is mainly on account of increased cost of material and services charges. The delayed implementation of the scheme has resulted in the increased material cost. TPC-G has given the reasons for delayed implementation. TPC-G has cited various reasons for the delay such as delay in finalization of detailed specification, vendor selection process, material delivery and the further erection activities. However, it is observed that major delay (341 days) has happened towards the detailed engineering such as specification and vendor selection which is at TPC-G's account. Hence, the incremental cost is disallowed and

Sr. No.	Scheme details	Capitalization Claimed	Capitalisation Allowed	Reasons
				the DPR capitalization is restricted to approved DPR cost.
3	G.10019115020-Renovation and refurbishment of Community Hall in Trombay Housing Colony (DPR)	3.59	-	While data gap replies, TPC-G stated that scheme has been executed as Non-DPR, however the capitalisation of the same was included under the DPR category inadvertently. In light of the above, the capitalization has been considered as a part of non-DPR capitalization.

Table 26 Capitalisation considered for FY 2018-19 (Rs. Crore)

Sr. No.	Scheme details	Capitalization Claimed	Capitalisation Allowed	Reasons
1	G.11030119007 Civil works for life enhancement of Shirvata Dam DPR	0.49	-	Only preparatory civil work (construction of access road for machine movement) has been done. Hence, not put to use at this point of time.

4.10.11 As regards the non-DPR capitalization, the Commission notes that, in its Judgment in Appeal No. 160 of 2012, the Hon'ble ATE had held as under:

> *"110. **<u>We do not find infirmity in the State Commission restricting the capital expenditure on non-DPR schemes to 20% of the capitalisation approved for DPR Scheme.</u>** However, we feel that the DPR schemes which had not approved and were awaiting approval of the State Commission should be considered by the State Commission and allowed after prudence check…."*

4.10.12 It was observed that non-DPR capitalization claimed by TPC-G, is exceeding 20% of the capitalization towards approved DPRs. The Commission further notes that the non-DPR capitalization for the all the three years of third control period under consideration i.e. FY 2017-18, FY 2018-19 and FY 2019-20, is exceeding 20% of the DPR capitalization which means that TPC-G has not been able to plan and execute its capex schemes in accordance with Regulation 23.6 of the MYT Regulations, 2015 which requires that the amount of capitalization against non-DPR schemes for any year shall not exceed 20% of the amount of capitalisation approved against DPR schemes for that year.

4.10.13 TPC-G's justification for incremental non-DPR capitalization is not justified for the following reasons:

(a) TPC-G has stated that the non-DPR capitalization is significantly higher as it involves small schemes pertaining to Hydro Divisions which cannot be clubbed together to form a merged DPR. However, upon scrutiny of the Non-DPR capitalization, the Commission observed that the non-DPR capitalization comprises of Non-DPR capitalization towards Thermal Units and HOSS capitalization apart from the Hydro Non-DPR capitalization. Further, HOSS capitalization is the major part of it, with around 42% of total Non-DPR capitalization for FY 2017-18 and around 56% for FY 2018-19. A query was raised to TPC-G specifically regarding the HOSS capitalization, however, the reply was inadequate as TPC-G did not provide the total cost at HOSS level considered for allocation, and percentage allocation between licensed and non-licensed business.

(b) TPC-G further stated that DPR capitalization of thermal units has significantly reduced as the units are completing their useful life and only minimum required capex of Non-DPR nature is being executed to ensure safe and reliable operation of the power plant. The Commission does not find any merit in aforesaid submissions since for the Units completing its life, generally, a major capex is required for life extension and rehabilitation of associated equipments and TPC-G, in recent past, has submitted many such capex and the Commission has approved these DPRs.

(c) Further, as regards excessive non-DPR capitalization of Unit 8, TPC-G has stated that considering the size and the age of the Unit, there would be hardly any capital expenditure schemes of high value (DPR schemes), but there would be small value schemes i.e. Non DPR schemes. Thus, for Unit 8, TPC-G appears to attribute the recent commissioning of the Unit in 2008 for the excessive non-DPR capitalization. And for rest of the Thermal Units, TPC-G is citing their completion of useful life towards the non-DPR capitalization exceeding 20% of DPR capitalization. These contradictory submissions are not justified.

(d) TPC-G has been submitting its DPRs for Thermal Units (Unit 5, Unit 7 and Unit 8) as well as for Hydro Units for replacement of old and outlived components and few of such DPRs are presently under consideration of the Commission for approval.

4.10.14 However, after examining the non-DPR schemes undertaken by TPC-G for FY 2018-19, it is observed that above disallowance also includes capitalization towards various schemes which were necessary for reliable operation of Thermal and Hydro Generating Units. These schemes were executed for replacement of old assets which have outlived their useful life. The assets were replaced for repeated failures due to ageing. Other reasons for their replacement were up-gradation of technology, non-Availability of spares and Original Equipment Manufacturer (OEM) support. These were one-time replacements and non-recurring expenditure. Few assets have been created as per statutory requirements. Hence, the respective capitalization has been allowed by the Commission except for the following three non-DPRs, viz. Miscellaneous items procurement for hydro, Renovation of Club and Renovation works at Holiday homes. Capitalization towards these three schemes have not been considered as proposed by TPC-G for the reasons indicated in following table:

Sr. No.	Scheme details	Capitalization claimed in Rs. Cr.	Capitalization allowed in Rs. Cr.	Reasons
1	G.11030115004-Miscellaneous items procurement for hydro	0.15	-	The items such as Twister Standing Seating, Treadmill Motorised , Dumbell, Gym Rod And Weight Rack, grinder, Refrigerator, oven etc. are not giving any direct /indirect benefits to the consumers nor these items are required for reliable operation of power plant and hence not proposed to be allowed.
2	G.11010119004-Renovation of Club	0.10	-	The items such as Billiards Table, Air Hockey Table, Air Hockey Table, Outdoor Multiplay Station etc. are not giving any direct /indirect benefits to the consumers nor these items are required for reliable operation of power plant and hence not proposed to be allowed.
3	A.190002180HH Renovation works at Holiday homes	0.53	-	The expenditure undertaken is not giving any direct /indirect benefits to the consumers nor these items are required for reliable operation of power plant and hence not proposed to be allowed.

4.10.15 Regulation 23.6 of MYT Regulations, 2015 provides that the amount of capitalisation against non-DPR schemes for any year shall not exceed 20% of the amount of capitalisation approved against DPR schemes for that year. However, the Commission may allow capitalisation against non-DPR schemes for any Year in excess of 20% on a request made by the Generating Company or Licensee or MSLDC.

4.10.16 In light of TPC-G's request not to restrict the non-DPR capitalization to 20% of approved DPR capitalization and the aforesaid observations regarding non-DPR capitalization for FY 2018-19, the Commission deems it appropriate to invoke the discretionary power under proviso to Regulation 23.6 of MYT Regulations and allows an amount of Rs. 10.44 Crore as non-DPR capitalization for Unit 5 to 7 and Hydro for FY 2018-19.

4.10.17 **For rest of the non-DPR Schemes, the Commission, is not inclined to accept the request of TPC-G to consider Non-DPR capitalization in excess of 20% of the DPR capitalization and in line with the principles laid down in Judgment of Hon'ble ATE, deems it appropriate to restrict the non-DPR capitalization upto 20% of the approved DPR capitalization for the respective years**.

4.10.18 The summary of Capitalisation approved by the Commission for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 27 Approved Capitalisation for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
DPR Capitalisation	66.66	59.69	36.14	30.43
Non-DPR Capitalisation	13.18	11.93	25.47	10.44
Total Capitalisation	**79.84**	**71.62**	**61.61**	**40.87**

4.10.19 **The Commission approves the Capitalisation for FY 2017-18 and FY 2018-19 as Rs 71.62 Crore and Rs 40.87 Crore, respectively**.

4.10.20 The Commission has considered the financing of capitalisation as per normative debt:equity ratio of 70:30 as specified in Regulation 26 of MYT Regulations, 2015. The financing of capitalisation for FY 2017-18 and FY 2018-19 as approved by the Commission is shown in the following Table:

Table 28 Approved Financing of Capitalisation for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18	FY 2018-19
Equity	21.49	12.26
Debt	50.13	28.61
Total Capitalisation	**71.62**	**40.87**

4.11 Depreciation

TPC-G's Submission

4.11.1 TPC-G has computed the Depreciation by applying the rates as specified in the Deprecation schedule in the Regulation 27.1 (b) of the MYT Regulations, 2015. Based on the same, the Depreciation for FY 2017-18 is Rs. 152.39 Crore and Rs. 128.94 Crore for FY 2018.19.

4.11.2 The opening GFA for FY 2018-19 has been revised to remove the GFA of Rs. 503.02 Crore pertaining to Unit 6 after allocation of common assets that would continue to be in service irrespective of Unit 6 remaining out of service.

Commission's Analysis and Ruling

4.11.3 The Commission has considered the Depreciation as per Regulation 27 of MYT Regulations, 2015. In earlier Chapter 3, while allowing the impact of review Order, the Commission has revised the GFA as on March 31, 2017. The same revised GFA has been considered as Opening GFA for FY 2017-18. The addition of GFA considered equal to capitalisation approved in this Order.

4.11.4 Further, the Commission notes that, in the Petition as well as forms submitted along with Petition, TPC-G submitted the Closing GFA for FY 2017-18 as Rs. 4,379.54 Crore and Opening GFA for FY 2018-19 as Rs. 3,834.29 Crore. The opening GFA for FY 2018-19 does not include GFA for Unit 6, which works out as Rs. 545.25 Crore as against Rs. 503.02 Crore submitted in the Petition.

4.11.5 Regarding the Unit 6, as discussed in earlier section of this Chapter, the Commission at this stage has decided to remove entire asset of Unit 6, including the common assets submitted by TPC-G. Accordingly, the Commission has reduced GFA amount of Rs. 571.28 Crore (Rs. 545.25 Crore + Rs. 26.03) for Unit 6 from Closing GFA of FY 2017-18.

4.11.6 The depreciation approved by the Commission for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 29 Approved Depreciation for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Opening GFA	4,353.06	4,353.06	3,834.29	4,371.32
Less: Removal of GFA for Unit 6	-	-	-	571.28
Asset addition during the Year	79.84	71.63	61.61	40.87
Asset Retirement during the year	(53.36)	(53.36)	(53.40)	(53.40)
Closing GFA	4,379.54	4,371.32	3,842.49	3,787.52
Rate of Depreciation (%)	3.49%	3.49%	3.36%	3.36%
Depreciation	**152.39**	**152.25**	**128.94**	**127.44**

4.11.7 **The Commission approves the Depreciation for FY 2017-18 and FY 2018-19 as Rs 152.25 Crore and Rs 127.44 Crore respectively**.

4.12 Interest on Loan Capital

TPC-G's Submission

4.12.1 TPC-G has taken various long-term loans to finance the capital expenditure nature projects in line with the Debt: Equity structure of 70%: 30%. Tata Power sources Long Term loan at a company level for its Generation, Transmission and Distribution businesses together to have negotiation advantage to avail better terms & conditions of loans. TPC-G submitted the weighted average interest rate of 9.26% for FY 2017-18 and 8.64% for FY 2018-19. TPC-G also submitted the statements received from Banks certifying the Opening Balance, Closing Balance, Interest paid, and the applicable rate of interest along with the Petition.

4.12.2 The opening normative loan for FY 2018-19 has been revised to remove the closing loan balance pertaining to Unit 6 for FY 2017-18.

4.12.3 TPC-G submitted the Interest on Loan capital as Rs. 52.97 Crore for FY 2017-18 and Rs. 36.22 Crore for FY 2018-19.

4.12.4 TPC-G also submitted the finance charges of Rs. 0.86 Crore for FY 2017-18 and Rs. 0.83 Crore for FY 2018-19.

Refinancing of Long-Term Loan

4.12.5 During FY 2016-17, TPC-G in order to reduce the interest burden on the consumers has refinanced the IDBI loan 400 and IDBI loan 300 with interest Rate of 11% by SBI loan 2000 of 9.5%. This has reduced the interest burden on the consumers significantly.

4.12.6 As per Regulations 29.10 of MYT Regulations, 2015, if re-financing results in net savings on interest in that event, the costs associated with such re-financing shall be borne by the Beneficiaries and the net savings shall be shared between the Beneficiaries. Further, it is submitted that the Commission in Case of MSPGCL in Case No. 196 of 2017 dated September 12, 2018 has approved the benefit of re-financing to MSPGCL on annuity basis.

4.12.7 Further, TPC-G has not considered the benefit during Truing up of FY 2016-17 as the interest rate was computed based on the interest rate during the year. Hence, it is requested to consider the impact of the same in present proceedings. Accordingly, TPC-G has computed the impact re-financing of loan as 1.96 Crore for FY 2017-18.

Commission's Analysis and Ruling

4.12.8 The opening balance of the loan for FY 2017-18 is considered equal to the closing balance of the loan for FY 2016-17 approved in the earlier section by the Commission. Further, addition in loan is considered as 70% of the capitalization approved by the

Commission above. Further, in accordance with Regulation 29.3 of MYT Regulation, 2015, loan repayment has been considered as equal to the Depreciation allowed in this Order.

4.12.9 Further, it is to be noted that, Regulation 29.5 of the MYT Regulations, 2015 specifies that at the time of truing-up, the weighted average rate of interest computed based on the actual loan portfolio during the concerned year shall be considered as the rate of interest. TPC-G has furnished details of loan allocation along with interest rates of loans from various banks along with documentary evidence of the interest rates. The details of the interest paid, opening and closing balance of loan for FY 2017-18 and FY 2018-19 for each loan were provided. The documentary evidence for such loans were also sought from TPC-G. After analysing the loan documents, the Commission finds that the weighted average rate of interest computed by TPC-G is correct and the same is considered by the Commission for approval.

4.12.10 The Commission notes that TPC-G has considered the reduction in normative loan amount by Rs. 61.77 Crore, being outstanding normative loan for Unit 6. As against this, the Commission has considered the reduction in Opening Normative Loan balance for FY 2018-19 by Rs. 64.72 Crore after considering the normative loan towards asset of Rs. 26.03 Crore as discussed earlier in same proportion.

4.12.11 The interest on Loan capital approved by the Commission for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 30 Approved Interest on Loan Capital for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	**Approved in this Order**	**TPC-G Petition**	**Approved in this Order**
Opening Balance of Net Normative Loan	620.51	620.51	462.25	453.68
Less: Reduction of Normative Loan due to retirement or replacement of assets	0.00	-	0.00	-
Addition of Normative Loan due to capitalisation during the year	55.90	50.13	43.12	28.61
Repayment of Normative loan during the year	152.39	152.25	128.94	127.44
Closing Balance of Net Normative Loan	524.02	518.40	376.44	354.85
Weighted average Rate of Interest on actual Loans (%)	9.26%	9.26%	8.64%	8.64%
Interest on Loan Capital	**52.97**	**52.71**	**36.22**	**34.92**

4.12.12 **The Commission approves the Interest on Loan Capital for FY 2017-18 and FY 2018-19 as Rs 52.71 Crore and Rs 34.92 Crore respectively.**

4.12.13 The Commission sought justification from TPC-G for the delay in seeking pass through of the impact of loan re-financing done in FY 2016-17, as the final true-up of FY 2016-17 has already been done in the MTR Order. TPC-G replied that it has not considered the benefit during Truing up of FY 2016-17, as the interest rate used for the computation of the allowable interest on long-term loans was based on the interest rate as on 1 April, 2016, and hence, the impact of loan re-financing done during June, 2016 could not be considered. Therefore, TPC-G requested the Commission to approve the same as the benefit of re-financing in terms of lower interest rate has already been passed on to the beneficiaries from FY 2016-17 and is going to continue till the closure of the respective loans.

4.12.14 TPC-G has submitted the computation of the Net Present Value (NPV) of savings due to re-financing of loans in the Petition. In response to the Commission's query, TPC-G clarified that the Discount Rate of 12.59% has been considered for Unit 5 to 7 and Hydro Stations for computing NPV of the savings due to re-financing. TPC-G also clarified that the cost of re-financing considered is 0.2% of opening loan amount is as per Terms and Conditions mentioned in the Sanction Letter of lender, i.e., SBI.

4.12.15 The Commission is of the view that TPC-G should have claimed the share of benefit of refinancing in the true-up of FY 2016-17. Ideally, the true-up of FY 2016-17 should not be re-opened. However, as the benefit of re-financing has already been passed through in terms of lower interest rate, it is appropriate to allow TPC-G its share of the refinancing benefit, even though TPC-G has claimed the benefit in a delayed manner.

4.12.16 The Commission has computed the benefit of re-financing to TPC-G on annuity basis, considering the discount rate equal to the revised interest rate of 9.26%. Further, the loan repayment has been considered equal to the depreciation, in accordance with regulatory principles. As there is a net benefit of the refinancing transaction, TPC-G has been allowed a share of 1/3rd of the benefit. The re-financing charges claimed by TPC-G have not been allowed, as the same have already been allowed in the true-up of FY 2016-17. The net savings computed by the Commission is shown in the following Table:

Table 31 Benefits of Re-Financing as approved by the Commission (Rs. Crore)

Particulars	**NPV of Savings**	**Cost of Re-financing**	**Net Gain**	**Share of Gain for TPC-G**	**Net impact of re-financing approved**
	(A)	**(B)**	**C=(A-B)**	**D=C* 1/3**	**B+D**
Unit 4 to 7 & Hydro					
IDBI 1- Rs. 400 Crore	0.70	0.02	0.68	0.23	0.25
IDBI 2-Rs. 300 Crore	5.62	0.16	5.46	1.82	1.98
Total					**2.23**
Unit 8					

Particulars	NPV of Savings	Cost of Re-financing	Net Gain	Share of Gain for TPC-G	Net impact of re-financing approved
	(A)	(B)	C=(A-B)	D=C* 1/3	B+D
IDBI 2-Rs. 300 Crore	**15.90**	**0.46**	**15.44**	**5.15**	**5.61**

4.12.17In view of the above, the Commission approves the benefits of re-financing and Other Finance Charges for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 32 Benefits of Re-Financing and Other finance Charges as approved by the Commission (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Other finance Charges	0.86	0.86	0.83	0.83
Impact of Re-financing of Loan	1.96	2.23	-	-
Total	**2.81**	**3.09**	**0.83**	**0.83**

4.12.18**The Commission approves the benefits of re-financing and other finance charges as Rs 3.09 Crore and Rs 0.83 for FY 2017-18 and FY 2018-19 respectively**.

4.13 Interest on Working Capital

TPC-G's Submission

4.13.1 Interest on Working Capital (IoWC) has been computed based on Regulation 31.1 (a), (b) (c) and (d) of MYT Regulations, 2015. For Unit 6, TPC-G has considered the average Oil stock value for computation of Working Capital requirement in line with the methodology approved by the Commission in MTR Order. For the purpose of computing the interest on working capital for FY 2017-18, an interest rate of 10.18% in line with the 1st amendment to Regulation 2.1 (10) of MYT Regulations, 2015.

4.13.2 TPC-G submitted the IoWC of Rs. 42.15 Crore for FY 2017-18 and Rs. 32.11 Crore for FY 2018-19 for Unit 5 to 7 & Hydro Generating Stations.

Commission's Analysis and Ruling

4.13.3 TPC-G has considered the norms specified in Regulation 31.1 of MYT Regulations, 2015 to compute the working capital requirement for each type of units/plants. The normative working capital corresponding to the primary fuel of thermal plants has been computed based on the normative SHR and target availability with exception in case of Unit 6. It was observed that Rs. 101.23 Crore was included in working capital requirement of Unit 6 against the norm of 2 months fuel cost. The Commission considers the above in line with the methodology and approach adopted by the Commission in MTR Order for approval of Unit 6 working capital requirement.

4.13.4 Further, for computation of working capital requirement, the Commission has considered the normative O&M Expenses approved in this Order.

4.13.5 Regulation 35.1(f) of MYT Regulations 2015 specifies that the rate of interest should be on normative basis and shall be equal to the Base Rate as on the date on which the Petition for determination of Tariff is filed, plus 150 basis points. Accordingly, the Commission has considered the rate of interest of 10.18% for FY 2017-18 and 9.89% for FY 2018-19.

4.13.6 The IoWC approved by the Commission for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 33 Approved Interest on Working Capital for Unit 5 to 7& Hydro l for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Working Capital Requirement	414.01	412.90	324.71	305.79
Rate of Interest (%)	10.18%	10.18%	9.89%	9.89%
Interest on Working Capital	42.15	42.03	32.11	30.24

4.13.7 **The Commission approves the Interest on Working Capital for FY 2017-18 and FY 2018-19 as Rs. 42.03 Crore and Rs. 30.24 Crore respectively.**

4.13.8 The Commission has considered the Interest on Working Capital as a controllable parameter in accordance with the MYT Regulations, 2015. Hence, the difference between the actual Interest on Working Capital and normative Interest on Working Capital as approved by the Commission in this Order has been considered for computing the sharing of efficiency gains as per principles laid out in MYT Regulations, 2015.

4.14 Return on Equity

TPC-G's Submission

4.14.1 TPC-G submitted Return on Equity (ROE) allowed as per Regulation 28 of MYT Regulations, 2015 after considering the capitalised expenditure and normative Debt: Equity ratio of 70:30.

4.14.2 TPC-G submitted the ROE of Rs. 244.99 Crore for FY 2017-18 and Rs. 211.59 Crore for FY 2018-19.

Commission's Analysis and Ruling

4.14.3 The opening balance of equity for FY 2017-18 is considered equal to closing balance of equity for FY 2016-17 approved by the Commission in the earlier sections of this Order. Further, addition in equity is considered as 30% of the capitalization approved by the Commission above. The Commission has considered an equity reduction during the year corresponding to the assets de-capitalised/retired during the year in accordance with the 1st proviso to Regulation 26.2 of MYT Regulations, 2015. RoE has been taken at the rate of 15.5% of the equity, in accordance with Regulation 28.1 and 28.3 of the MYT Regulations, 2015.

4.14.4 The Commission notes that TPC-G has considered the reduction in equity by Rs. 220.69 Crore towards Unit 6. As against this, the Commission has considered the reduction in Opening equity for FY 2018-19 by an amount of Rs. 231.23 Crore, which is regulatory equity pertaining to Unit 6, after considering the equity amount towards asset of Rs. 26.03 Crore disallowed as discussed in earlier section, in the same proportion.

4.14.5 RoE as claimed by TPC-G and approved by the Commission after Truing up is summarised in the following Table:

Table 34 Approved Return on Equity for Unit 5 to 7& Hydro for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Regulatory Equity at the beginning of the year	1,576.60	1,576.61	1,363.87	1,350.88
Capitalisation during the year	79.84	71.62	61.61	40.87
Equity portion of capitalisation during the year	23.95	21.49	18.48	12.26
Reduction in Equity Capital on account of retirement / replacement of assets	(16.00)	(16.00)	(15.99)	(15.99)
Regulatory Equity at the end of the year	1,584.56	1,582.10	1,366.36	1,347.15
Rate of Return (%)	15.50%	15.50%	15.50%	15.50%
Return on Equity	**244.99**	**244.80**	**211.59**	**209.10**

4.14.6 **The Commission approves the Return on Equity for FY 2017-18 and FY 2018-19 as Rs 244.80 Crore and Rs 209.10 Crore respectively.**

4.15 Income Tax

TPC-G's Submission

4.15.1 TPC-G submitted the income tax payable for Unit 5 to 7 & Hydro Stations as per the provisions of MYT Regulations, 2015. TPC-G submitted the income tax payable as Rs. 136.11 Crore for FY 2017-18 and Rs. 131.67 Crore for FY 2018-19.

Commission's Analysis and Ruling

4.15.2 The Commission has computed the Income Tax (IT) in accordance with Regulation 33.1 of MYT Regulations, 2015 and as per the ATE Judgment dated 2 December 2013 in Case No. 138 and 139 of 2012.

4.15.3 As specified in the Regulations and ATE Judgment, the Commission has arrived at IT payable based on Regulatory PBT, considering the normative cost allowed by the Commission. The tax liability is calculated on the regulatory income and cost within the MYT regime considering the applicable tax depreciation for computation of the IT. Accordingly, the calculation of IT provides the tax payable for the Regulatory business whereby all the items of ARR and Revenue are considered on normative basis for tariff purposes. Also, in line with the MYT Regulations, 2015, efficiency gains and incentive earned are excluded while computing Income Tax on PBT basis.

4.15.4 For computation of Income tax, the Commission has considered the total revenue of Rs. 2,440.12 Crore for FY 2017-18, including revenue from sale of power of Rs. 2,419.13 Crore and Non-tariff Income of Rs. 20.98 Crore. Similarly, the total revenue considered as Rs. 2,403.82 Crore for FY 2018-19, including revenue from sale of power of Rs. 2,372.96 Crore and Non-tariff Income of Rs. 30.86 Crore. Further, Incentive allowed has been reduced from revenue considered.

4.15.5 The summary of the IT approved by the Commission after true-up for FY 2017-18 and FY 2018-19 is shown in the Table below:

Table 35 Income Tax for Unit 5 to 7 & Hydro Stations as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Total Revenue	2349.68	2389.62	2305.38	2345.65
2	Total Expenses	1942.56	2021.81	1952.19	2006.94
3	**Profit Before Tax**	407.13	367.81	353.19	338.71
4	Tax adjustment				
	Add				
5	Depreciation considered in Expenses	152.39	152.25	128.94	127.44
6	Other disallowance while computing income Tax	1.38	1.38	(4.60)	(4.60)
7	**Total Tax disallowances**	153.77	153.63	124.34	122.84
	Less				
8	Tax Depreciation	159.49	159.34	100.30	99.13
9	Other expenses allowed for computing Income Tax	8.13	8.13	0.42	0.42
10	Deduction u/s 80 IA	0.00	0.00	0.00	0.00

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
11	**Total Tax allowances**	167.61	167.46	100.72	99.56
12	Total Taxable Income	393.28	353.97	376.81	361.99
13	Corporate Tax Rate	34.61%	34.61%	34.94%	34.94%
14	**Tax payable at normal rate**	**136.11**	**122.50**	**131.67**	**126.49**
	MAT Computation				
15	Profit Before Tax	407.13	367.81	353.19	338.71
16	Add: Disallowances under Income Tax (U/s 14 A, provision for doubtful debt)	-	-	(0.02)	(0.02)
17	Less: Deduction under Income Tax (Exempt Income, FBT, Wealth Tax, Withdrawal from Income)	5.87	5.87	5.00	5.00
18	Book Profit	401.26	361.94	348.17	333.69
19	MAT Rate	21.34%	21.34%	21.55%	21.55%
20	**Tax Payable under MAT**	**85.63**	**77.24**	**75.03**	**71.91**
21	**Tax Applicable**	**136.11**	**122.50**	**131.67**	**126.49**

4.15.6 **The Commission approves the Income Tax for FY 2017-18 and FY 2018-19 as Rs. 122.50 Crore and Rs. 126.49 Crore respectively.**

4.16 Non-Tariff Income

TPC-G's Submission

4.16.1 TPC-G submitted Non-tariff Income of Rs. 20.98 Crore for FY 2017-18. This includes income of Rs. 3.49 Crore towards recurring items and Rs. 17.49 Crore towards non-recurring items.

4.16.2 Similarly, Non-tariff for FY 2018-19 is submitted as Rs. 30.86 Crore, which includes income of Rs. 20.74 Crore towards recurring items and Rs. 10.12 Crore towards non-recurring items.

Commission's Analysis and Ruling

4.16.3 The Commission has reconciled the Non-Tariff Income submitted by TPC-G with audited accounts. **The Commission has considered the Non-Tariff Income of Rs. 20.98 Crore for FY 2017-18 and Rs. 30.86 Crore for FY 2018-19 as per audited accounts.**

4.17 Incentive on PLF and Capacity Index

TPC-G's Submission

4.17.1 TPC-G submitted that, as per the Regulation 44.3 and 48.7 of MYT Regulations, 2015, Thermal Generation in excess of Ex-Bus energy corresponding to Target Plant Load

Factor of 85% is eligible for PLF Incentive at a flat rate of 25 paise/kWh.

4.17.2 TPC-G submitted the Incentive on PLF for Unit 7 as Rs. 0.32 Crore for FY 2017-18 and Rs. 1.71 Crore for FY 2018-19.

4.17.3 Further, TPC-G submitted the Incentive on Hydro Generation more than Design Energy and availability more than normative availability in line with the provisions of Regulation 48.7 of MYT Regulations, 2015.

4.17.4 TPC-G submitted the Incentive of Rs. 54.11 Crore for FY 2017-18, including Incentive of Rs. 19.30 Crore for Bhira, Rs. 16.31 Crore for Bhivpuri and Rs. 18.50 Crore for Khopoli.

4.17.5 Similarly, TPC-G also submitted the Incentive of Rs. 60.99 Crore for FY 2018-19, including Incentive of Rs. 22.20 Crore for Bhira, Rs. 18.67 Crore for Bhivpuri and Rs. 20.12 Crore for Khopoli.

Commission's Analysis and Ruling

4.17.6 The Commission asked for the actual Plant Availability Factor, PLF and actual ex-bus generation for FY 2017-18 and FY 2018-19 as certified by MSLDC. TPC-G has furnished these details and the Commission has considered the same for Truing up.

4.17.7 The Commission observes that amongst all units, only Unit 7 has achieved PLF more than normative. Accordingly, it is eligible for Incentive. The Commission computes the Incentive of Rs. 0.32 Crore for FY 2017-18 and Rs. 1.71 Crore for FY 2018-19.

4.17.8 Further, the Commission computes the Incentive for Hydro Generating Stations for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 36 Incentive for Hydro Stations as approved by the Commission (Rs. Crore)

Particulars	FY 2017-18				FY 2018-19			
	Bhira	**Bhivpuri**	**Khopoli**	**Total**	**Bhira**	**Bhivpuri**	**Khopoli**	**Total**
Fixed Cost for Hydro (Rs. Cr.)	134.35	91.95	129.20	355.50	143.39	97.45	135.25	376.09
Normative Availability (%)	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
Actual Availability (%)	98.72%	99.36%	100%		99.34%	100%	99.91%	
Normative Capacity Charge (Rs./kWh)	73.68	50.76	71.78	196.22	79.14	54.14	75.07	208.35
Design Energy (MU)	744.12	193.23	174.68	1112.03	744.12	193.23	174.68	1112.03
Auxiliary Consumption (%)	1.55%	1.55%	1.55%		1.55%	1.55%	1.55%	
Net Design Energy (MU)	732.59	190.23	171.97	1094.79	732.59	190.23	171.97	1094.79
Energy Charge Rate (Rs./kWh)	0.92	2.42	3.76		0.98	2.56	3.93	
Actual Generation (MU)	874.79	318.60	297.74	1491.13	896.50	337.51	312.77	1546.78
Energy Charges	78.55	56.24	74.66	209.46	84.81	60.51	78.89	224.20
Total Incentive	**17.88**	**15.05**	**17.24**	**50.17**	**20.55**	**17.20**	**18.71**	**56.46**

4.17.9 **The Commission approves the Incentive as per above Table for FY 2017-18 and**

FY 2018-19 respectively.

4.18 Sharing of Gains and Losses

4.18.1 The Commission in its MYT Tariff Regulations, 2015 has provided the following methodology for treatment of sharing and gains and sharing of losses:

"11. Mechanism for sharing of gains or losses on account of controllable factors—
11.1 The approved aggregate gain to the Generating Company or Licensee or MSLDC on account of controllable factors shall be dealt with in the following manner: —
(a) Two-third of the amount of such gain shall be passed on as a rebate in Tariff over such period as may be stipulated in the Order of the Commission under Regulation 8.4;
(b) The balance amount of such gain shall be retained by the Generating Company or Licensee or MSLDC.
11.2 The approved aggregate loss to the Generating Company or Licensee or MSLDC 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 Tariff over such period as may be stipulated in the Order of the Commission under Regulation 8.4;
(b) The balance amount of such loss shall be absorbed by the Generating Company or Licensee or MSLDC."

4.18.2 TPC-G has submitted the actual expenditure under various heads and the reasons for the variations of the same. The gains and loss on account of controllable factors has been computed and the sharing between the beneficiaries and TPC-G has been worked out as under:

Gain and (Loss) on account of Fuel Costs for Thermal Generating Station

TPC-G's Submission

4.18.3 As per the MYT Regulations 2015, the changes in fuel cost due to operational parameters of the generation units would be considered as controllable. Accordingly, Gains/Losses on account of fuel costs are worked out as below:

Table 37 Gain/(loss) due variation in Heat Rate as submitted by TPC-G

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		Unit 5	Unit 7	Total	Unit 5	Unit 7	Total
1	Fuel Cost (Rs. Crore)	1063.21	208.55	1271.76	1110.7	272.62	1383.39
2	Actual Heat Rate (kcal/kWh)	2520	2015		2509	1998	
3	Normative Heat Rate (kcal/kwh)	2533	2028		2541	2031	
4	Fuel cost applying normative Heat Rate (Rs. Crore)	1068.56	209.97	1278.54	1125.15	277.18	1402.33
5	Net Gains/(Loss) (Rs. Crore)	5.36	1.42	6.78	14.38	4.57	18.95
6	Passed on to Distribution	3.57	0.95	4.52	9.59	3.04	12.63

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		Unit 5	Unit 7	Total	Unit 5	Unit 7	Total
	Licensee (Rs. Crore)						

4.18.4 TPC-G submitted the net gain of Rs. 6.78 Crore for FY 2017-18 and 18.95 Crore for FY 2018-19. Accordingly, efficiency gain of Rs. 4.52 Crore for FY 2017-18 and Rs. 12.63 Crore for 2018-19 on account of variation in Heat Rate is to be passed on to Distribution Licensee.

Commission's Analysis and Ruling

4.18.5 The Commission has computed the sharing efficiency gain or losses on account of variation in Heat Rate for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 38 Gain/(loss) due variation in Heat Rate as computed by Commission

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		Unit 5	Unit 7	Total	Unit 5	Unit 7	Total
1	Fuel Cost (Rs. Crore)	1063.21	208.55	1271.76	1110.77	272.62	1383.39
2	Actual Heat Rate (kcal/kWh)	2,520.30	2,014.72		2,508.52	1,997.96	
3	Normative Heat Rate (kcal/kwh)	2,533.00	2,028.47		2,541.00	2,031.42	
4	Fuel cost applying normative Heat Rate (Rs. Crore)	1068.56	209.97	1278.54	1125.15	277.18	1402.33
5	Net Gains/(Loss) (Rs. Crore)	5.36	1.42	6.78	14.38	4.57	18.95
6	Passed on to Distribution Licensee (Rs. Crore)	3.57	0.95	4.52	9.59	3.04	12.63

Gain and (Loss) on account of Auxiliary Consumption

TPC-G's Submission

4.18.6 TPC-G submitted the efficiency gains/(loss) on account of Auxiliary Consumption for FY 2017-18 in the following Table:

Table 39 Gain/(loss) due variation in Auxiliary Consumption FY2017-18 as submitted by TPC-G

Sl. No.	Particulars	Unit 5	Unit 6	Unit 7	Hydro	Total
1	Gross Generation (MU)	3204.15	0.00	1303.56	1524.92	6032.63
2	Actual Aux. Consumption (%)	5.53%	0.00%	2.94%	2.06%	
3	Normative Aux. Consumption (%)	6.00%	0.00%	3.00%	1.55%	
4	Difference in Net Generation (MU)	15.01	0.00	0.73	(7.79)	7.95
5	Approved Energy Charge (Rs./kWh)	3.47	0.00	1.61	1.42	
6	Gain/(loss) (Rs. Crore)	5.21	0.00	0.12	(1.10)	4.23
7	**Passed on to Distribution Licensee (Rs. Crore)**					**2.82**

4.18.7 TPC-G submitted the net gain due to variation in Auxiliary Consumption as Rs. 4.23 Crore. Accordingly, an Efficiency gain of Rs. 2.82 Crore is to be passed on to the Distribution Licensees.

4.18.8 Similarly, TPC-G submitted the efficiency gains/(loss) on account of Auxiliary Consumption for FY 2018-19 in the following Table:

Table 40 Gain/(loss) due variation in Auxiliary Consumption FY 2018-19 as submitted by TPC-G

Sl. No.	Particulars	Unit 5	Unit 7	Hydro	Total
1	Gross Generation (MU)	3108	1411	1525	6044.06
2	Actual Aux. Consumption (%)	5.79%	2.79%	1.72%	
3	Normative Aux. Consumption (%)	6.00%	3.00%	1.56%	
4	Difference in Net Generation (MU)	6.47	2.88	(2.39)	6.97
5	Approved Energy Charge (Rs./kWh)	3.74	1.80	1.41	
6	Gain/(loss) (Rs. Crore)	2.42	0.52	(0.34)	2.60
7	**Passed on to Distribution Licensee (Rs. Crore)**				**1.74**

4.18.9 TPC-G submitted the net gain due to variation in Auxiliary Consumption as Rs. 2.60 Crore. Accordingly, an Efficiency gain of Rs. 1.74 Crore is to be passed on to the Distribution Licensees.

Commission's Analysis and Ruling

4.18.10 The Commission has approved the actual Auxiliary Consumption for Unit 6 as 20.07 MU during FY 2017-18 and has considered the same in sharing of efficiency gains and losses. The Commission has computed the sharing of efficiency gain or losses on account of variation in Auxiliary Consumption for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 41 Gain/(loss) due variation in Auxiliary Consumption FY 2017-18 as approved by the Commission

Sl. No.	Particulars	Unit 5	Unit 6	Unit 7	Hydro	Total
1	Gross Generation (MU)	3204.15	-	1353.67	1,524.92	
2	Actual Aux. Consumption (%)	5.53%	20.07 MU	2.90%	2.06%	
3	Normative Aux. Consumption (%)	6.00%	-	3.00%	1.55%	
4	Difference in Net Generation (MU)	15.01	(20.07)	1.40	(7.79)	(11.45)
5	Approved Energy Charge (Rs./kWh)	3.47	5.76	1.61	1.42	
6	Gain/(loss) (Rs. Crore)	5.21	(11.56)	0.23	(1.10)	(7.22)
7	**Passed on to Distribution Licensee (Rs. Crore)**					**(2.41)**

Table 42 Gain/(loss) due variation in Auxiliary Consumption FY 2018-19 as approved by the Commission

Sl. No.	Particulars	Unit 5	Unit 7	Hydro	Total
1	Gross Generation (MU)	3108	1410.81	1,575.91	
2	Actual Aux. Consumption (%)	5.79%	2.79%	1.72%	

Sl. No.	Particulars	Unit 5	Unit 7	Hydro	Total
3	Normative Aux. Consumption (%)	6.00%	3.00%	1.55%	
4	Difference in Net Generation (MU)	6.47	2.90	(2.62)	6.74
5	Approved Energy Charge (Rs./kWh)	3.74	1.80	1.41	
6	Gain/(loss) (Rs. Crore)	2.42	0.52	(0.37)	2.57
7	**Passed on to Distribution Licensee (Rs. Crore)**				**1.72**

Gain and (Loss) on account of variation in O&M Expenses

TPC-G's Submission

4.18.11TPC-G submitted the computation of efficiency gains /(loss) on account of O&M Expenses as Rs. 62.37 Crore for FY 2017-18 and 78.40 Crore for FY 2018-19. Accordingly, net gain of Rs. 41.58 Crore for FY 2017-18 and Rs. 52.57 Crore for FY 2018-19 is to be passed on to Distribution Licensee.

Commission's Analysis and Ruling

4.18.12The Commission has computed the sharing of efficiency gain or losses on account of variation in O&M Expenses for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 43 Gain/(loss) due variation in O&M Expenses for Unit 5 to 7& Hydro as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Approved Normative O&M Expenses (w/o Water Charges)	508.72	508.46	454.48	421.65
2	Actual O&M Expenses	455.11	449.09	377.95	377.94
3	Actual O&M Expenses (w/o Water Charges)	446.35	440.32	376.08	376.07
4	Gain/(loss)	62.37	68.13	78.40	45.58
5	**Passed on to Distribution Licensee**	**41.58**	**45.42**	**52.57**	**30.39**

Gain and (Loss) on account of variation in Interest on Working Capital

TPC-G's Submission

4.18.13TPC-G submitted that as per the Regulation 9.2 (e) of MYT Regulations, 2015, the variation in IoWC of Generation Company would be considered as a controllable expenditure.

4.18.14TPC-G has availed Commercial Papers during FY 2017-18 for the purpose of funding the working capital requirement. Since the working capital is funded at a combined level for Generation i.e. including Unit 8, the actual interest incurred on the commercial papers availed has been bifurcated between Unit 5 to 7 & Hydro Stations and Unit 8 in the ratio of its respective working capital requirement. The actual interest incurred was Rs. 9.55 Crore for FY 2017-18, which was allocated as Rs. 7.52 Crore to Unit 5 to 7 & Hydro Stations and Rs. 2.02 Crore to Unit 8.

4.18.15 Similarly, the actual interest incurred was Rs. 34.16 Crore for FY 2018-19, which was allocated as Rs. 24.86 Crore to Unit 5 to 7 & Hydro and Rs. 9.29 Crore to Unit 8.

4.18.16 Accordingly, TPC-G computed the efficiency gain due to variation in IoWC as Rs. 34.62 Crore and Rs. 7.25 Crore for FY 2018-19. Accordingly, net Efficiency gain of Rs. 23.08 Crore for FY 2017-18 and Rs. 4.83 Crore for FY 2018-19 is to be passed on to the Distribution Licensees.

Commission's Analysis and Ruling

4.18.17 The Commission while undertaking truing up for FY 2016-17 held as under:

"5.3.21.7 The Commission evaluated the above submissions made by TPC-G against the claim of the actual interest on working capital for FY 2016-17. It is observed that TPC-G has not specified any actual interest on working capital on standalone Regulated business basis and has only substantiated the commercial paper borrowings specified to be documentary evidence for interest on working capital for the Tata Power Company as whole. Even the Chartered Accountant certification has only certified the actual interest on working capital for the Tata Power Company as a whole. Nowhere it could substantiate the actual working capital borrowal from banks for the Regulated Business of Generation, i.e., TPC-G.

5.3.21.8 Further, methodology of TPC-G for the computation of working capital requirement from the Audited Financial Statement and application of the interest rate of the Commercial Papers of the Tata Power Company as whole to arrive at the actual interest on working capital, is a mere calculation. This calculation doesn't satisfy the requirements of Regulation 31.6 of MYT Regulations, 2015 for substantiation by documentary evidence. The relevant extract is provided below for ready reference.
… … …
*5.3.21.9 Therefore, the Commission has considered the actual interest on working capital as nil against the normative interest on working capital for computation of sharing of Efficiency Gains/Losses for FY 2016-17. … … …" (***emphasis added)**

4.18.18 In the past Tariff Order, the Commission has not considered the Commercial Papers of Tata Power Company as a whole against the actual interest of working capital.

4.18.19 Regarding the actual IoWC for FY 2017-18 and FY 2018-19, TPC-G has considered the total actual interest of Rs. 9.55 Crore for FY 2017-18 and Rs. 34.16 Crore for FY 2018-19. TPC-G has provided documentary evidences viz. copies of commercial papers, along with the Petition to substantiate the claim of actual IoWC, which has been verified by the Commission. The details of commercial papers are shown in the following Table:

Table 44 Details of actual Interest on Working Capital as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	Term Start	End of Term	Nominal amount of CP	Total Days	Interest Rates (%)	Interest amount
	FY 2017-18						
1	Tns.. -10059	17.02.2017	17.05.2017	Rs. 100 Cr.	89	6.5199	0.81
2	Tns -10065	04.05.2017	02.08.2017	Rs. 200 Cr.	90	6.5701	3.19
3	Tns. -10077	14.08.2017	10.11.2017	Rs. 100 Cr.	88	6.2800	1.50
4	Tns -10094	06.11.2017	2.2.2018	Rs. 250 Cr.	88	6.3202	3.75
5	Tns -10102	16.03.2017	13.06.2018	Rs. 100 Cr.	89	7.0802	0.30
6	Total						9.55
	FY 2018-19						
1	Tns.. -10102	16.03.2018	13.06.2018	Rs. 100 Cr.	89	7.0802	0.30
2	Tns -10109	04.05.2018	01.08.2018	Rs. 275 Cr.	89	7.3600	4.85
3	Tns. -10110	04.05.2018	01.08.2018	Rs. 225 Cr.	89	7.3600	3.97
4	Tns -10126	02.08.2018	30.10.2018	Rs. 500 Cr.	89	7.3800	8.84
5	Tns -10136	29.10.2018	25.01.2018	Rs. 200 Cr.	88	7.9501	3.76
6	Tns -10137	29.10.2018	25.01.2018	Rs. 300 Cr.	88	7.9501	5.64
7	Tns -10151	24.01.2018	23.04.2018	Rs. 250 Cr.	89	7.5399	3.40
8	Tns -10152	24.01.2018	23.04.2018	Rs. 250 Cr.	89	7.5399	3.40
9	Total						34.16

*Tns-Transaction

4.18.20 The Commission has also scrutinised the documentary evidences submitted against the actual interest on working capital for TPC-T as well as TPC-D. For the perusal of the documents, it is observed that TPC-G submitted the Commercial papers which are exclusively taken for managing working capital for Generation Business. Hence, it qualifies the requirement specified in MYT Regulations. Hence, the Commission has considered the actual interest on working capital as submitted by TPC-G.

4.18.21 The Commission has computed the sharing efficiency gain or losses on account of variation in IoWC for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 45 Gain/(loss) due variation in Interest on Working Capital for Unit 5 to 7& Hydro as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	IoWC – Normative	42.15	42.03	32.11	30.24
2	IoWC – Actual	7.52	7.52	24.86	24.86
3	Gain/(loss)	34.62	34.51	7.25	5.38
4	**Passed on to Distribution Licensee**	**23.08**	**23.01**	**4.83**	**3.58**

4.19 Revenue from Sale of Power

TPC-G's Submission

4.19.1 TPC-G submitted that it has earned a total revenue of Rs. 2,419.13 Crore for FY 2017-18 and Rs. 2,372.96 Crore for FY 2018-19 from TPC-D and BEST for Unit 5 to 7 & Hydro Stations.

Commission's Analysis and Ruling

4.19.2 The Commission has considered the actual revenue of Unit 5 to 7 & Hydro Stations as Rs. 2,419.13 Crore for FY 2017-18 and Rs. 2,372.96 Crore for FY 2018-19 based on audited accounts and reconciliation statement submitted by TPC-G.

4.20 Revenue Gap/(surplus) for FY 2017-18

4.20.1 Based on the Truing up of various elements of expenses and revenue and TPC-G's share of Efficiency Gains/ Losses, the Commission has determined the total Revenue Gap/Surplus as against that estimated by TPC-G. The summary of the net ARR and sharing of Efficiency Gains/Losses as approved by the Commission for FY 2017-18 is given in the following Table:

Table 46 Revenue Gap/(surplus) for Unit 5 to 7 & Hydro for FY 2017-18 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Unit 5 to 7 & Hydro		
		MTR Order	TPC-G Petition	Approved in this Order
A	**Annual Fixed Charges**			
1	O&M Expenses	525.73	517.48	517.22
2	Depreciation	150.84	152.39	152.25
3	Interest on Loan Capital	50.84	52.97	52.71
4	Interest on Working Capital	35.85	42.15	42.03
5	Other Finance Charges	-	2.81	3.09
6	Income Tax	103.34	136.11	122.50
7	Return on Equity	243.80	244.99	244.80
8	Hydro Incentive	-	54.11	50.17
9	Sharing of Efficiency (Gains) and Losses-O&M	-	(41.58)	(45.42)
10	Sharing of Efficiency (Gains) and Losses -IoWC		(23.08)	(23.01)
11	Less: Non-tariff Income	25.62	20.98	20.98
12	Less : Unallocated fixed cost portion of Unit-4	12.17	4.12	12.26
13	Add/(Less) : Allocation for Shared Capacity to Unit 8	(12.50)	(11.76)	(11.76)
14	**Sub-total**	**1,060.08**	**1,101.48**	**1,071.34**
B	**Fuel Cost**			
14	Fuel Cost (Normative)	1,245.34	1,278.54	1,278.54
15	PLF Incentive	-	0.32	0.32

Sl. No.	Particulars	Unit 5 to 7 & Hydro		
		MTR Order	TPC-G Petition	Approved in this Order
16	Sharing of Efficiency (Gains) and Losses for Fuel Cost	-	(4.52)	(4.52)
17	Auxiliary Benefit		1.41	(2.41)
18	**Sub-total**	**1,245.34**	**1,275.75**	**1,271.93**
C	**Net ARR**	**2,305.42**	**2,377.23**	**2,343.27**
D	**Revenue**	2,371.24	2,419.13	2,419.13
E	**Revenue Gap/(Surplus)**	**(65.82)**	**(41.91)**	**(75.86)**

4.20.2 **The Commission upon truing up of expenses and revenue for Unit 5 to 7 and Hydro for FY 2017-18 approves the surplus of Rs. 75.86 Crore as against surplus of Rs 41.91 Crore claimed by TPC-G.**

4.20.3 Similarly, the summary of the net ARR and sharing of Efficiency Gains/Losses as approved by the Commission for FY 2018-19 is given in the following Table:

Table 47 Revenue Gap/(surplus) for Unit 5 to 7& Hydro for FY 2018-19 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Unit 5 to 7 & Hydro		
		MTR Order	TPC-G Petition	Approved in this Order
A	**Annual Fixed Charges**			
1	O&M Expenses	547.69	456.35	423.52
2	Depreciation	153.64	128.94	127.44
3	Interest on Loan Capital	41.74	36.22	34.92
4	Interest on Working Capital	27.02	32.11	30.24
5	Other finance charges	-	0.83	0.83
6	Income Tax	103.34	131.67	126.49
7	Return on Equity	247.54	211.59	209.10
8	Hydro Incentive	-	60.99	56.46
9	Sharing of Efficiency (Gains) and Losses-O&M	-	(52.27)	(30.39)
10	Sharing of Efficiency (Gains) and Losses -IoWC		(4.83)	(3.58)
11	Less: Non-Tariff Income	25.62	30.86	30.86
12	Less : Unallocated fixed cost portion of Unit-4	12.31	-	-
13	Add/(Less) : Allocation for Shared Capacity to Unit 8	(12.50)	(12.35)	(12.35)
14	**Sub-total**	**1,070.55**	**958.40**	**931.83**
B	**Fuel Cost**			
14	Fuel Cost (Normative)	-	1,402.33	1,402.33
15	PLF Incentive	-	1.71	1.71
16	Sharing of Efficiency (Gains) and Losses for Fuel Cost	-	(12.63)	(12.63)

Sl. No.	Particulars	Unit 5 to 7 & Hydro		
		MTR Order	TPC-G Petition	Approved in this Order
17	Auxiliary Benefit		0.87	0.86
18	**Sub-total**	**-**	**1,392.28**	**1,392.27**
C	**Net ARR**	**1,070.55**	**2,350.68**	**2,324.10**
D	**Revenue from Sale of Power**	-	2,372.96	2,372.96
E	**Revenue Gap/(Surplus)**	**-**	**(22.28)**	**(48.86)**

4.20.4 **The Commission upon truing up of expenses and revenue for Unit 5 to 7 and Hydro for FY 2018-19 approves the surplus of Rs. 48.86 Crore as against surplus of Rs 22.28 Crore claimed by TPC-G.**

4.21 Performance of Unit 8

4.21.1 The Unit 8 of TPC-G is coal fired and has an installed capacity of 250 MW and it was commissioned on March 29, 2009. The actual performance of Unit 8 has been compared with the values of approved parameters by the Commission in MTR Order. The truing up of performance of Unit 8 for FY 2017-18 and FY 2018-19 is discussed in subsequent paragraphs of this Chapter.

4.22 Norms of Operation

TPC-G's Submission

4.22.1 TPC-G submitted the norms of Operation for Unit 8 for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 48 Performance Parameters for Unit 8 as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		MTR Order	TPC-G Petition	MTR Order	TPC-G Petition
1	Availability (%)	93%	91.75%	98%	99.91%
2	Plant Load Factor (%)	81.79%	79.28%	86.00%	91.73%
3	Gross Generation (MU)	1791.18	1736.32	1881.00	1784.47
4	Auxiliary Consumption (%)	8.50%	6.24%	8.50%	6.16%
5	Net Generation (MU)	1638.93	1628.01	1721.12	1674.55
6	Station Heat Rate (kCal/kWh)	2450	2303	2450	2295

4.22.2 TPC-G submitted that Availability is 91.75% for FY 2017-18 and 99.91% for FY 2018-19, as compared to the normative Availability of 85%. Hence, as per Regulation 44.1 (a) of MYT Regulations, 2015, Unit 8 is entitled for Recovery of full Annual Fixed Cost for FY 2017-18. Actual Gross Generation recorded as 1736.32 MU in FY 2017-

18 and 1784.47 MU in FY 2018-19 is marginally lower than Generation approved in MTR Order. Heat Rate and Auxiliary consumption are better than normative parameters.

Commission's Analysis and Ruling

4.22.3 Regarding the Actual Availability and Generation submitted by TPC-G, the Commission sought MSLDC Certificate for FY 2017-18 and FY 2018-19 to certify the same. After analysing the month-wise data, the Commission observed that availability of Unit 8 dropped to 61% in December 2017. In response to this, TPC-G clarified that the planned outage was taken for Unit 8 for the period from November 18, 2017 to December 13, 2017 for Boiler recertification and LP turbine inspection.

4.22.4 The Commission notes that, the Generation Availability of Unit 8 is greater than the normative availability of 85% as specified in Regulation 44.1 (a) of the MYT Regulations, 2015. Accordingly, Unit is entitled for recovery of full Annual Fixed Cost (AFC) for FY 2017-18 and FY 2018-19.

4.22.5 The Commission verified the actual gross generation achieved by Unit 8 from the MSLDC certificate and found it to be in order, and considered it accordingly.

4.22.6 The Heat Rate and Auxiliary consumption for both years are found better than normative parameters. The Commission hereby approves the Normative parameters for the purpose of truing up and sharing of efficiency gains and losses on account of such achievement is considered in subsequent section of this Chapter.

4.22.7 The performance parameters approved by the Commission for FY 2017-18 and FY 2018-19 are shown in the following Table:

Table 49 Performance Parameters for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		Normative approved in this Order	Actuals	Normative approved in this Order	Actuals
1	Availability (%)	85%	91.75%	85%	99.91%
2	Plant Load Factor (%)	85%	79.28%	85%	91.73%
3	Gross Generation (MU)	1736.32	1736.32	1784.47	1784.47
4	Auxiliary Consumption (%)	8.50%	6.24%	8.50%	6.16%
5	Net Generation (MU)	1588.73	1628.01	1632.79	1674.55
6	Station Heat Rate (kCal/kWh)	2450	2303	2450	2295

4.22.8 **The Commission approves the performance parameters as per above Table for FY 2017-18 and FY 2018-19 respectively**.

4.23 Fuel Cost

TPC-G's Submission

4.23.1 TPC-G submitted the details of Fuel Consumption, Gross Calorific Value of Fuel and Fuel Price as shown in the following Table:

Table 50 Fuel Cost for Unit 8 as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		MTR Order	TPC-G Petition	MTR Order	TPC-G Petition
A	Fuel Consumption (MT/kL)				
	Coal		827,220		856147
	Oil		448		175
B	GCV (kCal/kg or kL)				
	Coal	4781	4,828	4850	4782
	Oil	10,381	10,400	10429	10390
C	Fuel Price (Rs. /MT or kL)				
	Coal	6273	6,312	7154	7133
	Oil	54933	55,817	55839	55355
D	**Fuel Cost (Rs. Crore)**	**543.27**	**524.68**	**655.92**	**611.64**

4.23.2 TPC-G submitted that, as the various fuel parameters of Unit 8 for FY 2017-18 were provisionally trued up during the MTR Order, there is no major variation in the approved parameters in the MTR Order vis-à-vis the actuals for FY 2017-18.

4.23.3 Based on the final Audited accounts, there was reversal of Rs. 1.02 Crore from the fuel expenses for FY 2017-18. Accordingly, an amount of Rs. 0.34 Crores has been reduced to arrive at the final Fuel Cost of Rs. 524.34 Crore for FY 2017-18 for Unit 8 in proportion of the coal consumed.

4.23.4 TPC-G submitted the actual Fuel cost of Rs. 524.34 Crore for FY 2017-18 and Rs. 611.64 Crore for FY 2018-19.

Commission's Analysis and Ruling

4.23.5 The Commission sought the monthly fuel bills and monthly fuel receipts, calorific value and price of fuel for FY 2017-18 and FY 2018-19. The Commission has gone through the such details of monthly fuel receipts, calorific value and price. The variation in fuel price and calorific value has been considered as part of FAC and has already been passed through monthly under that mechanism.

4.23.6 As the actual heat rate is lower than the normative heat rate for FY 2017-18 and FY 2018-19, the Commission has computed the normative fuel cost for both the years for the purpose of sharing between actual fuel costs and normative fuel costs.

4.23.7 The Commission observes the difference between the actual Fuel Cost submitted in the present Petition vis-à-vis audited accounts for FY 2017-18 and FY 2018-19. TPC-G submitted the reconciliation of the fuel cost. It is observed that the difference in fuel cost is on account of reversal entry of Rs. 1.02 Crore in FY 2017-18 and, Fuel exchange loss of Rs. 0.73 Crore for FY 2017-18 and Rs. 8.28 Crore for FY 2018-19.

4.23.8 As discussed in earlier Section of this Chapter, TPC-G has reduced the fuel cost to Rs. 524.68 Crore for FY 2017-18, after reducing the amount of Rs. 0.68 Crore pertaining to Unit 8, on account of reversal of accounting entry. Also, as discussed in earlier Section of this Chapter, the Commission has considered the such fuel exchange loss in actual fuel cost.

4.23.9 In view of the above, the Commission has approved actual Fuel cost of Rs. 524.34 Crore for FY 2017-18 and Rs. 611.64 Crore for FY 2018-19 as shown in the following Table:

Table 51 Fuel Cost for Unit 8 for FY 2017-18 and FY 2018-19 as approved by the Commission (Rs. Crore)

Particulars	**FY 2017-18**		**FY 2018-19**	
	Actual Fuel Cost	**Normative Fuel Cost**	**Actual Fuel Cost**	**Normative Fuel Cost**
Unit 8	524.34	560.57	611.64	655.99

4.24 O&M Expenses

TPC-G's Submission

4.24.1 TPC-G submitted the actual O&M Expenses of Rs. 81.25 Crore, inclusive of brand equity expenses, for FY 2017-18 as against the O&M Expenses of Rs. 62.48 Crore approved in MTR Order. Similarly, TPC-G submitted the actual O&M Expenses of Rs. 56.33 Crore for FY 2018-19 as against the O&M Expenses of Rs. 65.60 Crore approved in MTR Order.

4.24.2 TPC-G submitted that, as directed in MTR Order, it has submitted the justification for consideration of brand equity expenses.

4.24.3 The Commission had directed to compute the Brand Equity based on the revenue earned in the previous financial year. In view of this, there is a small difference between the actual Brand Equity and the amount arrived at on the methodology as directed by the Commission. Accordingly, the actual O&M expenses has been adjusted to this extent of differential amount.

4.24.4 TPC-G submitted the actual O&M Expenses for Truing up purpose as shown in the following Table:

Table 52 Actual O&M Expenses for Unit 8 as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		MTR Order	TPC-G Petition	MTR Order	TPC-G Petition
1	Employee Expenses		35.54		35.63
2	A&G Expenses		11.46		4.58
3	R&M Expenses		34.26		16.12
4	Total		81.25		56.33
5	Less: Brand equity considered in Accounts		2.29		(0.08)
6	Add: Allocation of Brand equity as per MERC methodology		2.14		0.00
7	**Grand Total**	**62.48**	**81.10**	**65.60**	**56.40**

4.24.5 TPC-G submitted that total O&M Expenses are higher than normative O&M Expenses for FY 2017-18 mainly because of higher expenses on dredging activity in CW Jetty area due to increased saltation problem.

Commission's Analysis and Ruling

4.24.6 Regulation 45.2 (a) of MYT Regulations, 2015 specifies the norms for O&M Expenses for Generating Station having 250 MW sets. Accordingly, norms for O&M Expenses for Unit 8 are Rs. 24.99 Lakh per MW for FY 2017-18 and Rs. 26.24 Lakh per MW for FY 2018-19. Accordingly, the Commission approves the Normative O&M Expenses of Rs. 62.48 Crore for FY 2017-18 considering the capacity of 250 MW and Rs. 58.27 Crore for FY 2018-19, considering the capacity of 222.08 MW.

4.24.7 As regards the actual O&M Expenses, the Commission sought reconciliation of actual O&M Expenses submitted in the Petition vis-à-vis O&M Expenses reported in audited accounts. The Commission has not considered Brand Equity Expenses as discussed in earlier Chapter of this Order. The actual O&M Expenses approved by the Commission for FY 2017-18 and FY 2018-19 are shown in the following Table:

Table 53 Actual O&M Expenses for Unit 8 as approved by the Commission (Rs. Crore)

Sr. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Employee Expenses	35.54	35.54	35.63	35.63
2	A&G Expenses	11.46	11.46	4.58	4.58
3	R&M Expenses	34.26	34.26	16.12	16.12
4	Total	81.25	81.25	56.33	56.33
5	Less: Brand equity considered in Accounts	2.29	2.29	(0.08)	(0.08)
6	Add: Allocation of Brand equity as per MERC methodology	2.14	-	-	-
7	**Grand Total**	**81.10**	**78.96**	**56.40**	**56.40**

4.25 Capitalisation and Means of Finance

TPC-G's Submission

4.25.1 TPC-G submitted the total capitalisation of Rs. 2.12 Crore for FY 2017-18 and Rs. 4.68 Crore for FY 2018-19, including HOSS capitalisation, as against the approved capitalisation of Rs. 0.53 Crore and Rs. 0.45 Crore respectively.

4.25.2 During FY 2017-18, out of the total capitalisation of Rs. 2.12 Crore, the capitalisation on account of DPR schemes (including merged DPRs) is to the extent of Rs. 0.56 Crore and the balance of Rs. 1.56 Crore is on account of Non-DPR Schemes which forms about 279.46% of the total DPR schemes.

4.25.3 Similarly, during FY 2018-19, out of the total capitalisation of Rs. 4.68 Crore, the capitalisation on account of DPR schemes (including merged DPRs) is to the extent of Rs. 0.27 Crore and the balance of Rs. 4.41 Crore is on account of Non-DPR Schemes which forms about 1653.16% of the total DPR schemes.

4.25.4 Regarding Non-DPR capitalisation, TPC-G submitted that, since the capitalisation of DPR schemes is very low, the ratio of Non-DPR to DPR capitalisation goes beyond the 20% limit. In present case, the total capitalisation is 0.2% of the GFA during FY 2017-18 and 0.4% of GFA during FY 2018-19 of Unit 8. Considering the size and the age of the Unit, there would be hardly any capital expenditure schemes of high value (DPR schemes) but there would be small value schemes i.e. Non DPR schemes. Further, Unit 8 has to take the share of the capitalisation of shared services departments, and hence, it would not be prudent to apply the limit of 20 % in present case.

4.25.5 Hence, TPC-G requested to exercise its power to remove difficulties as provided in Regulation 102 of MYT Regulations 2015 and also under the proviso to the Regulation 23.6 of MYT Regulations, 2015 to approve the Non DPR capitalisation beyond 20% as an exception subject to a limit of 1% of the GFA of the Unit.

Commission's Analysis and Ruling

4.25.6 Regulation 23.6 of MYT Regulations, 2015 specifies that amount of capitalisation towards non-DPR schemes for any year shall not exceed 20% of amount of capitalisation approved against the DPR Schemes for that respective year. The Commission notes that non-DPR capitalisation submitted by TPC-G is more than 20% of DPR Capitalisation.

4.25.7 For FY 2017-18, it was observed that the scheme for Replacement of Unit 8 UPS Battery Sets had been shown under DPR category by TPC-G, however, in its data gap replies, TPC-G clarified that the said scheme is in fact a non-DPR scheme and inadvertently submitted under DPR category. Hence, the DPR capitalization has been corrected to that extent and the Commission allows Rs. 0.29 Crore as DPR capitalization for FY 2017-18.

4.25.8 Further, as regards the DPR capitalization for FY 2018-19, it is observed that although TPC-G has submitted Rs. 0.27 Crore as DPR capitalization, barring Rs. 0.04 Crore DPR capitalization allocated from other units to Unit 8, there is no DPR capitalization for Unit 8 for FY 2018-19. Hence, the Commission allows DPR capitalization of Rs. 0.04 Crore for Unit 8 for FY 2018-19.

4.25.9 Further, as held in earlier part of the Order, the Commission, while approving the capitalisation for the purpose of truing up, restricted the non-DPR capitalisation upto 20% of amount of capitalisation towards DPR schemes.

4.25.10 The summary of capitalisation approved by the Commission for FY 2017-18 and FY 2018-19 for Unit 8 is shown in the following Table:

Table 54 Approved Capitalisation for Unit 8 for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18		FY 2018-19	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
DPR Capitalisation	0.56	0.29	0.27	0.04
Non-DPR Capitalisation	1.56	0.06	4.41	0.01
Total Capitalisation	**2.12**	**0.35**	**4.68**	**0.05**

4.25.11 The Commission has considered the financing of capitalisation as per normative debt:equity ratio of 70:30 as specified in Regulation 26 of MYT Regulations, 2015. The financing of capitalisation for FY 2017-18 and FY 2018-19 as approved by the Commission is shown in the following Table:

Table 55 Approved Financing of Capitalisation for Unit 8 for FY 2017-18 and FY 2018-19 (Rs. Crore)

Particulars	FY 2017-18	FY 2018-19
Equity	0.10	0.01
Debt	0.24	0.04
Total Capitalisation	**0.35**	**0.05**

4.26 Depreciation

TPC-G's Submission

4.26.1 TPC-G has computed the Depreciation by applying the rates as specified in the Depreciation schedule in Regulation 27.1 of the MYT Regulations, 2015. TPC-G submitted the Depreciation of Rs. 62.13 Crore for FY 2017-18 and Rs. 62.16 Crore for FY 2018-19.

Commission's Analysis and Rulings

4.26.2 The Commission has considered the Depreciation as per Regulation 27 of MYT Regulations, 2015. In earlier Chapter 3, while allowing the impact of review Order, the Commission has revised the GFA as on March 31, 2017. The same revised GFA has been considered as Opening GFA for FY 2017-18. The addition of GFA considered equal to capitalisation approved in this Order.

4.26.3 The Commission has computed the depreciation for Unit 8 for proportionate capacity of 222.08 MW for FY 2018-19.

4.26.4 The depreciation approved by the Commission for FY 2017-18 and FY 2018-19 for Unit 8 is shown in the following Table:

Table 56 Depreciation for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
1	Opening GFA	1197.29	1197.29	1197.29	1197.82	1206.07	1197.29
2	Asset addition during year	0.53	2.12	0.35	0.45	4.68	0.05
3	Asset Retirement during year	0.00	(0.34)	(0.34)	0.00	(2.13)	(2.13)
4	Closing GFA	1197.82	1199.07	1197.29	1198.27	1208.61	1195.21
5	Depreciation	61.26	62.13	62.09	61.29	62.16	54.71
6	Depreciation Rate (%)	5.12%	5.19%	5.19%	5.12%	5.15%	5.15%

4.26.5 **The Commission has approved the Depreciation for Unit 8 for FY 2017-18 and FY 2018-19 as Rs 62.09 Crore and Rs 54.71 Crore respectively**.

4.27 Interest on Loan Capital

TPC-G's Submission

4.27.1 TPC-G submitted that, in the past, it has taken various long-term loans to finance the capital expenditure nature projects in line with the Debt: Equity structure of 70%: 30%. Tata Power sources Long Term loan at a company level for its Generation, Transmission and Distribution Businesses together to have negotiation advantage to avail better terms & conditions of loans. Considering the above actual loan drawals, interest rates and the interest paid, the weighted average interest rate has been computed as 9.26% for FY 2017-18 and 8.64% for FY 2018-19. TPC-G also submitted the statements received from Banks certifying the Opening Balance, Closing Balance, Interest paid, and the applicable rate of interest along with the Petition.

4.27.2 TPC-G submitted the Interest on Loan capital of Rs. 39.10 Crore for FY 2017-18 and Rs. 31.41 Crore for FY 2018-19. In addition to this, TPC-G also submitted the other finance Charges of Rs. 0.36 Crore for FY 2017-18 and Rs. 0.02 Crore for FY 2018-19 for Unit 8.

4.27.3 As discussed in earlier Section of this Chapter, TPC-G submitted the net impact of Rs. 4.31 Crore for Unit 8 for FY 2017-18 towards re-financing of loans.

Commission's Analysis and Rulings

4.27.4 The opening balance of the loan for FY 2017-18 is considered equal to the closing balance of the loan for FY 2016-17 approved in the earlier section by the Commission. Further, addition in loan is considered as 70% of the capitalization approved by the Commission above. Further, in accordance with Regulation 29.3 of MYT Regulation, 2015, loan repayment has been considered as equal to the Depreciation allowed in this Order.

4.27.5 Further, it is noted that, Regulation 29.5 of the MYT Regulations, 2015 specifies that at the time of truing-up, the weighted average rate of interest computed based on the actual loan portfolio during the concerned year shall be considered as the rate of interest. After analysing the loan documents, the Commission finds that the weighted average rate of interest computed by TPC-G is correct and the same is considered by the Commission for approval. Accordingly, the Commission has considered rate of interest of 9.26% for FY 2017-18 and 8.64% for FY 2018-19.

4.27.6 The Commission has computed the Interest on Loan Capital for Unit 8 for FY 2018-19 for proportionate capacity of 222.08 MW.

4.27.7 The interest on Loan capital approved by the Commission for FY 2017-18 and FY 2018-19 is shown in the following Table:

Table 57 Interest on Loan Capital for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
1	Opening Loan Balance	452.85	452.78	452.77	391.96	393.06	390.93
2	Loan addition during year	0.37	1.48	0.24	0.32	3.27	0.04
3	Loan repayment during year	61.26	62.13	62.09	61.29	62.16	54.71
4	Closing Loan Balance	391.26	392.13	390.93	330.99	334.17	336.25
5	Rate of Interest (%)	9.44%	9.26%	9.26%	9.44%	8.64%	8.64%
6	Interest on Loan Capital	39.89	39.10	39.05	34.14	31.41	27.90

4.27.8 Further, as discussed in the earlier Section of this Chapter, the Commission approves the impact of re-financing charges of Rs. 5.61 Crore for Unit 8 for FY 2017-18.

4.27.9 In addition to the above, other finance charges are approved as Rs. 0.36 Crore for FY 2017-18 and Rs. 0.02 Crore for FY 2018-19 for Unit 8.

4.28 Return on Equity

TPC-G's Submission

4.28.1 TPC-G submitted the Return on Equity as per Regulation 28.3 of MYT Regulations, 2015, after considering the capitalisation and debt:equity ratio of 70:30. Accordingly, TPC-G submitted the Return on Equity of Rs. 55.72 Crore for FY 2017-18 and Rs. 56.27 Crore for FY 2018-19.

Commission's Analysis and Ruling

4.28.2 The opening balance of equity for FY 2017-18 is considered equal to closing balance of equity for FY 2016-17 approved by the Commission in the earlier sections of this Order. Further, addition in equity is considered as 30% of the capitalization approved by the Commission above. The Commission has considered an equity reduction during the year corresponding to the assets de-capitalised/retired during the year in accordance with the 1st proviso to Regulation 26.2 of MYT Regulations, 2015. RoE has been taken at the rate of 15.5% of the equity, in accordance with Regulation 28.1 and 28.3 of the MYT Regulations, 2015.

4.28.3 The Commission has computed the Return on Equity for Unit 8 for FY 2018-19 for proportionate capacity of 222.08 MW.

4.28.4 RoE as claimed by TPC-G and approved by the Commission for Unit 8 after Truing up is summarised in the following Table:

Table 58 Return on Equity for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
1	Regulatory Equity at beginning of the year	359.19	359.19	359.19	359.35	362.23	359.19
2	Less: Reduction of equity towards de-capitalised assets during the year	-	(0.10)	(0.10)	-	(0.64)	(0.64)
3	Addition of Equity during the year	0.16	0.64	0.10	0.14	1.40	0.01
4	Regulatory Equity at the end of the year	339.35	359.72	359.19	359.49	363.39	358.57
5	Rate of Return (%)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
6	**Return on Equity**	**55.68**	**55.72**	**55.67**	**55.71**	**56.27**	**49.41**

4.28.5 **The Commission approves the Return on Equity for FY 2017-18 and FY 2018-19 as Rs 55.67 Crore and Rs 49.41 Crore respectively.**

4.29 Interest on Working Capital

TPC-G's Submission

4.29.1 TPC-G submitted that IoWC has been computed as per Regulation 31.1 of MYT Regulations, 2015. The rate of interest has been considered as 10.18% for FY 2017-18 an 9.89% for FY 2018-19.

4.29.2 TPC-G submitted the IoWC for Unit 8 as Rs. 11.34 Crore for FY 2017-18 and Rs. 12 Crore for FY 2018-19.

Commission's Analysis and Ruling

4.29.3 TPC-G has considered the norms specified in Regulation 31.1 of MYT Regulations, 2015 to compute the working capital requirement for each type of units/plants. The normative working capital corresponding to the primary fuel of Unit 8 has been computed based on the normative SHR and target availability. Further, for computation of working capital requirement, the Commission has considered the normative O&M Expenses approved in this Order.

4.29.4 Regulation 35.1(f) of MYT Regulations 2015 specifies that the rate of interest should be on normative basis and shall be equal to the Base Rate as on the date on which the Petition for determination of Tariff is filed, plus 150 basis points. Accordingly, the Commission has considered the rate of interest of 10.18% for FY 2017-18 and 9.89% for FY 2018-19.

4.29.5 For computing the working capital requirement, the Commission has considered the individual element for proportionate capacity for FY 2018-19.

4.29.6 IoWC approved by the Commission for FY 2017-18 and FY 2018-19 for Unit 8 is shown in the following Table:

Table 59 IoWC for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
1	Coat of Coal for 2 months	100.31	100.16	93.31	95.69	114.05	101.26
2	O&M Expenses for a month	5.47	5.72	5.21	5.47	4.95	4.86
3	Maintenance Spares @ 1% of GFA	12.06	11.97	11.97	12.07	12.06	11.97
4	Receivables for Sale of	43.23	43.62	43.62	41.66	47.31	47.31

Sl. No.	Particulars	FY 2017-18			FY 2018-19		
		MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
	electricity to BEST for 45 days						
5	Less: Payables for Fuel	50.16	50.08	50.08	47.85	57.03	57.03
6	Total Working Capital Requirement	110.91	111.39	104.02	107.04	121.35	108.37
7	Rate of Interest (%)	10.20%	10.18%	10.18%	9.45%	9.89%	9.89%
8	**IoWC**	**11.31**	**11.34**	**10.59**	**10.12**	**12.00**	**10.72**

4.29.7 **The Commission approves the Interest on Working Capital for FY 2017-18 and FY 2018-19 as Rs. 10.59 Crore and Rs. 10.72 Crore respectively.**

4.30 Income Tax

TPC-G's Submission

4.30.1 TPC-G has computed Income Tax for Unit 8 as per the provisions of MYT Regulations, 2015. Accordingly. TPC-G submitted the Income Tax of Rs. 25.64 Crore for FY 2017-18 and Rs. 27.15 Crore for FY 2018-19.

Commission's Analysis and Ruling

4.30.2 The Commission has computed the Income Tax (IT) in accordance with Regulation 33.1 of MYT Regulations, 2015 and as per the ATE Judgment dated 2 December 2013 in Case No. 138 and 139 of 2012.

4.30.3 As specified in the Regulations and ATE Judgment, the Commission has arrived at IT payable based on Regulatory PBT, considering the normative cost allowed by the Commission. The tax liability is calculated on the regulatory income and cost within the MYT regime considering the applicable tax depreciation for computation of the IT. Accordingly, the calculation of IT provides the tax payable for the Regulatory business whereby all the items of ARR and Revenue are considered on normative basis for tariff purposes. Also, in line with the MYT Regulations, 2015, efficiency gains and incentive earned are excluded while computing Income Tax on PBT basis.

4.30.4 For computation of Income tax, the Commission has considered total revenue of Rs. 850.39 Crore for FY 2017-18, including revenue from sale of power of Rs. 848.89 Crore and Non-tariff income of Rs. 1.50 Crore. Similarly, revenue for FY 2018-19 is considered as Rs. 910.39 Crore, including revenue from sale of power of Rs. 910.32 Crore and Non-tariff income of Rs. 0.08 Crore.

4.30.5 The summary of the IT approved by the Commission for Unit 8 after true-up for FY

2017-18 and FY 2018-19 is shown in the Table below:

Table 60 Income Tax for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Total Revenue	850.39	850.39	910.39	910.39
2	Less: Incentive & efficiency gains	19.41	-	26.83	2.99
3	Total Expenses	708.70	757.98	753.11	819.97
4	**Profit Before Tax**	**122.28**	**92.41**	**130.45**	**87.44**
5	Tax adjustment				
	Add				
6	Depreciation considered in Expenses	62.13	62.09	55.22	54.71
7	Other disallowance while computing income Tax	6.49	6.49	4.02	4.02
8	**Total Tax disallowances**	**68.63**	**68.58**	**59.24**	**58.73**
	Less				
9	Tax Depreciation	49.37	49.33	37.84	37.49
10	Other expenses allowed for computing Income Tax	19.50	19.50	0.36	0.36
11	Deduction u/s 80 IA	100.82	100.82	109.85	109.85
12	**Total Tax allowances**	**169.68**	**169.64**	**148.04**	**147.69**
13	Total Taxable Income	21.23	(8.65)	41.65	(1.53)
14	Corporate Tax Rate	34.61%	34.61%	34.94%	34.94%
15	Tax payable at normal rate	7.35	-	14.55	-
	MAT Computation				
16	Profit Before Tax	122.28	92.41	130.45	87.44
17	Add: Disallowances under Income Tax (U/s 14 A, provision for doubtful debt)	0.00	0.00	(0.02)	(0.02)
18	Less: Deduction under Income Tax (Exempt Income, FBT, Wealth Tax, Withdrawal from Income)	2.14	2.14	4.44	4.44
19	Book Profit	120.14	90.27	126.00	82.98
20	MAT Rate	21.34%	21.34%	21.55%	21.55%
21	**Tax Payable under MAT**	**25.64**	**19.26**	**27.15**	**17.88**
22	**Tax Applicable**	**25.64**	**19.26**	**27.15**	**17.88**

4.30.6 **The Commission approves the Income Tax for FY 2017-18 and FY 2018-19 as Rs. 19.26 Crore and Rs. 17.88 Crore respectively**.

4.31 Non-tariff Income

TPC-G's Submission

4.31.1 TPC-G submitted the Non-Tariff Income for Unit 8 as Rs. 1.50 Crore for FY 2017-18 and Rs. 0.09 Crore for FY 2018-19. The income of Rs. 1.50 Crore for FY 2017-18 includes the income of Rs. 0.13 Crore towards recurring items and Rs. 1.37 Crore towards Non-recurring items. Similarly, the income of Rs. 0.09 Crore for FY 2018-19 includes the income of Rs. 0.04 Crore towards recurring items and Rs. 0.05 Crore towards Non-recurring items.

Commission's Analysis and Ruling

4.31.2 The Commission has considered the Non-tariff income as submitted by TPC-G based on audited accounts. Accordingly, the Commission has considered Non-Tariff Income for Unit 8 as Rs. 1.50 Crore for FY 2017-18 and Rs. 0.09 Crore for FY 2018-19 for the purpose of truing up.

4.32 Sharing of Efficiency Gains/(Losses) for Unit 8

TPC-G's Submission

4.32.1 The Commission in its MYT Regulations, 2015 has approved the methodology for treatment of sharing and gains and sharing of losses on account variation in controllable factors and uncontrollable factors. TPC-G submitted the sharing of efficiency gains/(losses) on account of controllable factors in following paragraphs:

Efficiency gains/(loss) on account of Heat Rate

4.32.2 TPC-G submitted the Net gain of Rs. 36.23 Crore for FY 2017-18 and Rs. 44.35 Crore for FY 2018-19 on account of variation in Heat Rate. Accordingly, it has proposed to share efficiency gain of Rs. 24.15 Crore for FY 2017-18 and Rs. 29.57 Crore for FY 2018-19 with Distribution Licensee.

Commission's Analysis and Ruling

4.32.3 The Commission has computed the sharing efficiency gain or losses on account of variation in Heat Rate for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 61 Sharing of Efficiency gain/(losses) for Heat rate for Unit 8 (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Fuel Cost	524.34	524.34	611.64	611.64
2	Cost of Generation (Rs./kWh)	3.23	3.23	3.68	3.68
3	Gross Generation (MU)	1736.32	1736.32	1784.47	1784.47
4	Fuel Cost applying normative Heat Rate	560.57	560.57	655.99	655.99
5	Net Gains/(losses)	36.23	36.23	44.35	44.35
6	Gains/(losses) passed on to Distribution Licensee	24.15	24.15	29.57	29.57

Efficiency gains/(loss) on account of Auxiliary Consumption

TPC-G's Submission

4.32.4 TPC-G submitted the Net gain of Rs. 12.69 Crore for FY 2017-18 and Rs. 16.58 Crore for FY 2018-19 on account of variation in Auxiliary Consumption. Accordingly, it has proposed to share efficiency gain of Rs. 8.46 Crore for FY 2017-18 and Rs. 11.05 Crore for FY 2018-19 with Distribution Licensee.

Commission's Analysis and Ruling

4.32.5 The Commission has computed the sharing efficiency gain or losses for Unit 8 on account of variation in Auxiliary Consumption for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 62 Sharing of Efficiency gain/(losses) for Auxiliary Consumption for Unit 8 (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Gross Generation (MU)	1736.32	1736.32	1784.47	1784.47
2	Auxiliary Consumption -Normative (%)	8.50%	8.50%	8.50%	8.50%
3	Auxiliary Consumption -Actual (%)	6.24%	6.24%	6.16%	6.16%
4	Additional Generation (MU)	39.28	39.28	41.76	41.76
5	Approved Energy Charges (Rs./kWh)	3.23	3.23	3.97	3.97
6	Net Gains/(Losses)	12.69	12.69	16.58	16.58
7	Gains/(Losses) passed on to Distribution Licensees	8.46	8.46	11.05	11.05

Efficiency gains/(loss) on account of variation in O&M Expenses

TPC-G's Submission

4.32.6 TPC-G submitted the efficiency loss of Rs. 18.62 Crore for FY 2017-18 and efficiency gain of Rs. 9.20 Crore for FY 2018-19 on account of variation in O&M expenses. Accordingly, it has proposed to share net efficiency loss of Rs. 6.21 Crore for FY 2017-18 and net efficiency gain of Rs. 6.13 Crore for FY 2018-19, with Distribution Licensee.

Commission's Analysis and Ruling

4.32.7 For computing sharing of efficiency gains and losses, the Commission has considered the actual expenses proportionate to capacity of 222.08 MW. The Commission has computed the sharing efficiency gain or losses for Unit 8 on account of variation in O&M Expenses for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 63 Sharing of Efficiency gain/(losses) for O&M Expenses for Unit 8 (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Approved normative O&M Expenses	62.48	62.48	65.60	58.27
2	Actual O&M Expenses	81.10	78.96	56.40	50.10
3	Net Gains/(Losses)	(18.62)	(16.48)	9.20	8.17
4	Gains/(Losses) passed on to Distribution Licensees	(6.21)	(5.49)	6.13	5.45

Efficiency gains/(loss) on account of variation in IoWC

TPC-G's Submission

4.32.8 TPC-G submitted the efficiency gain of Rs. 9.32 Crore for FY 2017-18 and Rs. 2.70 Crore for FY 2018-19 on account of variation in IoWC. Accordingly, it has proposed to share net efficiency gain of Rs. 6.21 Crore for FY 2017-18 and Rs. 1.80 Crore for FY 2018-19, with Distribution Licensee.

Commission's Analysis and Ruling

4.32.9 The Commission has computed the sharing efficiency gain or losses for Unit 8 on account of variation in IoWC for FY 2017-18 and FY 2018-19 as shown in the following Table:

Table 64 Sharing of Efficiency gain/(losses) for IoWC for Unit 8 (Rs. Crore)

Sl. No.	Particulars	FY 2017-18		FY 2018-19	
		TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
1	Approved IoWC	11.34	10.59	12.00	10.72
2	Actual IoWC	2.02	2.02	9.30	9.30
3	Net Gains/(Losses)	9.32	8.57	2.70	1.43
4	Gains/(Losses) passed on to Distribution Licensees	6.21	5.71	1.80	0.95

4.33 Revenue from Sale of Power

TPC-G's Submission

4.33.1 TPC-G submitted that it has earned a total revenue of Rs. 848.49 Crore for FY 2017-18 and Rs. 910.32 Crore for FY 2018-19 from TPC-D and BEST for Unit 8.

Commission's Analysis and Ruling

4.33.2 The Commission has considered the actual revenue of Unit 8 as Rs. 848.49 Crore for FY 2017-18 and Rs. 910.32 Crore for FY 2018-19 based on audited accounts and reconciliation statement submitted by TPC-G.

4.34 Summary of ARR and Revenue Gap/(Surplus)

4.34.1 Based on the Truing up of various elements of expenses and revenue and TPC-G's share of Efficiency Gains/ Losses, the Commission has determined the total Revenue Gap/Surplus for Unit 8 as against that estimated by TPC-G. The summary of the net ARR and sharing of Efficiency Gains/Losses as approved by the Commission for FY 2017-18 is given in the following Table:

Table 65 Revenue Gap/(surplus) for FY 2017-18 for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Unit 8		
		MTR Order	TPC-G Petition	Approved in this Order
A	**Annual Fixed Charges**			
1	O&M Expenses	62.48	62.48	62.48
2	Depreciation	61.26	62.13	62.09
3	Interest on Loan Capital	39.89	39.10	39.05
4	Interest on Working Capital	11.31	11.34	10.59
5	Other Expenses	-	4.67	5.97
6	Income Tax	20.13	25.64	19.26
7	Return on Equity	55.69	55.72	55.67
8	Sharing of Efficiency (Gains) and Losses-O&M		6.21	5.49
9	Sharing of Efficiency (Gains) and Losses -IoWC		(6.21)	(5.71)
10	Less: Non-tariff Income	0.48	1.50	1.50
11	Less : Unallocated fixed cost portion of Unit-4	-	-	-
12	Add/(Less) : Allocation for Shared Capacity to Unit 8	12.50	11.76	11.76
13	**Sub-total**	**262.78**	**271.33**	**265.15**
B	**Fuel Cost**			
14	Fuel Cost (Normative)	543.27	560.57	560.57
15	PLF Incentive	-	-	-
16	Sharing of Efficiency (Gains) and Losses including Auxiliary Consumption	-	(19.93)	(19.93)
17	**Sub-total**	**543.27**	**540.64**	**540.64**
C	**Net ARR**	**806.05**	**811.98**	**805.79**
D	**Revenue**	861.46	848.89	848.89
E	**Revenue Gap/(Surplus)**	**(55.41)**	**(36.92)**	**(43.11)**

4.34.2 **The Commission upon truing up of expenses and revenue for Unit 8 for FY 2017-18 approves the surplus of Rs 43.11 Crore as against surplus of Rs 36.92 Crore claimed by TPC-G.**

4.34.3 Regarding ARR for FY 2018-19, the Commission clarifies that TPC-G has first computed the ARR components for 250 MW and then converted to the same into 222.08 MW capacity. However, the Commission has directly considered the value for

222.08 MW for FY 2018-19. Accordingly, the summary of the net ARR and sharing of Efficiency Gains/Losses as approved by the Commission for Unit 8 for FY 2018-19 is given in the following Table:

Table 66 Revenue Gap/(surplus) for FY 2018-19 for Unit 8 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Unit 8			
		MTR Order	TPC-G Petition (250 MW)	TPC-G Petition (222 MW)	Approved in this Order
A	**Annual Fixed Charges**				
1	O&M Expenses	65.60	65.60	58.26	58.27
2	Depreciation	61.29	62.16	55.22	54.71
3	Interest on Loan Capital	34.14	31.41	27.90	27.90
4	Interest on Working Capital	10.12	12.00	10.66	10.72
5	Other Expenses	-	0.02	0.02	0.02
6	Income Tax	20.13	27.15	27.15	17.88
7	Return on Equity	55.71	56.27	49.98	49.41
8	Sharing of Efficiency (Gains) and Losses-O&M	-	(6.13)	(5.21)	(5.45)
9	Sharing of Efficiency (Gains) and Losses -IoWC		(1.81)	(1.81)	(0.95)
10	Less: Non-Tariff Income	0.48	0.09	0.08	0.09
11	Less : Unallocated fixed cost portion of Unit-4	-	-		-
12	Add/(Less) : Allocation for Shared Capacity to Unit 8	12.50	12.35	10.97	12.35
13	**Sub-total**	**259.02**	**258.94**	**233.06**	**224.79**
B	**Fuel Cost**				
14	Fuel Cost (Normative)	-	655.99	655.99	655.99
15	PLF Incentive	-	2.99	2.99	2.99
16	Sharing of Efficiency (Gains) and Losses	-	(24.04)	(24.04)	(24.04)
17	**Sub-total**	-	**634.94**	**634.94**	**634.94**
C	**Net ARR**	**259.02**	**893.88**	**868.00**	**859.73**
D	**Revenue from Sale of Power**	-	910.32	910.32	910.32
E	**Revenue Gap/(Surplus)**	-	**(16.44)**	**(42.32)**	**(50.59)**

4.34.4 **The Commission upon truing up of expenses and revenue for Unit 8 for FY 2018-19 approves the surplus of Rs. 50.59 Crore as against surplus of Rs 42.32 Crore claimed by TPC-G.**

5 Provisional Truing up of ARR for FY 2019-20

5.1 Background

5.1.1 This Section stipulates the Provisional Truing up for FY 2019-20 based on actual performance for first half of FY 2019-20 and Estimated performance for second half (H2) of FY 2019-20. The detailed analysis undertaken by the Commission is set out in paragraphs below.

5.2 Tied up Capacity

5.2.1 The Commission notes that, since Unit 5 and Bhira Hydro Generating Capacity was offered in Medium Term Power Procurement undertaken by BEST through Competitive Bidding route at the time of issuance of MTR Order, the operational parameters for Unit 5 and Bhira were not mentioned in the MTR Order. However, MYT Regulations, 2015 specifies for all the norms applicable to Unit 5 as well as Bhira Hydro Station. The same norms have been considered for the purpose of provisional Truing up for FY 2019-20. Subsequently, based on the Order of the Commission in Case No. 249 of 2018 and Case NO. 44 of 2019 filed by BEST and TPC-D respectively, the entire generating capacity of 500 MW from Unit 5 and 300 MW from Bhira Hydro Station was tied up with BEST and TPC-D for a period of five (5) years starting from FY 2019-20 to FY 2023-24.

5.2.2 Accordingly, the tied-up capacity considered for FY 2019-20 is shown in the following Table:

Table 67 Tied-up Capacity considered for Provisional Truing up for FY 2019-20 (MW)

Sl. No.	Generating Unit	FY 2019-20		
		BEST	TPC-D	Total
1	Unit 5	256	244	500
3	Unit 7	92	88	180
4	Unit 8	100	150	250
5	**Total Thermal (A)**	**448**	**482**	**930**
6	Bhira	154	146	300
7	Bhivpuri	38	37	75
8	Khopoli	37	35	72
9	**Total Hydro (B)**	**229**	**218**	**447**
10	**Grand Total (A) + (B)**	**677**	**700**	**1,377**

5.3 Generation

TPC-G's Submission

5.3.1 The actual generation of TPC-G for H1 FY 2019-20 and the estimated generation for H2 FY 2019-20 is shown in the following Table:

Table 68 Gross Generation considered for Provisional Truing up for FY 2019-20 (MU)

Sl. No.	Generating Unit	FY 2019-20			
		MTR Order	H1 (Actual)	H2 (Estimated)	Total (Estimated)
1	Unit 5	2960.00	1522.40	1592.88	3115.28
3	Unit 7	1348.00	629.96	538.16	1168.13
4	Unit 8	1881.00	885.80	814.21	1700.00
5	**Total Thermal (A)**	**6,189.00**	**3,038.16**	**2,945.25**	**5,983.41**
6	Bhira	894.00	445.24	458.80	904.04
7	Bhivpuri	289.00	168.96	145.00	313.96
8	Khopoli	287.00	192.35	104.70	297.05
9	**Total Hydro (B)**	**1470.00**	**806.55**	**708.50**	**1515.05**
10	**Grand Total (A) + (B)**	**7,659.00**	**3,844.71**	**3,653.75**	**7,498.46**

5.3.2 TPC-G submitted that the Generation is lower than the approved Generation in MTR Order mainly on account of lower generation of thermal units as per the system demand.

Commission's Analysis and Ruling

5.3.3 The Commission has considered the Gross Generation for Thermal Units and Hydro Generating Stations based on actual for H1 and estimated Generation by TPC-G. Accordingly, the Commission approves Gross Generation of 7498.46 MU for FY 2019-20 for the purpose of provisional Truing up.

5.4 Heat Rate

TPC-G's Submission

5.4.1 Heat Rates for the Thermal Generating Units in comparison with that of the norms approved in the MTR Order is shown in the following Table:

Table 69 Heat Rate (kcal/kwh) for FY 2019-20 as submitted by TPC-G

Sl. No.	Generating Unit	FY 2019-20			
		MTR Order	H1 (Actual)	H2 (Estimated)	Total (Estimated)
1	Unit 5	2,549	2,534	2,523	2,528
2	Unit 7	2,035	2,000	2,031	2,014
3	Unit 8	2,450	2,334	2,321	2,328

5.4.2 Unit 5: The estimated Heat Rate of Unit 5 for FY 2019-20 is expected to be lower than the Normative Heat Rate specified as per the MYT Regulations, 2015.

5.4.3 Unit 7: The estimated Heat Rate of Unit 7 is for FY 2019-20 expected to be lower than the Normative Heat Rate specified as per the MYT Regulations, 2015.

Commission's Analysis and Ruling

5.4.4 Based on actuals data for H1 of FY 2019-20, the Commission observes that the actual Heat Rate for all units is lower than the normative value. TPC-G also estimated the lower value for FY 2019-20. For the purpose of provisional Truing up, the Commission approves the Normative Heat Rate as per MYT Regulations, 2015. Any efficiency gains and losses on account of performance of heat rate shall be considered at time of truing up for FY 2019-20.

5.4.5 Accordingly, the Commission approves Heat Rate for FY 2019-20 as shown in the following Table:

Table 70 Heat Rate (kcal/kwh) for FY 2019-20 as approved by the Commission

Sl. No.	Particulars	MTR Order	TPC-G's Petition	Normative approved in this Order
1	Unit 5	2,549	2,528	2,549
2	Unit 7	2,035	2,014	2,035
3	Unit 8	2,450	2,328	2,450

5.5 Auxiliary consumption

TPC-G's Submission

5.5.1 The Auxiliary Consumption for the Thermal Generating Units and Hydro Generating Stations for FY 2019-20 is as given in the table below:

Table 71 Auxiliary Consumption (%) for FY 2019-20 as submitted by TPC-G

Sl. No.	Generating Unit		FY 2019-20		
		MTR Order	H1 (Actual)	H2 (Estimated)	Total (Estimated)
1	Hydro generating Stations	1.55%	1.94%	2.24%	2.08%
2	Unit 5	6.00%	5.96%	6.00%	5.98%
3	Unit 7	3.00%	2.88%	3.06%	2.96%
4	Unit 8	8.50%	6.34%	6.33%	6.34%

5.5.2 TPC-G submitted that Auxiliary Consumption in the case of Unit 5 and Unit 7 are estimated to be within the norms specified by the Commission. The estimated Auxiliary Consumption of the Hydro Generating Stations for FY 2019-20 is 2.08%. This Auxiliary Consumption is exclusive of energy consumption by Hydro housing Colonies. TPC-G requested the Commission to provisionally approve the estimated Auxiliary Consumption.

Commission's Analysis and Ruling

5.5.3 Based on actuals data for H1 of FY 2019-20, the Commission observes that the actual Auxiliary Consumption for all the thermal units is within normative value. TPC-G also estimated the auxiliary consumption for entire FY 2019-20 lower than the norm. Also, in case of Hydro Generating Stations, actual Auxiliary consumption in H1 of FY 2019-20 is more than approved value because of consideration of GT Losses.

5.5.4 For the purpose of provisional Truing up, the Commission approves the Normative Auxiliary Consumption as per MYT Regulations, 2015. Any efficiency gains and losses on account of performance of auxiliary consumption shall be considered at time of truing up for FY 2019-20.

5.5.5 Accordingly, the Commission approves Auxiliary Consumption as shown in the following Table:

Table 72 Auxiliary Consumption (%) for FY 2019-20 as approved by the Commission

Sl. No.	Particulars	MTR Order	TPC-G's Petition	Normative approved in this Order
1	Hydro generating Stations	1.55%	2.08%	1.55%
2	Unit 5	6.00%	5.98%	6.00%
3	Unit 7	3.00%	2.96%	3.00%
4	Unit 8	8.50%	6.34%	8.50%

5.6 Availability

TPC-G's Submission

5.6.1 TPC-G submitted the estimated Availability for its Thermal Units and Hydro Generating Stations as shown in the following Table:

Table 73 Availability for FY 2019-20 as submitted by TPC-G (%)

Sl. No.	Generating Unit		FY 2019-20		
		MTR Order	H1 (Actual)	H2 (Estimated)	Total (Estimated)
1	Unit 5	85.00%	96%	94%	95%
2	Unit 7	85.00%	100%	82%	91%
3	Unit 8	85.00%	94%	83%	89%
4	Bhira	90.00%	100%	93%	97%
5	Bhivpuri	90.00%	100%	98%	99%
6	Khopoli	90.00%	100%	92%	96%

5.6.2 TPC-G submitted that estimated Availability of all Thermal Generating Units for FY 2019-20 is expected to be greater than the normative Availability as specified in Regulation 44.1 of the MYT Regulations, 2015. Also, the estimated Annual Availability of all Hydro Generating Stations is also expected to be higher than the normative availability of 90% as specified in Regulation 46.1 of the MYT Regulations, 2015.

Commission's Analysis and Ruling

5.6.3 The Commission notes that the estimated availability of all Thermal Generating Units and Hydro Generating Stations are greater than the normative availability as specified in the MYT Regulations, 2015.

5.6.4 For the Provisional Truing up, the Commission has considered the Availability for Thermal Generating Stations and Availability for Hydro Generating Stations as per the submission of TPC-G.

5.6.5 Since the Commission has considered Availability higher than the target Availability, TPC-G will be entitled to recover the full fixed charges at target Availability of 85% and 90% for Thermal and Hydro Generating Units, respectively, as stipulated in the MYT Regulations, 2015.

5.7 Fuel Cost

TPC-G's Submission

5.7.1 TPC-G submitted the estimated Unit-wise Fuel cost for FY 2019-20 as shown in the following Table:

Table 74 Fuel Cost (Rs. Crore) for FY 2019-20 as submitted by TPC-G

Sl. No.	Generating Unit	FY 2019-20		
		H1 (Actual)	H2 (Estimated)	Total (Estimated)
1	Unit 5	527.94	560.41	1088.34
2	Unit 7	161.00	149.69	310.68
3	Unit 8	287.76	262.23	549.98
4	**Grand Total**	**976.70**	**972.33**	**1,949.00**

5.7.2 TPC-G submitted that it would continue to use the fuels as have been using in the past i.e. Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS) and Imported RLNG for its Generating Units.

5.7.3 TPC-G has considered the actual fuel cost of H1 FY 2019-20. For estimating the fuel prices for H2 of FY 2019-20, weighted average of the fuel prices of the last three months i.e. July’19, August’19 and September 2019 have been considered.

Commission’s Analysis and Ruling

5.7.4 The Commission has gone through the details of fuel receipts as submitted by TPC-G and accordingly, has considered actual landed fuel price and calorific value of fuels as submitted by TPC-G for Provisional Truing up.

5.7.5 The Commission observes that there is increase in price of APM gas to Rs. 16,640.35/MMSCM during H1 of FY 2019-20 as compared to price of Rs. 12,829.37/MMSCM during FY 2018-19. Also, the Coal price has reduced to Rs. 6515.94/MT during H1 of FY 2019-20 as compared to Coal price of Rs. 7138.88/MT in FY 2018-19.

5.7.6 For the purpose of provisional truing up, the Commission has considered the fuel prices of latest three months for the period from July 2019 to September 2019 as considered by TPC-G. Accordingly, the Fuel Cost approved by the Commission for FY 2019-20 is shown in the following Table:

Table 75 Fuel Cost (Rs. Crore) for FY 2019-20 as approved by the Commission

Sl. No.	Particulars	TPC-G's Petition	Approved in this Order
1	Unit 5	1088.34	1088.34
2	Unit 7	310.68	310.68
3	Unit 8	549.98	549.98
4	**Grand Total**	**1,949.00**	**1,949.00**

5.7.7 **The Commission approves the total fuel cost of Rs 1949 Crore for FY 2019-20.**

5.8 Operation and Maintenance Expenses

TPC-G's Submission

5.8.1 TPC-G has considered the normative O&M expenditure computed as per the Regulation 45.1 (a) to (d) of the MYT (First Amendment) Regulations, 2015. The escalation rate has been considered same as that arrived for FY 2018-19 and further adding the Water Charges have been estimated based on the latest expenses incurred during H1 of FY 2019-20. Further, TPC-G has proposed reduction in O&M Expenses on account of Transfer of assets from Generation to Transmission.

5.8.2 TPC-G submitted the O&M Expenses for Unit 5 to 7 and Hydro Generating Stations as Rs. 463.48 Crore for FY 2019-20.

5.8.3 As regards Unit 8, TPC-G submitted the O&M Expenses of Rs. 68.88 Crore for FY 2019-20 as per applicable norms of Rs. 27.55 Lakh /MW for capacity of 250 MW.

Commission's Analysis and Ruling

5.8.4 The Commission has approved the O&M Expenses for Unit 5 to 7 and Hydro Generating Stations for FY 2019-20 as per the provisions of MYT Regulations, 2015 as amended from time to time.

5.8.5 For computation of normative O&M Expenses, the Commission has considered the Escalation factor of 2.50% same as considered for FY 2018-19 in this Order.

5.8.6 Regarding the impact of transfer of assets from Generation to Transmission, the

Commission notes that TPC-T has filed a separate Petition for amendment of Licence for TPC-T. The said Petition is in process. Hence, the Commission has not considered any impact on account of transfer of assets from Generation to Transmission on O&M Expenses at this stage and the same will be considered at the time of MTR as per the decision of the Commission in the pending petition of TPC-G. The O&M Expenses for Unit 5 to 7 and Hydro Stations as approved by the Commission for FY 2019-20 is shown in the following Table:

Table 76 O&M Expenses (Rs. Crore) for Unit 5 to 7 & Hydro for FY 2019-20 as approved by the Commission

Sl. No.	Particulars	TPC-G's Petition	Approved in this Order
1	Normative O&M Expenses for FY 2018-19 without Water Charges	454.48	421.65
2	Escalation rate as per MYT Regulations, 2015	2.11%	2.50%
3	Normative O&M Expenses for FY 2019-20 w/o Water Charges	464.07	432.19
4	Add: Water Charges	5.00	5.00
5	Less: O&M Expenses for transfer of assets	5.59	-
6	**Total O&M Expenses**	**463.48**	**437.19**

5.8.7 **The Commission approves the O&M expenses of Rs 437.19 Crore for Unit 5 to 7 & Hydro for FY 2019-20**.

5.8.8 **As regards Unit 8, the applicable norms for O&M Expenses for FY 2019-20 is Rs. 27.55 Lakh per MW. Accordingly, the Commission approves the Normative O&M Expenses of Rs. 68.88 Crore for FY 2019-20 for Unit 8.**

5.9 Capitalisation

TPC-G's Submission

5.9.1 As regards Unit 5 to 7 and Hydro Station, the Commission had approved a capitalisation of Rs. 37.77 Crore in the MTR Order. Against this, the capitalisation estimated for FY 2019-20 is Rs. 95.74 Crore. Out of the total estimated capitalisation of Rs. 95.74 Crore, the capitalisation on account of DPR schemes (including merged DPRs) is Rs. 75.54 Crore and the balance of Rs. 20.20 Crore is on account of Non-DPR schemes. The capitalisation is higher than the approved capitalisation in MTR Order mainly on account of the estimated capitalisation of expenditure toward the Unit 7 Gas Turbine life extension to the tune of Rs. 65 Crore. Further, TPC-G submitted that the ratio of Non-DPR to DPR is estimated to be around 26.74 %. The said ratio is higher than the limit of 20% mainly on account of large of non-DPR schemes of Hydro Divisions, which cannot be clubbed even as a merged DPR by virtue of different job scopes.

5.9.2 As regards Unit 8, TPC-G submitted the capitalisation of Rs. 0.30 Crore, including capitalisation of Rs. 0.29 Crore towards DPR schemes and Rs. 0.01 Crore towards Non-DPR schemes.

Commission's Analysis and Ruling

5.9.3 Regulation 23.6 of MYT Regulations, 2015 specifies that amount of capitalisation towards non-DPR schemes for any year shall not exceed 20% of amount of capitalisation approved against the DPR Schemes for that respective year. The Commission notes that non-DPR capitalisation submitted by TPC-G is more than 20% of DPR Capitalisation. As discussed in earlier Chapter of this Order, the Commission, while approving the capitalisation for the purpose of truing up, restricted the non-DPR capitalisation upto 20% of amount of capitalisation towards DPR schemes.

5.9.4 The Commission has analysed the detail scheme wise break up of estimated capitalisation provided by TPC-G. The DPRs schemes which have been in principle approved by the Commission have been considered for approval. The Commission has considered the capitalisation based on the progress of the scheme.

5.9.5 The major capitalization proposed by TPC-G is towards execution of DPR for U7 Gas Turbine Life Extension which has been approved by the Commission in January, 2019 with the approved cost of Rs. 66.42 Crore. This has been allowed by the Commission.

5.9.6 As regards Unit 8, it is observed that barring Rs. 0.30 Crore DPR capitalization allocated from other units to Unit 8, there is no DPR capitalization for Unit 8 for FY 2019-20. Hence, the Commission allows DPR capitalization of Rs. 0.30 Crore for Unit 8 for FY 2019-20.

5.9.7 The summary of Capitalisation approved by the Commission for FY 2019-20 is shown in the following Table:

Table 77 Approved Capitalisation for FY 2019-20 (Rs. Crore)

Particulars	Unit 5 to 7 & Hydro Stations		Unit 8	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
DPR Capitalisation	75.54	73.42	0.29	0.30
Non-DPR Capitalisation	20.20	14.68	0.01	-
Total Capitalisation	**95.74**	**88.11**	**0.30**	**0.30**

5.9.8 **The Commission approves the Capitalisation of Rs 88.11 Crore for Unit 5 to 7 & Hydro and Rs 0.3 Crore for Unit 8 for FY 2019-20**.

5.9.9 The Commission has considered the financing of capitalisation as per normative debt:equity ratio of 70:30 as specified in Regulation 26 of MYT Regulations, 2015. The financing of capitalisation for FY 2019-20 as approved by the Commission is shown in the following Table:

Table 78 Approved Financing of Capitalisation for 2019-20 (Rs. Crore)

Particulars	Unit 5 to 7 & Hydro Stations	Unit 8
Equity	26.43	0.09
Debt	61.68	0.21
Total Capitalisation	**88.11**	**0.30**

5.10 Depreciation

TPC-G's Submission

5.10.1 TPC-G has computed the Depreciation for FY 2019-20 by considering the Depreciation Rate worked out as per the provisions of the Regulations and the average of opening and closing GFA for FY 2019-20. The GFA of the transferred assets has been excluded from the opening GFA of FY 2019-20, thus Depreciation of these assets is not factored in. Based on the same, the Depreciation for Unit 5 to 7 and Hydro Stations for FY 2019-20 is submitted as Rs. 174.72 Crore.

5.10.2 Similarly, TPC-G submitted the Depreciation of Rs. 59.58 Crore for Unit 8 for FY 2019-20.

Commission's Analysis and Ruling

5.10.3 The Commission has considered the Depreciation as per Regulation 27 of MYT Regulations, 2015. GFA approved in previous Chapter after True-up for FY 2018-19 has been considered as Opening GFA for FY 2019-20. The addition of GFA considered equal to capitalisation approved in this Order.

5.10.4 The Commission notes that TPC-G has considered the rate of depreciation higher than actual rate of depreciation for FY 2018-19. In response to the Commission's query, TPC-G submitted the same rate has been computed as per specified rates in MYT Regulations, 2015. The Commission notes that impact of reduction of assets for Unit 6 has already been taken in FY 2018-19, there is no substantial increase in rate of depreciation. Further, the Commission notes that TPC-G has computed the weighted average rate of depreciation after applying rates specified in MYT Regulations on average GFA. However, the actual weighted average rate of depreciation is lower than such computation on account of fact that part of assets has already been fully depreciated. Hence, even though these assets are part of Gross Fixed Assets, there would be no depreciation on such assets.

5.10.5 For the purpose of provisional truing up, the Commission has considered the rate of depreciation equal to actual weighted average rate of depreciation of FY 2018-19. Any difference in depreciation amount shall be considered at time of final truing up for FY 2019-20, subject to prudence check.

5.10.6 Further, the Commission notes that TPC-G has reduced the Gross Fixed Assets of Rs. 69.19 Crore on account of transfer of assets from Generation to Transmission. TPC has filed a separate Petition before the Commission for Amendment of Transmission Licence in Case No. 149 of 2019. The Petition is under process. Hence, the Commission, at this stage, has not considered the transfer of asset from Generation to Transmission and the same will be considered at the time of MTR

5.10.7 The depreciation approved by the Commission for FY 2019-20 is shown in the following Table:

Table 79 Approved Depreciation for FY 2019-20 (Rs. Crore)

Particulars	Unit 5 to 7 & Hydro Stations		Unit 8	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Opening GFA	3,773.30	3,787.52	1,208.61	1,195.21
Asset addition during the Year	95.74	88.11	0.30	0.30
Asset Retirement during the year	-	-	-	-
Closing GFA	3,869.04	3,875.63	1,208.91	1,195.51
Rate of Depreciation (%)	4.57%	3.36%	4.93%	5.15%
Depreciation	**174.72**	**128.71**	**59.58**	**61.55**

5.10.8 **The Commission approves the Depreciation of Rs 128.71 Crore for Unit 5 to 7 & Hydro and Rs 61.55 Crore for Unit 8 for FY 2019-20**.

5.11 Interest on Loan capital

TPC-G's Submission

5.11.1 As regards Unit 5 to 7 and Hydro Stations, TPC-G submitted Interest on Loan capital of Rs. 26.12 Crore for FY 2019-20, based on the closing balance of loans for FY 2018-19, additional capitalisation estimated for FY 2019-20, impact of loan on account of transfer of assets, interest rate equivalent to that computed for FY 2018-19 as per Regulation 29.5 of the MYT Regulations, 2015.

5.11.2 Similarly, TPC-G submitted the Interest on Loan capital of Rs. 26.30 Crore for Unit 8 for FY 2019-20.

Commission's Analysis and Ruling

5.11.3 The opening balance of the loan for FY 2019-20 is considered equal to the closing balance of the loan for FY 2018-19 approved in the earlier Chapter of this Order. Further, addition in loan is considered as 70% of the capitalization approved by the Commission above. Further, in accordance with Regulation 29.3 of MYT Regulation, 2015, loan repayment has been considered as equal to the Depreciation allowed in this Order. Th weighted average rate of interest has been considered based on opening loan portfolio for FY 2019-20.

5.11.4 The interest on Loan capital approved by the Commission for FY 2019-20 is shown in the following Table:

Table 80 Approved Interest on Loan Capital for FY 2019-20 (Rs. Crore)

Particulars	Unit 5 to 7 & Hydro Stations		Unit 8	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Opening Balance of Net Normative Loan	356.18	354.85	334.17	336.25
Less: Reduction of Normative Loan due to retirement or replacement of assets	0.00	-		-
Addition of Normative Loan due to capitalisation during the year	67.02	61.68	0.21	0.21
Repayment of Normative loan during the year	174.72	128.71	59.58	61.55
Closing Balance of Net Normative Loan	248.47	287.82	274.80	274.91
Weighted average Rate of Interest on actual Loans (%)	8.64%	8.64%	8.64%	8.64%
Total Interest on Loan Capital	**26.12**	**27.76**	**26.30**	**26.40**

5.11.5 **The Commission approves the Interest of Rs. 27.76 Crore for Unit 5 to 7 & Hydro and Rs. 26.40 Crore for Unit 8 for FY 2019-20. The Interest on Loan capital approved by the Commission is higher than claimed by TPC-G on account of non-consideration of transfer of assets of Rs. 66.19 Crore from Generation to Transmission**.

5.12 Interest on Working Capital

TPC-G's Submission

5.12.1 TPC-G submitted that the Interest on Working Capital for FY 2019-20 has been computed based on the elements specified in Regulation 31.1 of the MYT Regulations, 2015. As per the Regulation 2.1 (10) of MYT Regulations (First Amendment), 2015 the Base Rate to be considered as the Interest Rate for computing Interest on Working Capital is the One Year SBI MCLR Rate as specified by SBI from time to time. The weighted average One Year SBI MCLR Rate for FY 2019-20 (1st April 2019 to 4th December 2019) is 9.80 %.

5.12.2 Accordingly, TPC-G submitted the Interest on Working Capital for FY 2019-20 as Rs. 34.93 Crore for Unit 5 to 7 & Hydro Stations and Rs. 11.34 Crore for Unit 8.

Commission's Analysis and Ruling

5.12.3 The Commission has considered the norms specified in Regulation 31.1 of MYT Regulations, 2015 to compute the working capital requirement for each type of units/plants. The normative working capital corresponding to the primary fuel of thermal plants has been computed based on the normative SHR and target availability. Further, for computation of working capital requirement, the Commission has considered the normative O&M Expenses approved in this Order.

5.12.4 Regulation 35.1(f) of MYT Regulations 2015 specifies that the rate of interest should be on normative basis and shall be equal to the Base Rate as on the date on which the Petition for determination of Tariff is filed, plus 150 basis points. Accordingly, the Commission has considered the rate of interest of 9.80% based on latest applicable base rate available.

5.12.5 IoWC approved by the Commission for FY 2019-20 is shown in the following Table:

Table 81 Approved Interest on Working Capital for FY 2019-20 (Rs. Crore)

Particulars	Unit 5 to 7 & Hydro Stations		Unit 8	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Working Capital Requirement	356.50	323.03	115.74	115.67
Rate of Interest (%)	9.80%	9.80%	9.80%	9.80%
Interest on Working Capital	34.93	31.65	11.34	11.33

5.12.6 **The Commission approves the Interest on Working Capital of Rs 31.65 Crore for Unit 5 to 7 & Hydro and Rs 11.33 Crore for Unit 8 for FY 2019-20**.

5.13 Return on Equity

TPC-G's Submission

5.13.1 TPC-G submitted the Return on Equity for Unit 5 to 7 & Hydro Stations as Rs. 210.79 Crore for FY 2019-20 after considering the capitalised expenditure and Debt:Equity ratio of 70:30, the reduction in the opening regulated equity of FY 2019-20 on account of transfer of assets, Further, TPC-G clarified that, as the year has yet not ended, there has been no retirement/de-capitalisation of assets considered for the purposes of this provisional true-up.

5.13.2 Similarly, TPC-G submitted the Return on Equity of Rs. 56.33 Crore for Unit 8 for FY 2019-20.

Commission's Analysis and Ruling

5.13.3 The opening balance of equity for FY 2019-20 is considered equal to closing balance of equity for FY 2018-19 as approved by the Commission in the earlier Chapter of this Order. Further, addition in equity is considered as 30% of the capitalization approved by the Commission above. The Commission has not considered an equity reduction at this stage, however, the same shall be considered at time of truing up. RoE has been taken at the rate of 15.5% of the equity, in accordance with Regulation 28.1 and 28.3 of the MYT Regulations, 2015.

5.13.4 As discussed earlier, since, the Commission has not considered the transfer of assets from Generation to Transmission, the reduction in equity towards such assets as considered by TPC-G is not the case for the approval.

5.13.5 RoE as claimed by TPC-G and approved by the Commission after Truing up is summarised in the following Table:

Table 82 Approved Return on Equity for FY 2019-20 (Rs. Crore)

Particulars	Unit 5 to 7 & Hydro Stations		Unit 8	
	TPC-G Petition	Approved in this Order	TPC-G Petition	Approved in this Order
Regulatory Equity at the beginning of the year	1,345.60	1,347.15	363.39	358.57
Capitalisation during the year	95.74	88.11	0.30	0.30
Equity portion of capitalisation during the year	28.72	26.43	0.09	0.09
Reduction in Equity Capital on account of retirement / replacement of assets	-	-	-	-
Regulatory Equity at the end of the year	1,374.32	1,373.58	363.48	358.66
Rate of Return (%)	15.50%	15.50%	15.50%	15.50%
Return on Equity	**210.79**	**210.86**	**56.33**	**55.58**

5.13.6 **The Commission approves the Return on Equity of Rs 210.86 Crore for Unit 5 to 7 & Hydro and Rs 55.58 Crore for Unit 8 for FY 2019-20**.

5.14 Income Tax

TPC-G's Submission

5.14.1 TPC-G submitted that, as per Regulation 33.1 of the MYT Regulations, 2015, the

Commission shall provisionally approve the Income Tax payable as per the latest available Audited Accounts, subject to prudence check. In line with the above, the provisional Income Tax payable for FY 2019-20 is same as that of FY 2018-19 submitted in the present Petition.

5.14.2 In view of the above, TPC-G submitted the Income Tax of Rs. 131.67 Crore for Unit 5 to 7 & Hydro Stations and Rs. 27.15 Crore for Unit 8 for FY 2019-20.

Commission's Analysis and Ruling

5.14.3 While approving the Income Tax for FY 2018-19, Income Tax payable was worked out considering the Truing up amounts as per the audited accounts. Therefore, in accordance with Regulations 33.1, the Commission approves the Income Tax for FY 2019-20 as equivalent to that approved in this Order for FY 2018-19.

5.14.4 **Accordingly, the Commission approves the Income Tax of Rs. 126.49 Crore for Unit 5 to 7 & Hydro Stations and Rs. 17.88 Crore for Unit 8 for FY 2019-20**.

5.15 Non-Tariff Income

TPC-G's Submission

5.15.1 TPC-G submitted that the Non-Tariff Income has been considered same as actuals of FY 2018-19. Accordingly, TPC-G requests to provisionally approve the Non-Tariff Income of Rs. 30.86 Crore for Unit 5 to 7 & Hydro Stations and Rs. 0.09 Crore for Unit 8 for FY 2019-20.

Commission's Analysis and Ruling

5.15.2 The Commission has considered the Non-Tariff Income for FY 2019-20 same as approved for FY 2018-19 after truing up. Accordingly, the Commission approves Non-tariff Income of Rs. 30.86 Crore for Unit 5 to 7 & Hydro Stations and Rs. 0.09 Crore for Unit 8 for FY 2019-20.

5.16 Revenue from Sale of Power

TPC-G's Submission

5.16.1 TPC-G submitted the Revenue from Sale of power of Rs. 2347.01 Crore for Unit 5 to 7 & Hydro Stations for FY 2019-20, which includes the revenue of Rs. 768.16 Crore from Fixed Charges, Rs. 1578.10 Crore from Energy Charges and Rs. 0.76 Crore from Incentive.

5.16.2 Similarly, TPC-G submitted the revenue from sale of power of Rs. 833.37 Crore for Unit 8 for FY 2019-20, which includes the revenue of Rs. 248.88 Crore from Fixed Charges, Rs. 584.48 Crore from Energy Charges and Rs. 0.01 Crore from Incentive.

Commission's Analysis and Ruling

5.16.3 The Commission has considered the revenue from sale of power for FY 2019-20 as submitted by TPC-G for the purpose of provisional truing up. Accordingly, the Commission has approved the revenue of Rs. 2347.01 Crore for Unit 5 to 7 & Hydro Stations and Rs. 833.37 Crore for Unit 8 for FY 2019-20.

5.17 Summary of ARR and Revenue Gap/(Surplus)

5.17.1 Based on the provisional Truing up of various elements of expenses and revenue, the Commission has determined the total Revenue Gap/Surplus as against that estimated by TPC-G. The summary of the net ARR as approved by the Commission for FY 2019-20 is given in the following Table:

Table 83 Revenue Gap/(surplus) for FY 2019-20 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Unit 5 to 7 & Hydro			Unit 8		
		MTR Order	TPC-G Petition	Approved in this Order	MTR Order	TPC-G Petition	Approved in this Order
A	**Annual Fixed Charges**						
1	O&M Expenses	570.59	463.48	437.19	68.88	68.88	68.88
2	Depreciation	155.89	174.72	128.71	61.30	59.58	61.55
3	Interest on Loan Capital	31.40	26.12	27.76	28.36	26.30	26.40
4	Interest on Working Capital	18.02	34.93	31.65	6.22	11.34	11.33
5	Income Tax	103.34	131.67	126.49	20.13	27.15	17.88
6	Return on Equity	250.55	210.79	210.86	55.72	56.33	55.58
7	Less: Non-Tariff Income	25.62	30.86	30.86	0.48	0.09	0.09
8	Less : Unallocated fixed cost portion of Unit-4	12.44	-	-	-	-	-
9	Add/(Less) : Allocation for Shared Capacity to Unit 8	(8.75)	(12.02)	(12.02)	8.75	12.02	12.02
10	**Sub-total**	**1,082.98**	**998.83**	**919.78**	**248.88**	**261.52**	**253.55**
B	**Fuel Cost**	-	1,399.03	1,399.03	-	549.98	549.98
C	**Net ARR**	**1,082.98**	**2,397.86**	**2,318.81**	**248.88**	**811.50**	**803.53**
D	**Revenue**	-	**2,347.01**	**2,347.01**	-	**833.37**	**833.37**
E	**Revenue Gap/(Surplus)**	-	**50.85**	**(28.20)**	-	**(21.87)**	**(29.84)**

5.17.2 **The Commission upon provisional truing up of expenses and revenue for Unit 5 to 7 and Hydro for FY 2019-20 approves the surplus of Rs. 28.20 Crore as against gap of Rs. 50.85 Crore claimed by TPC-G.**

5.17.3 **The Commission upon provisional truing up of expenses and revenue for Unit 8 for FY 2019-20 approves the surplus of Rs. 29.84 Crore as against surplus of Rs. 21.87 Crore claimed by TPC-G.**

6 Past Recovery and Cumulative Revenue Gap

6.1 Recovery of Amount Paid under Entry Tax Amnesty Scheme, 2019

TPC-G's Submission

6.1.1 TPC-G submitted the recovery of amount of Rs. 276.22 Crore paid under Entry Tax Amnesty Scheme, 2019.

6.1.2 In this regard, TPC-G made the following submissions:

(a) TPC-G imports Low Sulphur Waxy Residue and Low Sulphur Fuel Oil being used in the generation of power for its thermal generating plants. Demands for entry tax were raised under the Maharashtra Tax on the Entry of Goods into Local Areas Act, 2002 ("the Entry Tax Act, 2002"). TPC-G was liable to pay VAT under the Maharashtra Value Added Tax Act, 2005, which came into force on April 1, 2006, and entry tax under the provisions of the Entry Tax, 2002. The above-mentioned goods were imported into Mumbai through port in Mumbai.

(b) The following were the demands by Tax Authorities based on various assessment orders:

Table 84 Entry Tax assessment Details as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	Principal Amount	Interest Amount	Penalty amount	Total
1	2005-06	105.72	114.97	105.72	326.40
2	2006-07	85.58	89.85	85.58	261.01
3	2007-08	162.62	170.75	162.62	495.98
4	2008-09	176.52	105.91	176.52	458.96
5	2009-10	62.84	37.71	62.84	163.39
6	2010-11	7.15	4.29	7.15	18.60
7	2011-12	124.06	74.44	124.06	322.55
8	2012-13	104.27	46.09	16.40	166.77
9	2013-14	31.37	9.06	2.86	43.28
10	**Grand Total**	**860.13**	**653.07**	**743.75**	**2,256.94**

(c) The Assessment Orders were challenged before the Joint Commissioner after paying the amount of Rs. 269.11 Crore towards principal amount.

(d) After dismissal of the appeals by the Joint Commissioner, further appeals were preferred, unsuccessfully, to the Maharashtra Sales Tax Tribunal, and thereafter to the Bombay High Court. Apart from the statutory appeals, TPC-G had also filed a Writ Petition and Appeal before the Bombay High Court which was dismissed on August 12, 2016. Aggrieved by the above order of the Hon'ble High Court of Bombay, TPC-G filed a Special Leave Petition (SLP) before the Hon'ble Supreme Court on September 14, 2016. The aggregate amount of tax stayed by the Hon'ble Supreme Court for FY 2005-06 and FY 2008-09 worked out to Rs. 785.35 Crore.

(e) In the interim period, Tata Power made payment of the principal amount of Entry tax under protest after adjusting the sales Tax set off amounts as per GoM Notification. TPC-G had duly approached the Commission for consideration of such payments during the tariff Petitions filed during previous years. As of now, an amount of Rs. 244.54 Crore has already been admitted as Entry Tax liability in various Tariff petitions filed before the Commission.

(f) Meanwhile, Government of Maharashtra issued Maharashtra Settlement of Arrears Dispute Act, 2016 vide which an Amnesty Scheme was floated to settle the disputes related to Entry Tax, interest and penalty leviable. TPC-G evaluated whether it would be more prudent to avail the said Amnesty Scheme or pursue the SLP filed before the Hon'ble Supreme Court. In view of the fact that there was no clarity on VAT set off allowable against the Entry Tax liability under the Amnesty Scheme, TPC-G, considered it to be more judicious to proceed with the SLP considering the impact of the issue on the beneficiaries / consumers of TPC-G.

(g) The provisions of Rule 8(1) of the Entry Tax Rules, 2002 and Section 6 of the Entry Tax Act, 2002 were not in sync with each other and the said rule created unreasonable restrictions for assessment. Therefore, the State Legislature by a trade circular dated April 15, 2017 amended Rule 8 of the Entry Tax Rules w.e.f. April 1, 2005, retrospectively. By retrospective amendment of Rule 8, the legislative intention was made expressly clear that Section 6 of the Entry Tax Act, 2002 provides that all provisions under the MVAT Act are applicable to the Entry Tax Act, 2002

(h) Further, the Government of Maharashtra vide Ordinance No. V of 2019 dated March 6, 2019 announced the Amnesty Scheme for settlement of arrears of tax, interest and penalty which were levied, payable or imposed under the various Acts administered by the Goods and Service Tax Department including Entry Tax.

(i) The scheme had two operative phases i.e. Phase I: April 2019 to June 2019 and Phase II: April to July, 2019 with separate waiver rates for each period. The Phase I was more beneficial as compared to Phase II. The Amnesty Scheme had the following conditions:

   a. Waiver of interest and penalty shall be available to the extent of interest 90% and 95% respectively if the application is filed in Phase I;
   b. To opt for the Amnesty Scheme, the Company needs to unconditionally withdraw the appeals filed with the respective appellate authorities;
   c. The application shall be accompanied by the proof of payment of requisite amount as determined as per the Amnesty Scheme.

(j) TPC-G decided to proceed with availing the Amnesty Scheme for the following reasons

   a. Tata Power had to pay an amount of Rs. 276 Crore under the Amnesty

Scheme 2019 as against the possible claim amount of Rs. 2,488 Crore (Rs. 1,988 Crore + Rs. 500 Crore post assessment interest) in case Hon'ble Supreme Court had ruled against TPC-G.

b. The Commission will appreciate that the decision to avail the Amnesty Scheme 2019 was taken bearing in mind solely that the impact on the consumers would be much more in case Tata Power does not succeed in the SLP before the Hon'ble Supreme Court.

c. The issues raised by Tata Power before the Hon'ble Supreme Court have thus been concluded by binding decisions (as stated above).

d. The issue regarding assessment orders being time barred under Rule 8 of the Entry Tax Rules was taken away by the State Legislature by bringing about an amendment vide Maharashtra Act No. XXXI of 2017 dated April 15, 2017 amending Rule 8 of the Entry Tax Rules w.e.f. April 1, 2005.

(k) Accordingly, the details of the total amount paid towards Entry Tax Amnesty Scheme, 2019 are given below:

Table 85 Entry Tax Settlement Orders under Amnesty Scheme, 2019 as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	Amount Paid (Rs. Crore)	Challan No.	Challan Date	Bank Entry Document No.
1	2005-06	39.78	MH002646643201920E	14-Jun-19	21000444
2	2006-07	31.88	MH002563062201920E	12-Jun-19	21000444
3	2007-08	54.86	MH002563980201920E	12-Jun-19	21000444
4	2008-09	51.61	MH002622024201920E	13-Jun-19	21000444
5	2009-10	18.37	MH002132752201920E	31-May-19	21000372
6	2010-11	0.43	MH002565297201920E	12-Jun-19	21000444
7	2011-12	48.53	MH002622728201920E	13-Jun-19	21000444
8	2012-13	26.16	MH002135271201920E	31-May-19	21000372
9	2013-14	4.56	MH002136512201920E	31-May-19	21000372
10	**Grand Total**	**276.22**			

(l) The total Entry Tax liability of Rs. 860.13 Crore was assessed by the Tax Authorities for the period FY 2005-06 to FY 2013-14 excluding the interest and penalties applicable as per the respective tax assessments. The Commission has admitted an amount of Rs. 244. 54 Crore. TPC-G has paid an additional amount of Rs. 276.22 Crore towards final settlement of its entry tax liability, thereby incurring a total cost of Rs. 520.76 Crore on this issue.

(m) The participation in the Entry Tax Amnesty Scheme, 2019 has resulted in a net savings of Rs. 339.37 Crore to the Distribution Licensees on the principal amount of Entry Tax payable.

6.1.3 Further, TPC-G submitted the recovery of Entry Tax scheme from Beneficiaries as shown in the following Table:

Table 86 Recovery of Entry Tax from Beneficiaries as submitted by TPC-G (Rs. Crore)

Sl. No.	Particulars	BEST	RInfra-D	TPC-D	Grand Total
1	Entry Tax amount	118.98	59.21	98.03	276.22

Commission's Analysis and Ruling

6.1.4 The Commission in the past Orders has already taken a view on allowance of Entry Tax and passed on the impacts through Tariff. The Commission notes that, in the past Orders, it has allowed the Entry Tax amount of Rs. 223.46 Crore. This includes amount of Rs. 76.20 Crore allowed in Truing up for FY 2013-14, an amount of Rs. 34.01 Core in Truing up for FY 2014-15, Rs. 74.59 Crore in Truing up for FY 2015-16 and Rs. 38.66 Crore in Truing up for FY 2016-17. Further, the Commission in MTR Order held as under:

> *"6.3.6.2 The Commission sought the documentary evidence towards recoveries of the above Entry Tax and the treatment of the same in its Petition. TPC-G replied that it has included the claim of Rs 21.08 Crore for FY 2013-14 in the Table No. 5-2 of the Petition. It was stated that the claim was made in line with the methodology adopted by the Commission in the previous Tariff Orders. Further, a copy of the Assessment Orders of the Sales Tax Department for Entry Tax and VAT and payment challan were provided.*
>
> *6.3.6.3 The Commission verified the above details and the documentary evidence. On scrutiny of the challan for payments of the Entry Tax amounting to Rs. 1.14 Crore, it was found that TPC-G has made the payments on 22 May 2018 and this payment pertains to FY 2018-19. Therefore, the Commission is not considering this in FY 2017-18 claims presently and would decide in True up proceedings corresponding to the year in which the payment is made. "* ***(emphasis added)***

6.1.5 In response to the Commission's query regarding adjustment of VAT refund, TPC-G submitted that VAT refund of Rs. 19.93 Crore during FY 2017-18 is not pertaining to TPC-G alone and it is for company as a whole. The VAT refund for every financial year has been passed on through Non-tariff Income in respective years. TPC-G submitted year-wise details of VAT refund passed on for the period from FY 2006-07 to FY 2017-18, which amounts to Rs. 81.28 Crore. TPC-G further submitted that in the Entry Tax Assessment Orders for any financial year, the Tax Authorities have been adjusting the VAT Refund amounts due to Tata Power in that year although the Entry

Tax Assessment for procurement of imported Oil and VAT assessment for Tata Power Company as a whole are independent of each other.

6.1.6 The Commission after verifying the details and documentary evidences of the said claim of TPC-G has allowed the Entry tax amount of Rs. 21.08 Crore during Truing up for FY 2018-19 as discussed in earlier Chapter of this Order. Hence, including this amount, the Commission has allowed Entry tax amount of Rs. 244.54 Crore.

6.1.7 The Commission has allowed the impact of Entry Tax in past Orders and hence, there is no dispute on allowance of such amount. Further, during 2016, TPC-G has not opted Amnesty Scheme and preferred to continue with Special Leave Petition before Hon'ble Supreme Court. However, during 2019, TPC-G preferred to opt for Amnesty Scheme. TPC-G further submitted that State Legislature vide Trade Circular dated April 15, 2017 amended Rule 8 of Entry Tax Rules retrospectively w.e.f. April 1, 2005. By retrospective amendment of Rule 8, the Section 6 of the Entry Tax Act, 2002 provides that all provisions under the MVAT Act are applicable to the Entry Tax Act, 2002. All the claims of TPC-G are post the April 1, 2005 and amendment was likely to have impact on TPC-G.

6.1.8 The Commission notes that TPC-G has provided the justification for opting Amnesty Scheme in 2019. It has stated that waiver of interest and penalty is available to the extent of 90% and 95% respectively. Also, TPC-G was required to unconditionally withdraw appeals filed with appellate authorities. After opting of Amnesty Scheme, TPC-G was required to pay only principal amount as substantial amount of interest and penalty is waived off. The Commission finds it justified to opt Amnesty Scheme by TPC-G.

6.1.9 The Commission has reconciled Assessment orders submitted by TPC-G as shown in the following Table:

Table 87 Reconciliation of Entry Tax done by the Commission (Rs. Crore)

Sl. No.	Particulars	Amount in Rs. Crore			
		Principal	Interest	Penalty	Total
1	Initial Demand Notice issued to TPC-G	860.13	653.07	743.75	2256.95
2	Payment made by TPC-G	261.98	4.30	2.86	269.11
3	Disputed amount of Entry Tax	598.15	648.77	740.89	1987.81
4	Payment made under Amnesty Scheme 2019	153.96	77.84	44.42	276.22
5	Tax waived	444.19	570.94	696.46	1711.96

6.1.10 From the above Table, it is observed that TPC-G has made the payment of Rs. 276.22 Crore, which is inclusive of payment towards Principal, Interest and Penalty amount.

6.1.11 The Commission observes that TPC-G has made payment of Rs. 269.11 Crore, however, till date, the amount of Rs. 254.11 Crore was claimed by TPC-G before the Commission. In response to the Commission's query, TPC-G submitted that the difference is arising out of the fact the amount of Entry Tax Payments made / adjusted by way of VAT Refund were not claimed by TPC-G in MYT Petition in Case No. 32 of 2016 for FY 2014-15. Since, TPC-G had already passed on the VAT Refund through Non-Tariff Income also, in the MTR Petition in Case No. 65 of 2018, it has requested the Commission to consider the recovery of Entry Tax paid by way of VAT Refund to the tune of Rs. 22.77 Crore for FY 2014-15, which was already passed on as a part of NTI. However, the Commission rejected the claim saying that the Truing Up of the FY 2014-15 has already completed and cannot be reopened. The Commission notes that the issue pertaining to VAT refund has already decided in MTR Order, the impact of the same is not considered in the present Order.

6.1.12 The Commission understands that since, final settlement of Entry Tax amount was done under Amnesty Scheme, there is no pending claim/additional amount to be considered for the said period. In view of the above, the Commission approves the claim of Entry Tax amount. Further, it is noted that the amount paid under Amnesty Scheme includes the amounts towards interest and penalty. The Commission as a principle in previous Tariff Orders has decided that no penal charges paid can be recovered through Tariff. Hence, the Commission disallows the amount of Rs. 44.42 Crore.

6.1.13 **In view of the above, the Commission approves the amount of Rs. 231.80 Crore towards Entry tax amount paid by TPC-G under Amnesty Scheme 2019.**

6.1.14 Further, the Commission approves the recovery of such amount from its beneficiary in proportion to their sale quantum as shown in the following table:

Table 88 Recovery of Entry Tax from Beneficiaries as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	BEST	RInfra-D (Now AEML-D)	TPC-D	Grand Total
1	Entry Tax amount	99.49	50.35	81.97	231.80

6.2 Stand by Charges

TPC-G's Submission

6.2.1 TPC-G has claimed an amount of Rs. 61.84 Crore towards Standby Charges. TPC-G submitted as under:

(a) The Commission vide its Order dated May 31, 2005 in Case No. 7 of 2000 had settled the Standby Charges payable by BSES/REL/AEML to TPC for the period FY 1999-2000 to FY 2003-04. The Commission has approved the amount of Rs.

322.30 Crore refundable to AEML-D (erstwhile BSES) by TPC-G. In addition to this, the Commission has approved the amount of Rs. 8.37 Crore as interest payable by TPC.

(b) The principles and the amount so computed in the Order dated May 31, 2005 became the basis in Order dated June 11, 2004, in Case No. 30 of 2003 in the matter of determination of Annual Revenue Requirement and Tariff applicable to various categories of consumers of Tata Power Company Limited for FY 2003-04 and FY 2004-05.

(c) The Commission's Order dated May 31, 2005 was challenged by TPC before APTEL in Appeal No. 202 of 2005. APTEL had given a majority Judgment on December 20, 2006 on the Standby Charges issue and directed that 23 percent of the Standby Charges for the period in question should be borne by REL (now AEML) and balance should be borne by TPC and further directed refund of the excess amount that was deposited by BSES/REL/AEML pursuant to the interim orders. APTEL has computed the amount of Rs. 339 Crore to be refundable to BSES and interest amount of Rs. 15.14 Crore payable by TPC.

(d) TPC filed Civil Appeal No. 415 of 2007 before the Hon'ble Supreme Court against the APTEL Order dated December 20, 2006. In addition, REL (now AEML) also filed Civil Appeal No. 3229 of 2007 before the Hon'ble Supreme Court aggrieved by the APTEL Judgment and Order dated April 20, 2007.

(e) Hon'ble Supreme Court, in its Judgment dated May 2, 2019, upheld the Order passed by APTEL dated December 20, 2006 and ordered the entire amount including interest lying with the Registrar of Supreme Court be paid to Adani Electricity Mumbai Limited (AEML). TPC has already released the payments due to AEML as per the aforesaid Supreme Court Judgment.

(f) TPC requested the recovery of the amount at interest of 10% as per Hon'ble Supreme Court Judgment as shown in the following Table:

Table 89 Standby Charges claimed by TPC-G (Rs. Crore)

Particulars	**Standby Charges (Rs. Crore)**	**Interest Amount (Rs. Crore)**	**Total amount (Rs. Crore)**
APTEL Judgment dated 20.12.2006	339.00	15.14	354.14
MERC Order dated 31.05.2004	322.30	-8.37	313.93
Additional amount recoverable	**16.70**	**23.51**	**40.21**
Interest rate @ 10%			10.00%
No. of days			5,613.00
Amount Payable			**61.84**

6.2.2 Further, TPC-G proposed to recover amount of Rs. 25.85 Crore from BEST, Rs. 20.61 Crore from AEML-D and Rs. 15.37 Crore from TPC-D, to recover the total amount of

Rs. 61.84 crore. TPC-G submitted that the sharing of Standby Charges is considered in ratio of energy sales for the period from FY 1999-2000 to FY 2003-04 as shown in the following Table:

Table 90 Recovery of Standby Charges claimed by TPC-G (Rs. Crore)

Utility	Energy Sales (MU)							Total (Rs. Crore)
	FY 00	FY 01	FY 02	FY 03	FY 04	Average	Ratio	
BEST	3442	3545	3622	3781	3883	3655	42%	25.85
AEML-D	2370	2900	2982	3242	3072	2913	33%	20.61
TPC-D	2353	2173	2069	2099	2170	2173	25%	15.37
Total	**8165**	**8617.6**	**8673.3**	**9122**	**9125**	**8741**	**100%**	**61.84**

Commission's Analysis and Ruling

6.2.3 The Commission notes that TPC-G made an additional submission vide Letter No. CREG/MUM/MERC/2020/38 dated January 29, 2020 wherein it has revised computation of Standby Charges. TPC-G earlier has considered only interest amount not principal amount. TPC-G has earlier considered the carrying cost till the date it has made the payment to AEML. Since, the recovery of amount is to be done in FY 2020-21, it has revised computation of Standby Charges as shown in the following Table:

Table 91 Revised Standby Charges claimed by TPC-G (Rs. Crore)

Particulars	Standby Charges (Rs. Crore)	Interest Amount (Rs. Crore)	Total amount (Rs. Crore)
APTEL Judgment dated 20.12.2006	339.00	15.14	354.14
MERC Order dated 31.05.2004	322.30	-8.37	313.93
Additional amount recoverable (A)	**16.70**	**23.51**	**40.21**
Interest rate @ 10%			10.00%
No. of days (April 1, 2004 to September 30, 2020)			6,027
Interest Amount Payable (B)			**66.40**
Total amount payable (A+B)			**106.61**

6.2.4 AEML-D in its submissions objected to the recovery of this amount from AEML-D and mentioned that the Commission in its Order dated June 11, 2004 in Case No. 30 of 2003 appropriated certain reserves of TPC so as to meet the shortfall between Clear Profit and Reasonable Return created on account of, inter alia, refund of Standby Charges of about Rs. 314 Crore. AEML-D further submitted that in the instant case, the Commission can appropriate any remaining Reserves of TPC (including Contingency Reserves in the combined entity as reflected in the Tariff Order dated June 11, 2004.)

6.2.5 AEML-D also submitted that this differential amount effectively is the amount which should have been paid to MSEB by TPC as its share of Standby Charges but was paid by TPC after collecting it from BSES. Hon'ble ATE in its Judgment dated December 20, 2006 has recognized this amount as TPC's share of Standby Charges and had ruled it to be refunded to AEML. By claiming it again in the ratio of sales of the three Distribution Licensees, TPC is again claiming a portion of the refunded amount from AEML.

6.2.6 AEML-D further submitted that, hypothetically, if this dispute was not created and the original refund worked out by the Commission itself would have been Rs. 339 Crore plus interest of Rs. 15.14 Crore, then in the Order dated June 11, 2004 in Case No. 30 of 2003, the Commission would have appropriated the Reserves of TPC to the extent of Rs. 354.14 Crore. As the said Judgment of the Hon'ble Supreme Court only re-states the refund amount, the treatment of the amount should be the same, i.e., if there is any shortfall with TPC, it should either be passed on to TPC consumers other than those of AEML or any additional reserves in the combined entity (TPC G/T/D put together as was existing in 2004) should be appropriated against the same.

6.2.7 TPC-G in its reply submitted that the Hon'ble Supreme Court in its Judgment dated May 14, 2019 upheld the Judgment of Hon'ble ATE. Though Judgment of Hon'ble ATE was passed in December 2006, it was not given impact to in the Tariff Order by the Commission as it had been initially stayed by Hon'ble Supreme Court in the month of February, 2007.

6.2.8 TPC-G further submitted that the Commission in its Tariff Order dated June 11, 2004 incorporated the impact of its Order dated May 31, 2004, which was challenged before Hon'ble ATE. In the Tariff Order, the Commission has adjusted the difference between the amount considered by TPC in their accounts and amount worked out as Standby Charges in Order dated June 11, 2004 on mercantile basis. It means that the amount payable for years prior to March 31, 2004 has been incorporated and adjusted in the tariff workings for three Distribution Licensees, viz., AEML-D (erstwhile BSES), BEST and TPC-D.

6.2.9 TPC-G submitted that the Commission has utilised the reserves to the extent applicable and available in the Tariff Order for TPC dated 11 June, 2004 and Tariff Order for TPC dated October 3, 2006. TPC-G clarified that as the reserves were already utilised and there are no such reserves available with TPC now, any additional recovery has to be passed on to the then consumers of TPC-G, viz., TPC-D, BEST and AEML-D (erstwhile BSES).

6.2.10 The issue that arises is whether any Reserves are available for the period from FY 1999-2000 to FY 2003-04, which can be used for apportioning the extra amount of Standby Charges borne by TPC and refunded to AEML (earlier REL) as per Hon'ble ATE

Judgment and Hon'ble Supreme Court Judgment dated May 14, 2019.

6.2.11 The Commission in its Tariff Order dated 11 June, 2004 regarding apportioning of Reserves has stated as follows:

"Contingency Reserve is created by appropriating an amount equal to 0.25% to 0.5 % of the Gross Fixed Assets, out of the distributable profits of the licensees business, as per Paragraph IV of the Sixth Schedule of the Electricity (Supply) Act, 1948. It is created with a view to serve as a buffer, which the Utilities could draw upon with the State Government approval, to meet expenses or loss of profits arising out of accidents, strikes or circumstances, which the management could not have prevented and also to meet expenses for extraordinary replacement or renewal of plant or works, or compensation under any law for the time being in force and for which no provision is made.

Sums appropriated to the Contingency Reserve are required to be invested in securities authorized under the Indian Trust Act, 1882 (2 of 1882) within a period of six months of the close of the year of account. The total amount under Contingency Reserves as on March 1, 2003 is Rs. 154 crore. The Commission is of the opinion that the present circumstances, on account of the impact of resolution of the standby charges dispute and the impact of the recent honourable Supreme Court's judgment that the tariff revision undertaken by TPC in December 1998 is invalid, qualify for appropriation of contingency reserves under the clause of "circumstances, which the management could not have prevented", and hence the contingency reserves can be appropriated to meet the gap between the Clear Profit and Reasonable Return on a yearly basis."

6.2.12 Further, the Commission in its Tariff Order dated 3 October 2006 in Case No. 12 of 2005 and Case No. 56 of 2005 adjusted the entire reserves available with TPC. The relevant extract of the Order is reproduced below:

"6.15 DISTRIBUTABLE SURPLUS

In Section 3, the revenue surplus/gap of TPC in FY 2004-05 and FY 2005-06, as computed by the Commission, after truing up for the actual revenue and expenditure subject to prudence check, has been detailed. TPC has certain reserves available, which can be passed through to consumers. The Commission has detailed its philosophy of appropriating the reserves available with TPC, in its previous Tariff Order for TPC for FY 2004-05, in order to reduce the tariff burden on consumers, who have contributed to creation of these reserves in the past. The total reserves thus available with TPC at *the end of FY 2005-06, have been appropriated towards the revenue shortfall in FY 2006-07, after adding the surplus/gap as computed by the Commission in Section 3, as shown in the Table below:*

Table: TPC's Distributable Surplus

Sl	*Particulars*	*Amount (Rs. Cr)*
1	*Revenue surplus earned in FY 2004-05*	*143.02*
2	*Interest on surplus earned in FY 2004- 05*	*15.02*
3	*Revenue surplus earned in FY 2005-06*	*(313.10)*
4	*Interest on surplus earned in FY 2005- 06*	*(9.39)*
5	*Reserves available for distribution*	*226.00*
5.1	*Contingency Reserve*	*183.00*
5.2	*Debt Redemption Reserve*	*37.00*
5.3	*Tariff & Dividend Control Reserve*	*3.00*
5.4	*Consumer Benefit Account*	*3.00*
6	*Total Distributable Surplus*	*61.55*

Though the Commission has appropriated the available reserves for the purposes of tariff determination for FY 2006-07, the Commission has also ensured that these reserves will be built up again for future use, by providing for contribution to contingency reserves in accordance with the stipulations of the Commission's Tariff Regulations, which has been discussed in earlier paragraphs of this Order."

6.2.13 As is observed from the above extracts, the Commission in its Tariff Order dated 3 October 2006 has apportioned the entire Reserves available with TPC till FY 2005-06 including Reserves for the period from FY 1999-2000 to FY 2003-04. Therefore, no Reserves are available with TPC for the period from FY 1999-2000 to FY 2003-04 for which the additional amount of Standby Charges are to be borne by TPC.

6.2.14 AEML-D has also contended that TPC has refunded the excess standby amount as per Hon'ble ATE in its Judgment dated December 20, 2006, and by claiming it again in the ratio of sales of the three Distribution Licensees, TPC is again claiming a portion of the refunded amount from AEML.

6.2.15 The important point to be noted in this regard is that the dispute regarding Standby Charges was related to the share of Standby Charges to be borne by TPC and BSES, respectively, for the Standby facility provided by MSEB to ensure uninterrupted supply of power to the city of Mumbai. The respective share of Standby Charges to be borne by TPC and BSES in the past has been considered as part of ARR of respective Utility while determining the tariff as well as while carrying out the truing-up. In case the additional amount to be borne by TPC towards Standby Charges for the period FY

1999-2000 to FY 2003-04 was included in the ARR of TPC for respective years, the same would have been borne by consumers of TPC including BSES. Hence, the recovery of Standby Charges through tariff is different than the share of Standby Charges to be borne by BSES (now AEML) and TPC.

6.2.16 As discussed above, considering the fact that no reserves are available with TPC for the period FY 1999-2000 to FY 2003-04, the additional amount of Standby Charges incurred by TPC are to be recovered from consumers of that period. During that period, the ARR and tariff of TPC was being determined as integrated entity and the consumers of TPC were BSES (now AEML-D), BEST, and some retail consumers which are now part of TPC-D. Hence, this amount needs to be recovered from AEML-D, BEST and TPC-D in the proportion of energy supplied during that period.

6.2.17 Accordingly, the Commission allows the amount of Rs 106.61 Crore as claimed by TPC-G in its revised submissions. Further, the Commission allows the recovery of this amount in proportion to the energy supplied by TPC to BSES (now AEML-D), BEST and TPC-D (retail consumers) as follows:

Table 92 Recovery of Standby Charges approved by the Commission (Rs. Crore)

Utility	**Energy Sales (MU)**							**Total (Rs. Crore)**
	FY 00	**FY 01**	**FY 02**	**FY 03**	**FY 04**	**Average**	**Ratio**	
BEST	3442	3545	3622	3781	3883	3655	42%	44.57
AEML-D	2370	2900	2982	3242	3072	2913	33%	35.53
TPC-D	2353	2173	2069	2099	2170	2173	25%	26.50
Total	**8165**	**8617.6**	**8673.3**	**9122**	**9125**	**8741**	**100%**	**106.61**

6.3 Cumulative Revenue Gap till end of FY 2019-20

TPC-G's Submission

6.3.1 TPC-G has proposed the cumulative Revenue gap of Rs. 394.95 Crore to be recovered from Distribution Licensee. The amount recoverable from Distribution Licensees are as Rs. 175.63 Crore from BEST, Rs. 144.74 Crore from TPC-D and Rs. 74.58 Crore from AEML-D (Erstwhile BSES).

Commission's Analysis and Ruling

6.3.2 The Commission has computed the Cumulative revenue gap/(Surplus) till FY 2019-20 as shown in the following Table:

Table 93 Cumulative Revenue Gap /(surplus) till end of FY 2019-20 as approved by the Commission (Rs. Crore)

Sl. No.	Particulars		TPC-G's Petition			Approved in this Order		
			Unit 5 to 7 & Hydro	Unit 8	Total	Unit 5 to 7 & Hydro	Unit 8	Total
A	**Revenue Gap/(surplus) for FY 2015-16**		**7.29**	**0.38**	**7.67**	**4.89**	**0.09**	**4.98**
1	Carrying Cost for FY 2015-16	14.29%	0.52	0.03	0.55	0.35	0.01	0.36
2	Carrying Cost for FY 2016-17	10.79%	0.79	0.04	0.83	0.53	0.01	0.54
3	Carrying Cost for FY 2017-18	10.18%	0.74	0.04	0.78	0.50	0.01	0.51
4	Carrying cost for FY 2018-19	9.89%	0.72	0.04	0.76	0.48	0.01	0.49
5	Carrying Cost for FY 2019-20	9.80%	0.71	0.04	0.75	0.48	0.01	0.49
6	**Cumulative Revenue Gap**		**10.77**	**0.56**	**11.34**	**7.23**	**0.13**	**7.36**
B	**Revenue Gap/(surplus) for FY 2016-17**		**8.66**	**1.53**	**10.19**	**4.65**	**0.11**	**4.76**
1	Carrying Cost for FY 2016-17	10.79%	0.47	0.08	0.55	0.25	0.01	0.26
2	Carrying Cost for FY 2017-18	10.18%	0.88	0.16	1.04	0.47	0.01	0.48
3	Carrying cost for FY 2018-19	9.89%	0.86	0.15	1.01	0.46	0.01	0.47
4	Carrying Cost for FY 2019-20	9.80%	0.85	0.15	1.00	0.46	0.01	0.47
5	**Cumulative Revenue Gap**		**11.71**	**2.07**	**13.78**	**6.29**	**0.15**	**6.43**
C	**Total Impact of Review Order (A+B)**		**22.49**	**2.63**	**25.12**	**13.52**	**0.28**	**13.80**
D	**Truing up for FY 2017-18**							
1	Net ARR		2,377.23	811.98	3,189.21	2,343.27	805.79	3,149.06
2	Revenue from Sale of Power		2,419.13	848.89	3,268.03	2,419.13	848.89	3,268.03
3	**Revenue Gap/(surplus)**		**(41.91)**	**(36.92)**	**(78.82)**	**(75.86)**	**(43.11)**	**(118.97)**
4	Revenue Gap/(surplus) allowed in previous Order		(65.82)	(55.40)	(121.22)	(65.82)	(55.40)	(121.22)
5	**Incremental Revenue Gap/(surplus)**		**23.91**	**18.48**	**42.40**	**(10.04)**	**12.29**	**2.25**

Sl. No.	Particulars		TPC-G's Petition			Approved in this Order		
			Unit 5 to 7 & Hydro	Unit 8	Total	Unit 5 to 7 & Hydro	Unit 8	Total
6	Carrying Cost for FY 2017-18	10.18%	1.22	0.94	2.16	(0.51)	0.63	0.11
7	Carrying cost for FY 2018-19	9.89%	2.37	1.83	4.19	(0.99)	1.22	0.22
8	Carrying Cost for FY 2019-20	9.80%	2.34	1.81	4.15	(0.98)	1.20	0.22
9	**Cumulative Revenue Gap/(Surplus)**		**29.84**	**23.06**	**52.91**	**(12.53)**	**15.34**	**2.81**
E	**Truing up for FY 2018-19**							
1	Net ARR		2,350.68	868.00	3,218.68	2,324.10	859.73	3,183.83
2	Revenue from Sale of Power		2,372.96	910.32	3,283.28	2,372.96	910.32	3,283.28
3	Entry Tax Payment		21.08	-	21.08	21.08	-	21.08
4	**Revenue Gap/(surplus)**		**(1.20)**	**(42.32)**	**(43.51)**	**(27.78)**	**(50.59)**	**(78.37)**
5	Carrying cost for FY 2018-19	9.89%	(0.06)	(2.09)	(2.15)	(1.37)	(2.50)	(3.88)
6	Carrying Cost for FY 2019-20	9.80%	(0.12)	(4.15)	(4.26)	(2.72)	(4.96)	(7.68)
7	**Cumulative Revenue Gap/(Surplus)**		**(1.37)**	**(48.56)**	**(49.93)**	**(31.88)**	**(58.04)**	**(89.92)**
F	**Provisional Truing up for FY 2019-20**							
1	Net ARR		2,397.86	811.50	3,209.36	2,318.81	803.53	3,122.34
2	Revenue from Sale of Power		2,347.01	833.37	3,180.38	2,347.01	833.37	3,180.38
3	**Revenue Gap/(surplus)**		**50.85**	**(21.87)**	**28.98**	**(28.20)**	**(29.84)**	**(58.04)**
G	Recovery of amount of entry tax		276.22	-	276.22	231.80	-	231.80
H	Difference in the Standby Charges as worked out by Hon'ble ATE		61.84	-	61.84	106.61	-	106.61
I	**Grand Total**		**439.86**	**(44.73)**	**395.13**	**279.31**	**(72.26)**	**207.04**

6.3.3 Further, the Commission has approved the recovery from Distribution Licensees in proportion to energy sold as shown in the following Table:

Table 94 Recovery of Cumulative Revenue Gap/(surplus) from Distribution Licensee as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	TPC-G				Approved in this Order			
		BEST	**TPC-D**	**AEML-D**	**Total**	**BEST**	**TPC-D**	**AEML-D**	**Total**
1	Impact of Review Order	12.08	12.87	-	24.95	7.03	6.77	-	13.80
2	Truing up for FY 2017-18	24.50	28.41	-	52.91	(0.27)	3.09	-	2.81
3	Truing up for FY 2018-19	(23.05)	(26.88)	-	(49.93)	(42.46)	(47.46)	-	(89.92)
4	Provisional Truing up for FY 2019-20	17.27	11.71	-	28.98	(26.37)	(31.68)	-	(58.04)
5	Recovery of amount of entry tax	118.98	98.03	59.21	276.22	99.49	81.97	50.35	231.80
6	Difference in the Standby Charges as worked out by Hon'ble ATE	25.85	20.61	15.37	61.83	44.57	26.50	35.53	106.61
7	**Grand Total**	**175.63**	**144.75**	**74.58**	**394.96**	**81.99**	**39.18**	**85.88**	**207.05**

7 ARR PROJECTIONS FOR FY 2020-21 TO FY 2024-25

7.1 Background

7.1.1 TPC-G has sought the ARR and Multi Year Tariff determination for the fourth Control Period from FY 2020-21 to FY 2024-25 as per the provisions of MYT Regulations, 2019. The analysis undertaken by the Commission is set out below.

7.2 Power Sale Arrangement of Tata Power-G

7.2.1 TPC-G has in place the existing approved Power Purchase Agreements ("PPA") with BEST Undertaking and TPC-D broadly in the ratio of 51.17%: 48.83% of its generating capacity comprising of Unit 5, 7 & Hydro Stations. Further, there is a PPA with 250 MW Unit 8 with BEST and TPC-D in the ratio 40:60. The power purchase tie up approved by the Commission for FY 2020-21 to FY 2023-24 from TPC-G is as shown in the Table below:

Table 95 Power Purchase Tie-up of TPC-G for FY 2020-21 to FY 2023-24

Generation Unit	Type of Fuel	Generation Capacity (MW)	Tie up with BEST		Tie up with TPC-D	
			%	MW	%	MW
Unit 5	Coal, Oil and Gas	500	51.17%	256	48.83%	244
Unit 7	Gas	180	51.17%	92	48.83%	88
Unit 8	Coal	250	40%	100	60%	150
Total Thermal Capacity		930				
Bhira	Hydro	300	51.17%	154	48.83%	146
Bhivpuri	Hydro	75	51.17%	38	48.83%	37
Khapoli	Hydro	72	51.17%	37	48.83%	35
Total Hydro capacity		447		229		218
Total Generation capacity		1377		677		700

7.2.2 These PPAs are valid till March 31, 2024. Therefore, with respect to the 4th Control Period of FY 2020-21 to FY 2024-25, TPC-G has valid PPAs for the four years of the Control Period. TPG-G has proposed the Tariff for last year of the Control Period with the same tie-up capacity.

7.2.3 **Considering TPC-G submissions regarding determination of Tariff for FY 2024-25 after the expiry of PPAs, the Commission has determined the Tariff for FY 2024-25 in this Order. However, mere determination of tariff for FY 2024-25 shall not be construed as approval of PPA's executed by TPC-G with BEST and TPC-D. The Distribution Licensees are required to take prior**

approval for any PPA to be executed with TPC-G for FY 2024-25 and beyond. Hence, Tariff approved in this Order for FY 2024-25 will actually apply only depending on terms and conditions, the PPAs are extended with the prior approval of the Commission.

7.3 Norms of Operation

7.3.1 Regulation 46 of MYT Regulations, 2019 specifies the Operational Norms for Thermal Generating Stations viz. Availability, Plant Load Factor, Heat Rate, Auxiliary Consumption and Transit Losses. Also, Regulation 48 of MYT Regulations, 2019 specifies Operational Norms for Hydro Generating Stations as Availability and Auxiliary Consumption. TPC-G is having Thermal Generating Units as well as Hydro Generating Stations. The operational norms for these Units/Stations have been approved as discussed in subsequent paragraphs.

7.4 Availability

TPC-G's Submission

7.4.1 TPC-G has projected Availability of Generating Units based on the outage plan during fourth Control Period. The outage plan is mainly for updating technology, performance improvement measures, statutory compliances, life sustenance, extension and enhancement and scheduled & preventive maintenance. The maintenance plan is prepared based on operational challenges, past operation, maintenance experience, OEM recommendations and major maintenance schedules. Considering this, TPC-G proposed the Availability for Control Period as shown in the following Table:

Table 96 Availability (%) for FY 2020-21 to FY 2024-25 as submitted by TPC-G

Generation Unit	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	91.78%	97.26%	91.78%	96.99%	91.78%
Unit 7	98.08%	98.08%	98.08%	97.81%	91.78%
Unit 8	98.08%	93.15%	98.08%	92.90%	98.08%
Bhira	98.58%	99.05%	98.76%	92.90%	99.22%
Bhivpuri	97.39%	97.39%	99.58%	99.85%	99.59%
Khapoli	96.59%	97.94%	99.58%	99.85%	99.59%

Commission's Analysis and Ruling

7.4.2 The Commission notes that the projected Availability is more than Normative Availability requirement of 85% as per Regulation 46.1 of MYT Regulations, 2019 for all the Thermal Generating Units and 90% for the Hydro Generating Stations as per Regulation 48.1 of MYT Regulations, 2019. Hence, the Commission approves the Availability as projected by TPC-G for Control Period. As the availability for all the years of Control Period is higher than the normative availability, TPC-G shall be entitled for recovery of full Annual Fixed Charges approved in this Order for respective year.

7.5 Gross Generation and PLF

TPC-G's Submission

7.5.1 TPC-G submitted the Gross Generation and PLF considering the availability of the respective generating units and expected demand. TPC-G submitted the Gross Generation for Control Period as shown in the following Table:

Table 97 Gross Generation (MU) for FY 2020-21 to FY 2024-25 as submitted by TPC-G

Generation Unit	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	3163	3385	3154	3325	3359
Unit 7	1276	1276	1276	1279	1198
Unit 8	1180	1774	1839	1720	1906
Bhira	896	896	896	896	896
Bhivpuri	292	292	292	292	292
Khapoli	282	282	282	282	282
Grand Total	**7789**	**7905**	**7739**	**7795**	**7933**

7.5.2 TPC-G submitted that the Commission has notified the MERC (Deviation Settlement Mechanism & related matters) Regulations, 2019, which is effective from April 1, 2020 and the Forecasting, Scheduling and Deviation Settlement for Solar & Wind Generation, 2018 which is under implementation in FY 2019-20. The implementation of these Regulations may have an impact on the Generation requirement of the tied up generation capacities. However, it is not possible to predict these changes in requirement at this stage. In view of this, TPC-G continued with the current methodology of projecting the generation and PLF for the Control Period.

Commission's Analysis and Ruling

7.5.3 TPC-G has projected Gross generation based on projected Availability and demand. In this Order, the Commission has approved the Gross generation as projected by TPC-G. However, the actual generation will be in accordance with the Merit Order Dispatch (MOD) principles. The Gross Generation approved by the Commission for Control period is shown in the following Table:

Table 98 Gross Generation (MU) for FY 2020-21 to FY 2024-25 as approved by the Commission

Generation Unit	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	3163	3385	3154	3325	3359
Unit 7	1276	1276	1276	1279	1198
Unit 8	1180	1774	1839	1720	1906
Bhira	896	896	896	896	896
Bhivpuri	292	292	292	292	292
Khapoli	282	282	282	282	282
Grand Total	**7789**	**7905**	**7739**	**7795**	**7933**

7.5.4 Further, Target Load Factor for availing Incentive for Thermal Generating Units shall be as per Regulation 46 of MYT Regulation, 2019.

7.6 Heat Rate

TPC-G's Submission

7.6.1 TPC-G submitted the Heat Rate for Unit 5, Unit 7 and Unit 8 as under:

7.6.2 *Unit 5:* Regulation 46.6 of MYT Regulations, 2019 specifies the Heat rate of Unit 5 as 2549 kcal/kwh for Control Period. The Regulation 46.6 specifies a uniform Heat Rate over the Control Period unlike the varying Heat Rate approved in the earlier Control Period. Accordingly, TPC-G requested to consider the year on year degradation factor over and above the normative Heat Rate for Unit 5 as provided in MYT Regulations, 2015.

7.6.3 *Unit 7*: TPC-G projected Heat rate for Unit 7 as 2035 kcal/kwh for combined cycle and 2900 kcal/kwh for Open Cycle as specified in Regulation 46.7 of MYT Regulations, 2019.

7.6.4 *Unit 8*: TPC-G projected Heat rate for Unit 8 as 2430 kcal/kwh for Control period as specified in Regulations 46.4 of MYT Regulations, 2018.

Commission's Analysis and Ruling

7.6.5 The Commission has approved the Heat Rate for Unit 5, Unit 7 and Unit 8 of TPC-G as per norms specified in MYT Regulations, 2019. The Commission observed that the actual heat rate achieved for Unit 5 during FY 2017-18 is 2520 kCal/kWh as against the normative heat rate of 2533 kCal/kWh. Similarly, the actual heat rate achieved for Unit 5 during FY 2018-19 is 2509 kCal/kWh as against the normative heat rate of 2544 kCal/kWh. The Commission in MYT Regulations, 2019 has specified the normative heat rate of 2549 kCal/kWh for Unit 5 which is higher than the actual heat rate achieved during FY 2017-18. Hence, the Commission has not considered the de-gradation in Heat rate over the Control Period. The Heat Rate approved by the Commission for Control Period is shown in the following Table:

Table 99 Heat Rate (kcal/kWh) for FY 2020-21 to FY 2024-25 as approved by the Commission

Generation Unit	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	2,549	2,549	2,549	2,549	2,549
Unit 7	2,035-CC 2,900 -OC	2,035-CC 2,900 -OC	2,035-CC 2,900 -OC	2,035-CC 2,900 -OC	2,035-CC 2,900 -OC
Unit 8	2,430	2,430	2,430	2,430	2,430

**CC-Combined Cycle & OC – Open Cycle*

7.7 Auxiliary Consumption

TPC-G's Submission

7.7.1 TPC-G submitted the Auxiliary Consumption for Thermal Generating Units and Hydro Generating Stations for Control Period as under:

7.7.2 **Unit 5:** TPC-G submitted the Auxiliary Consumption of 7.00% for Control period as per Regulation 46.15 of MYT Regulations, 2019. TPC-G submitted that this Auxiliary consumption includes Auxiliary consumption of 1% towards FGD.

7.7.3 **Unit 7:** TPC-G submitted that Regulation 46.16 of MYT Regulations, 2019 has revised the present norm for % Auxiliary Consumption of Unit 7 from its current level of 3% to 2.75%. It is submitted that the operation norms are typically based on past performance of the Generating Unit. In case the actual performance of the Unit is lower as a trend than the norm specified, it may be prudent to revise the norm downward. The actual Auxiliary Consumption of Unit 7 for the past 3 years has been presented in the Table below:

Table 100 Auxiliary Consumption of Unit 7 for past 3 years

Year	Generation (MU)	Auxiliary Consumption (MU)	Auxiliary consumption (%)
FY 2016-17	1413.22	41.66	2.95%
FY 2017-18	1353.67	39.21	2.90%
FY 2018-19	1410.81	39.43	2.79%
Average	4177.69	120.30	2.88%

7.7.4 The actual Auxiliary Consumption of Unit 7 has been in the range of 2.79 % to 2.95 % (Average 2.88 %) which is very close to the earlier approved norm of 3%. In fact, the average actual Auxiliary Consumption of Unit 7 for last three years is higher than the present norm specified of 2.75%. Further, the fact that Unit 7 is more than 26 years old certain age-related degradation has to be factored in. Considering this, TPC-G requested to exercise its powers to relax under Regulation 105 of MYT Regulations, 2019 to relax and retain the existing norm of 3 % for Auxiliary Consumption in case of 180 MW Unit 7 for each year of the 4th MYT Control Period.

7.7.5 **Unit 8:** TPC-G submitted the Auxiliary Consumption of 9.70% for Control period as per Regulation 46.15 of MYT Regulations, 2019. TPC-G submitted that this Auxiliary consumption includes Auxiliary consumption of 1.2% towards FGD.

7.7.6 **Hydro Generating Stations:** TPC-G submitted that Regulation 48.3 of MYT Regulations, 2019 specified the normative Auxiliary Consumption for Hydro generating Stations. In addition to this, the Commission has approved additional Auxiliary consumption norm for Headworks consumption and Pumping Energy for Nallah Diversion schemes. Considering the past MYT Order, TPC-G has submitted the normative headworks consumption of 0.18% for Control period. Further, pumping energy for Nallah diversion schemes is submitted as under:

Table 101 Pumping Energy norm for Nallah Diversion Schemes

Particulars	**FY 15**	**FY 16**	**FY 17**	**FY 18**	**FY 19**
Nallah Pumping (MCM)	79.70	60.70	100.50	95.40	82.10
Energy for Pumping (MU)	5.70	3.50	6.10	5.20	4.30
Average Water Quantity pumped (MCM)	83.68				
Average Energy Consumption (MU)	4.96				
Gross Generation	1470	1470	1470	1470	1470
% Normative Auxiliary Energy Consumption	0.34%	0.34%	0.34%	0.34%	0.34%

7.7.7 Considering the above, TPC-G submitted Auxiliary Consumption for Control Period for Hydro Generating Stations as shown in the following Table:

Table 102 Auxiliary Consumption for Hydro Generating Stations as submitted by TPC-G (%)

Particulars	**FY 2020-21 to FY 2024-25**
Normative Auxiliary Consumption as per MYT Regulations, 2019	1.20%
Add: GT Losses	0.00%
Headworks Consumption	0.18%
Pumping Energy for Nallah diversion	0.34%
Total Auxiliary Consumption	**1.72%**

Commission's Analysis and Ruling

7.7.8 Regarding the Auxiliary Consumption for Unit 5 and Unit 8, the Commission notes that TPC-G has considered the Auxiliary consumption towards FGD as per MYT Regulations, 2019.

7.7.9 The Commission notes that, in the past, there was no consumption of FGD for TPC-

G Units. In response to the Commission's query, TPC-G submitted that the FGDs installed at Unit 5 and Unit 8 are available and are taken in service based on the requirement to comply to Environmental norms as specified for Unit 5 and Unit 8. Regarding the operating hours of FGDs, it is submitted that Unit 5 FGD was operated for 1,814 nos. of hours for FY 2017-18 and 1,716 nos. of hours for FY 2018-19 and Unit 8 FGD was operated 8 nos. of hours for FY 2017-18. The Commission notes that FGDs for Unit 5 and Unit 8 are not operating on continuous basis and operating for very few hours. From perusal of coal contracts, it is observed that TPC-G has been procuring the low sulphur coal, hence requirement of FGDs is minimal. Under such circumstances, it would not be prudent to approve the normative Auxiliary Consumption for FGD. The additional auxiliary consumption norm specified in MYT Regulations, 2019 is towards the regular and continuous operation of FGD.

7.7.10 **In view of the above, the Commission decides to approve the normative Auxiliary Consumption of 6.00% for Unit 5 and 8.50% for Unit 8 as per MYT Regulations, 2019 without consumption for FGD. The actual auxiliary consumption of FGD shall be considered at time of truing up based on actuals subject to ceiling of additional auxiliary consumption norm towards FGD as specified in MYT Regulations, 2019. Further, the Commission directs that all necessary metering arrangements shall be undertaken by TPC-G for measurement of Auxiliary consumption for FGDs of Unit 5 and Unit 8.**

7.7.11 Regarding the Unit 7, the Commission notes that TPC-G sought relaxation in Auxiliary Consumption and requested the Commission to approve Auxiliary consumption of 3% as per norms specified for 3rd Control Period. In response to the Commission's query, TPC-G submitted that norms for Gas Turbine/Combined Cycle generating stations are in line with CERC Tariff Regulations, 2019. Further, final Statement of Reasons issued by CERC along with CERC Tariff Regulations, 2019 specified that:

> *"**14.4 Auxiliary Energy Consumption [Regulation 49 (E)]***
> *14.4.1 The draft 2019 Tariff Regulations provides for Auxiliary Energy Consumption for coal based and gas based generating stations. While proposing auxiliary energy consumption norms for gas based generating stations, the Commission has considered 2.75% and 1.00% for gas based combined cycle and open cycle generating stations, respectively. The additional auxiliary consumption of coastal plants for usage of sea water have not been made part of the Tariff Regulation as the same would vary from station to station depending upon the equipment installed, configuration which will be considered separately on case to case basis. "*

7.7.12 Since, Unit 7 also uses sea water for its cooling system, an Auxiliary consumption to tune of 0.6% at full load operation is required for functioning of cooling system.

7.7.13 The Commission notes the submission of TPC-G. It is also noted that additional capitalisation has been allowed to TPC-G from time to time for improvement of performance of Generating units. The CERC (Terms and Conditions of Tariff) Regulations, 2019 also provide the identical norms for Gas based /CCGT Generating stations. Hence, the Commission is not inclined to relax the norms towards Auxiliary consumption of Unit 7 and approves Auxiliary consumption of 2.75% for Unit 7 for 4th Control Period. However, considering the historical actual auxiliary consumption of Unit 7 and considering the dispensation mentioned in the Statement of Reasons for the CERC (Terms and Conditions of Tariff) Regulations, 2019 for coastal plants as pointed out by TPC-G, the Commission may consider to allow the actual auxiliary consumption, if it is higher than normative value of 2.75%, at the time of truing up, subject to ceiling of auxiliary consumption of 3%, if TPC-G proves the impact of sea water cooling system on the Unit 7 Auxiliary consumption with necessary details at the time of truing up.

7.7.14 Regarding the Hydro Generating Stations, the Commission notes that norms for Auxiliary consumption are specified in Regulation 48.3 of MYT Regulations, 2019. **Accordingly, the Commission approves the normative Auxiliary Consumption of 1.20% for Khopoli & Bhivpuri Hydro Generating Stations and 1% for Bhira Hydro Generating Station.**

7.7.15 The Commission further notes that TPC-G has also sought approval for additional Auxiliary Consumption towards Headworks Consumption and Pumped Energy for Nallah diversion Schemes.. In this context, the Commission notes that in present MYT Control period (i.e. from FY 2016-17 to FY 2019-20), TPC-G has been allowed the additional normative auxiliary consumption towards these components. Sharing of gains/losses on account of variation in normative and actual auxiliary consumption has been considered in previous MTR Order wherein truing up for FY 2015-16 and FY 2016-17 had been undertaken. However, the Commission is of the view that if the actual auxiliary consumption towards these components (subject to ceiling of the historical auxiliary consumption achieved by TPC-G) is allowed, TPC-G would be adequately compensated and there is no need to consider sharing of gains /losses. Hence, Although in present MYT control period i.e. till FY 2019-20, the Commission has considered sharing of gains /losses towards these additional components based on Normative auxiliary consumption allowed in MYT Order, for new MYT Control Period, the Commission deems it appropriate to consider the auxiliary consumption towards Headworks Consumption and Pumped Energy for Nallah diversion Schemes based on actuals at the time of truing up subject to ceiling of 0.18% for headworks consumption and 0.34% towards Pumped Energy for Nallah diversion. **Accordingly, the Commission approves the Normative Auxiliary Consumption for Hydro Stations for Control Period as shown in the following Table:**

Table 103 Auxiliary Consumption for Hydro Generating Stations as approved by the Commission (%)

Particulars	**FY 2020-21 to FY 2024-25**		
	Khopoli	**Bhira**	**Bhivpuri**
Normative Auxiliary Consumption as per MYT Regulations, 2019	1.20%	1.00%	1.20%

7.8 Operation and Maintenance Expenses

TPC-G's Submission

7.8.1 TPC-G has considered the O&M Expenses for Control Period as per Regulation 47.1 of MYT Regulations, 2019 for Unit 5 to 7 and Hydro Generating Stations. It has computed the inflation factor of 3.11%, to be applied for the fourth MYT Control period, based on 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index at 1.30% for the past five financial years (FY 2014-15 to 2018-19) and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) at 4.92%.

7.8.2 Based on the above TPC-G projected O&M Expenses for Unit 5 to 7 and Hydro Generating Stations as shown in the following Table:

Table 104 O&M Expenses for Unit 5 to 7 and Hydro Stations for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Normative O&M Expenses for previous years	463.44	477.85	492.70	508.02	523.82
Escalation Factor (%)	3.11%	3.11%	3.11%	3.11%	3.11%
Normative O&M Expenses	477.85	492.70	508.02	523.82	540.11
Add: Water Charges	5.00	5.00	5.00	5.00	5.00
Total O&M Expenses	**482.85**	**497.70**	**513.02**	**528.82**	**545.11**

7.8.3 Further, TPC-G submitted that, Unit 8 has achieved COD after August 26, 2005. In view of this, the O&M Expenditure Norms for New Generating Stations are applicable to Unit 8. O&M Expenses for Unit 8 projected by TPC-G for Control Period is shown in the following Table:

Table 105 O&M Expenses for Unit 8 for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
O&M Norms (Rs. Lakh/MW)	27.89	28.89	29.93	31.01	32.13
O&M Expenses	69.73	72.23	74.83	77.53	80.33

Commission's Analysis and Ruling

7.8.4 Regulation 47.1 of MYT Regulations, 2019 specifies the methodology for determination of Normative O&M Expenses for Generating Stations/Units that achieved COD before August 26, 2005. The relevant extract of these Regulations is as under:

"47.1 Generating Stations/Units that achieved COD before August 26, 2005

a) The Operation and Maintenance expenses for Generating Stations which achieved COD before the date of coming into effect of the MERC (Terms and Conditions of Tariff) Regulations, 2005, shall be computed in accordance with this Regulation.

b) The Operation and Maintenance expenses excluding water charges and including insurance shall be derived on the basis of the average of the Trued-up Operation and Maintenance expenses after adding/deducting the share of efficiency gains/losses, for the three Years ending March 31, 2019, excluding abnormal Operation and Maintenance expenses, if any, subject to prudence check by the Commission:

Provided further that the escalation rate for FY 2018-19 and FY 2019-20 shall be computed by considering 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the respective past five financial years as per the Office of Economic Advisor of Government of India and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the respective past five financial years as per the Labour Bureau, Government of India:

Provided also that at the time of true-up for each Year of this Control Period, the Operation and Maintenance expenses, excluding water charges and including insurance, shall be derived on the basis of the Final Trued-up Operation and Maintenance expenses after adding/deducting the sharing of efficiency gains/losses, for the base year ending March 31, 2020, excluding abnormal expenses, if any, subject to prudence check by the Commission, and shall be considered as the Base Year Operation and Maintenance expenses.

c) The Operation and Maintenance expenses for each subsequent year shall be *determined by escalating these Base Year expenses of FY 2019-20 by an inflation factor with 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the respective past five financial years as per the Office of Economic Advisor of Government of India and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the past five financial years as per the Labour Bureau, Government of India, as reduced by an efficiency factor of 1% or as may be stipulated by the Commission from time to time, to arrive at the permissible Operation and Maintenance expenses for each year of the Control Period:*

Provided that, in the Truing-up of the O&M expenses for any particular year of the Control Period, an inflation factor with 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the respective past five financial years (including the year of Truing-up) and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the respective past five financial years (including the year of Truing-up), as reduced by an efficiency factor of 1% or as may be stipulated by the Commission from time to time, shall be applied to arrive at the permissible Operation and Maintenance Expenses for that year:

Provided further that the efficiency factor shall be considered as zero, in case the Availability Factor of all Generating Units/Stations of the Generating Company is higher than NAPAF, or there is an improvement in the Availability Factor of all Generating Units/Stations of the Generating Company of at least 2 percent annually over the last 3 years, in case the Availability Factor of all Generating Units/Stations of the Generating Company is lower than NAPAF.

d) Water Charges shall be allowed separately as per actuals, based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check:

Provided that in the MYT Order, the Commission shall provisionally approve the Water Charges for each year of the Control Period based on the actual Water Charges as per latest Audited Accounts available for the Generating Company, subject to prudence check.

e) The impact of Wage Revision, if any, may be considered at the time of true-up for any Year, based on documentary evidence and justification to be submitted by the Petitioner:
Provided that if actual employee expenses are higher than normative expenses on this account, then no sharing of efficiency losses shall be done to that extent:
Provided further that efficiency gains shall not be allowed by deducting the impact of Wage Revision and comparison of such reduced value with normative value.

f) Provisioning of wage revision expenses shall not be considered as actual expenses at the time of true-up, and only expenses as actually incurred shall be considered.

g) A Generating Company may undertake Opex schemes for system automation, new technology and IT implementation, etc., and, such expenses may be allowed over and above normative O&M Expenses, subject to prudence check by the

Commission:

Provided that the Generating Company shall submit detailed justification, cost benefit analysis of such schemes as against capex schemes, and savings in O&M expenses, if any."

7.8.5 The Commission has computed the Normative O&M Expenses for Control period for Unit 5 to 7 & Hydro Generating Stations as per the above said Regulations. The Commission has considered the average of the trued-up O&M expenses (excluding water charges, and including insurance) after adding/deducting the share of Efficiency Gains/Losses for the three years ending 31 March, 2019.

7.8.6 Further, the Commission notes that, past years' approved Expenses includes the expenses towards Unit 6. As per methodology stipulated in earlier Chapter of this Order, the Commission has excluded the normative expenses towards Unit 6.

7.8.7 The base O&M expenses as considered by the Commission are as shown in the Table below:

Table 106: Base O&M Expense (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**
O&M Expenses approved after Sharing of gains and losses	506.42	471.80	393.13
Less: Water Charges	12.32	8.76	1.87
Less: Expenses towards Unit 6	98.85	97.08	-
Total Base expenses	**395.25**	**365.96**	**391.26**

7.8.8 As regards the escalation rate for projecting O&M Expenses for the 4th Control Period, Regulation 47.1(c) specifies as follows:

"The Operation and Maintenance expenses for each subsequent year shall be determined by escalating these Base Year expenses of FY 2019-20 by an inflation factor with 50% weightage to the average yearly inflation derived based on the monthly Wholesale Price Index of the respective past five financial years as per the Office of Economic Advisor of Government of India and 50% weightage to the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the past five financial years as per the Labour Bureau, Government of India, as reduced by an efficiency factor of 1% or as may be stipulated by the Commission from time to time, to arrive at the permissible Operation and Maintenance expenses for each year of the Control Period:

….

Provided further that the efficiency factor shall be considered as zero, in *case the Availability Factor of all Generating Units/Stations of the Generating Company is higher than NAPAF, or there is an improvement in the Availability Factor of all Generating Units/Stations of the Generating Company of at least 2 percent annually over the last 3 years, in case the Availability Factor of all Generating Units/Stations of the Generating Company is lower than NAPAF."*

7.8.9 The Commission has computed the escalation factor considering the inflation indices as per 2011-12 series for FY 2014-15 to FY 2018-19. Further, the Commission has not reduced the efficiency factor of 1% as the availability of the all the generating stations in previous years has been above NAPAF.

7.8.10 The escalation factor has been computed as 3.12%, considering the five years average of CPI and WPI index in the ratio of 50:50.

7.8.11 Accordingly, the Commission has escalated the average of O&M expense of FY 2016-17 to FY 2018-19 considered as the O&M Expense for the year ended 31 March, 2018 at 2.52% twice to arrive at the O&M expenses for the base year commencing 1 April, 2019. Thereafter, the Commission escalated the same by 3.12% to arrive at O&M Expense for FY 2020-21 and so on.

7.8.12 Further, the Commission computes normative O&M Expenses for unit 5 to 7 & Hydro Stations as per the following Table. The Water changes have been approved as Rs. 5 Crore for each year of the Control Period, in addition to normative O&M Expenses, the Water Charges shall be considered on actuals at time of truing up for respective years.

7.8.13 The Normative O&M Expenses approved by the Commission for Control Period for Unit 5, 7 and Hydro Stations as shown in the following Table:

Table 107 O&M Expenses for Unit 5 to 7 and Hydro Stations for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Normative O&M Expenses for previous years	403.59	416.17	429.14	442.51	456.30
Escalation Factor (%)	3.12%	3.12%	3.12%	3.12%	3.12%
Normative O&M Expenses	416.17	429.14	442.51	456.30	470.52
Add: Water Charges	5.00	5.00	5.00	5.00	5.00
Total O&M Expenses	421.17	434.14	447.51	461.30	475.52

7.8.14 Regulation 47.2 specifies the normative O&M expenses in Rs. lakh/MW for the coal-based thermal Generating Stations that achieved COD on or after 26 August, 2005. Regarding Unit 8, the Commission approves O&M Expenses as per O&M Norms specified in MYT Regulations, 2019, as shown in the following Table:

Table 108 O&M Expenses for Unit 8 for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
O&M Norms (Rs. Lakh/MW)	27.89	28.89	29.93	31.01	32.13
O&M Expenses	69.73	72.23	74.83	77.53	80.33

7.8.15 **The Commission approves the O&M Expenses as per Tables 107 and 108 of this Order for the Control Period**.

7.9 Capitalisation and Means of Finance

TPC-G's Submission

7.9.1 The capital expenditure and capitalization proposed during the Control Period is as shown in the Table below:

Table 109 Capitalisation for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
DPR Schemes	70.07	119.96	21.22	-	-
Non-DPR Schemes	2.17	3.67	1.16	1.16	1.16
Total	72.24	123.63	22.38	1.16	1.16
Unit 8					
DPR Schemes	10.08	44.35	0.24	0.24	0.24
Non-DPR Schemes	-	-	-	-	-
Total	10.08	44.35	0.24	0.24	0.24

7.9.2 For Unit 5 to 7 and Hydro Stations, TPC-G has proposed the capitalization towards major schemes of Installation of Control gates at BTRP, Civil works for life enhancement of Shirwata dam, Construction of dyke wall at Mulshi Lake, Re-alingment of internal road at Khopoli and replacement of Control & Relay Panels and auxiliary supply system of 110KV Switchyard at Trombay.

7.9.3 For Unit 8, TPC-G has proposed the capitalisation towards Refurbishment of Unit-8 CW Pump of Rs. 10 Crore.

Commission's Analysis and Ruling

7.9.4 The Commission has examined the DPR capitalization projected by TPG-G vis-à-vis the DPRs approved by the Commission. The Commission has not considered any capitalization projected by TPC-G towards DPR which are yet to be submitted by TPC-G for approval of the Commission. The Commission has also not considered any capitalization towards DPRs' which have been submitted by TPC-G, but yet to be approved by the Commission with exceptions.

7.9.5 However, the Commission has considered the following three DPRs. Although these DPRs are yet to be approved by the Commission, the schemes and the costs proposed under these DPR's have been examined by the Commission.

(a) Re-alingment of internal road at Khopoli: Estimated cost of Rs. 10.96 Crore

(b) Replacement of Transformers at Bhivpuri: Estimated cost of Rs. 5.20 Crore

(c) DPR for Shirwata Dam strengthening: Estimated cost Rs. 56.98 Crore

7.9.6 Therefore, for the time being, the projected cost is being considered for the next control period from FY 2020-21 to FY 2024-25 which would be subjected to truing up upon the Commission's in principle approval for these DPRs and actual cost post execution of the DPRs.

7.9.7 The Commission has also allowed additional 20% capitalization towards unplanned DPR expenditure in accordance with the Regulation 24.6 of the MYT Regulation, 2019. Further, the Commission has also taken into consideration the past trend of DPR capitalization and considered 50% of the average capitalization of last five years (from FY 2015-16 to FY 2019-20) while approving projections for FY 2020-21 to FY 2024-25 subject to the condition that the capitalization being allowed is not exceeding the capitalization sought in the Petition.

7.9.8 The non-DPR capitalization for FY 2020-21 to FY 2022-23 is less than 20% of the approved DPR capitalization and hence same is being considered for approval.

7.9.9 It is also noted that no DPR capitalization has been projected by TPC-G for FY 2023-24 and FY 2024-25. Non-DPR capitalization has been projected as Rs. 1.16 Crore for each year. Since, no Capitalisation towards DPR schemes is not considered, capitalisation towards Non-DPR schemes is considered as Nil.

7.9.10 As regards Unit 8, the Commission has examined the capitalization projected by TPG-G towards DPR Schemes vis-à-vis the DPRs approved by the Commission. The Commission has not considered any capitalization projected by TPC-G towards DPRs which are yet to be submitted by TPC-G for approval of the Commission. Only approved DPRs have been considered for allowing the projected DPR capitalization for FY 2021-22 to FY 2024-25.

7.9.11 The capitalisation approved by the Commission for Control Period is shown in the following Table:

Table 110 Capitalisation for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Unit 5 to 7 & Hydro Stations					
DPR Schemes	50.22	34.05	21.22	-	-
Non-DPR Schemes	2.17	3.67	1.16	-	-
Total	**52.39**	**37.72**	**22.38**	**-**	**-**
Unit 8					
DPR Schemes	3.70	16.74	0.24	0.24	0.24
Non-DPR Schemes	-	-	-	-	-
Total	**3.70**	**16.74**	**0.24**	**0.24**	**0.24**

7.9.12 The Commission approves the Capitalisation as per above Table for the Control Period.

7.9.13 The Commission has considered the financing of Capitalisation as per normative Debt:Equity ratio of 70:30 as shown in the following Table:

Table 111 Means of Finance for Capitalisation for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Unit 5 to 7 & Hydro Stations					
Equity	15.72	11.32	6.71	-	-
Debt	36.67	26.40	15.67	-	-
Total	**52.39**	**37.72**	**22.38**	**-**	**-**
Unit 8					
Equity	1.11	5.02	0.07	0.07	0.07
Debt	2.59	11.72	0.17	0.17	0.17
Total	**3.70**	**16.74**	**0.24**	**0.24**	**0.24**

7.10 Depreciation

TPC-G's Submission

7.10.1 In line with Regulation 28 of MYT Regulations, 2019, Depreciation has been computed based on the estimated capitalisation and considering the depreciation rate as computed as a part of Truing up of FY 2016-17. The same is provided in the Tables as follows:

Table 112 Depreciation for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
Opening GFA	3,869.04	3,941.28	4,064.90	4,087.28	4,088.45
Addition of GFA	72.24	123.63	22.38	1.16	1.16
Closing GFA	3,941.28	4,064.90	4,087.28	4,088.45	4,089.61
Rate of Depreciation	4.57%	4.57%	4.57%	4.57%	4.57%
Depreciation	**178.56**	**183.04**	**186.37**	**186.91**	**186.96**
Unit 8					
Opening GFA	1,208.91	1,218.99	1,263.34	1,263.58	1,263.82
Addition of GFA	10.08	44.35	0.24	0.24	0.24
Closing GFA	1,218.99	1,263.34	1,263.58	1,263.82	1,264.06
Rate of Depreciation	4.93%	4.93%	4.93%	4.93%	4.93%
Depreciation	**59.84**	**61.18**	**62.28**	**62.29**	**62.30**

Commission's Analysis and Ruling

7.10.2 For computing Depreciation for the Control Period from FY 2020-21 to FY 2024-25, the Commission has considered closing GFA for FY 2019-20 as provisionally Trued up earlier in this Order as opening balance of GFA for FY 2020-21. The asset addition during the year has been considered equal to the capitalisation approved in this Order for each year of the Control Period. The weighted average rate of depreciation approved in Truing up for FY 2018-19 has been considered for applying on average GFA during the year.

7.10.3 The depreciation approved by the Commission for FY 2020-21 to FY 2024-25 is shown in the Table below:

Table 113 Depreciation for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
Opening GFA	3,875.63	3,928.02	3,965.74	3,988.12	3,988.12
Addition of GFA	52.39	37.72	22.38	-	-
Closing GFA	3,928.02	3,965.74	3,988.12	3,988.12	3,988.12
Rate of Depreciation	3.36%	3.36%	3.36%	3.36%	3.36%
Depreciation	**131.07**	**132.58**	**133.59**	**133.97**	**133.97**
Unit 8					
Opening GFA	1,195.51	1,199.21	1,215.95	1,216.19	1,216.43
Addition of GFA	3.7	16.74	0.24	0.24	0.24
Closing GFA	1,199.21	1,215.95	1,216.19	1,216.43	1,216.67
Rate of Depreciation	5.15%	5.15%	5.15%	5.15%	5.15%
Depreciation	**61.65**	**62.18**	**62.61**	**62.63**	**62.64**

7.10.4 The Commission approves the Depreciation as per above Table for the Control Period.

7.11 Interest on Loan Capital

TPC-G's Submission

7.11.1 Based on the Closing Balance of long term loans for FY 2017-18 and the additional capitalisation during FY 2018-19 and FY 2019-20 with repayments equal to the estimated depreciation the interest on loan has been worked out for respective years as follows:

Table 114 Interest on Loan Capital for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
Opening Balance	248.47	120.48	23.99	-	-
Addition	50.57	86.54	15.67	0.81	0.81
Repayment	178.56	183.04	186.37	186.91	186.96
Closing balance	120.48	23.99	-	-	-
Interest Rate (%)	8.64%	8.64%	8.64%	8.64%	8.64%
Interest on Loan Capital	**15.94**	**6.24**	**1.04**	**-**	**-**
Unit 8					
Opening Balance	274.80	222.01	191.88	129.77	67.64
Addition	7.05	31.05	0.17	0.17	0.17
Repayment	59.84	61.18	62.28	62.29	62.30
Closing balance	222.01	191.88	129.77	67.64	5.51
Interest Rate (%)	8.64%	8.64%	8.64%	8.64%	8.64%
Interest on Loan Capital	**21.46**	**17.88**	**13.89**	**8.53**	**3.16**

Commission's Analysis and Ruling

7.11.2 The opening loan for FY 2020-21 has been considered equal to the closing loan for FY 2019-20 as approved in the provisional Truing-up for FY 2019-20, in earlier Section of this Order.

7.11.3 The Commission has considered the debt amount for each year of the 4th Control Period equal to 70% of the capitalisation approved. The loan repayments have been considered equal to the depreciation approved for the respective years, in accordance with Regulation 30 of the MYT Regulations, 2019. The interest rate has been considered equal to the rate of interest considered for FY 2019-20 and the interest on long-term loan has been computed on the normative average loan for each year of the 4th Control Period.

7.11.4 The interest expenses on long-term loans approved by the Commission for FY 2020-

21 to FY 2021-22 are summarised in the Table below:

Table 115 Interest on Loan Capital for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
Opening Balance	287.82	193.42	87.24	-	-
Addition	36.67	26.40	15.67	-	-
Repayment	131.07	132.58	133.59	133.97	133.97
Closing balance	193.42	87.24	-	-	-
Interest Rate (%)	8.64%	8.64%	8.64%	8.64%	8.64%
Interest on Loan Capital	**20.79**	**12.12**	**3.77**	**-**	**-**
Unit 8					
Opening Balance	274.91	215.85	165.39	102.95	40.49
Addition	2.59	11.72	0.17	0.17	0.17
Repayment	61.65	62.18	62.61	62.63	62.64
Closing balance	215.85	165.39	102.95	40.49	-
Interest Rate (%)	8.64%	8.64%	8.64%	8.64%	8.64%
Interest on Loan Capital	**21.20**	**16.47**	**11.59**	**6.20**	**1.75**

7.11.5 The Commission approves the Interest on Loan as per above Table for the Control Period.

7.12 Interest on Working Capital

TPC-G's Submission

7.12.1 TPC-G has computed Interest on Working Capital considering the applicable Interest Rate as per Regulation 32 of MYT Regulations, 2019. Considering the Norms for computation of normative Working Capital requirement and the applicable Interest Rate based on SBI MCLR derived for the control period from FY 2020-21 to FY 2024-25 in line with the MYT Regulations, 2019, the Interest on Working Capital submitted is as under:

Table 116 Interest on Working Capital for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
Working Capital Requirement	358.42	361.46	365.19	368.39	370.25
Interest Rate (%)	9.80%	9.80%	9.80%	9.80%	9.80%
Interest on Working Capital	35.11	35.41	35.78	36.09	36.27
Unit 8					

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Working Capital Requirement	114.63	115.01	115.70	116.01	115.87
Interest Rate (%)	9.80%	9.80%	9.80%	9.80%	9.80%
Interest on Working Capital	11.23	11.27	11.34	11.37	11.35

Commission's Analysis and Ruling

7.12.2 The Commission has considered the rate of interest for computation of IoWC as 9.55% considering the applicable MCLR of SBI plus 150 basis points, in accordance with the MYT Regulations, 2019. The computation of normative IoWC approved by the Commission for the Control Period from FY 2020-21 to FY 2024-25, is summarized in the Table below:

Table 117 Interest on Working Capital for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					
Working Capital Requirement	329.07	331.75	334.46	336.82	339.18
Interest Rate (%)	9.55%	9.55%	9.55%	9.55%	9.55%
Interest on Working Capital	31.43	31.68	31.94	32.17	32.39
Unit 8					
Working Capital Requirement	102.46	102.78	103.20	103.22	103.37
Interest Rate (%)	9.55%	9.55%	9.55%	9.55%	9.55%
Interest on Working Capital	9.79	9.82	9.86	9.86	9.87

7.12.3 **The Commission approves the Interest on Working Capital as per above Table for the Control Period.**

7.13 Return on Equity Capital

TPC-G's Submission

7.13.1 TPC-G submitted that Regulation 34 of the MYT Regulations, 2019 allow recovery of Income tax on Return on Equity Capital by grossing up the base rate of return on equity. Accordingly, TPC-G submitted the Return on Equity capital for Control period as shown in the following Table:

Table 118 Return on Equity for FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5 to 7 & Hydro Stations					

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Opening Balance	1,374.32	1,395.99	1,433.08	1,439.80	1,440.14
Addition	21.67	37.09	6.71	0.35	0.35
Reduction	-	-	-	-	-
Closing balance	1,395.99	1,433.08	1,439.80	1,440.14	1,440.49
RoE (%)	22.32%	22.32%	22.32%	22.32%	22.32%
Return on Equity	309.19	315.75	320.64	321.42	321.50
Unit 8					
Opening Balance	363.48	366.51	379.81	379.88	379.95
Addition	3.02	13.31	0.07	0.07	0.07
Reduction	-	-	-	-	-
Closing balance	366.51	379.81	379.88	379.95	380.03
RoE (%)	17.68%	17.68%	17.68%	17.68%	17.68%
Return on Equity	64.53	65.97	67.16	67.17	67.18

7.13.2 TPC-G further submitted that as per the MYT Regulations, 2019 an additional RoE will be allowed based on the actual performance during the Truing-up of the concerned FY. It is submitted that such provision will create a Regulatory Gap during Truing-up to be recovered in future years.

7.13.3 Further, the MYT Regulations, 2019 provides for the revised methodology for approving the income tax for utilities i.e. from based on Regulatory profit before tax to grossing up of Return on Equity. Regarding the deferred tax liability pertaining to previous years up to FY 2019-20 that may arise during the 4th Control Period, TPC-G requested to allow reimbursement of Income Tax during the true-up exercise on Regulatory assets created due to deferred revenues of the Licensees on account of controllable and uncontrollable factors applicable for the period prior to March 31, 2020 and; Regulatory assets created due to orders of the Indian Governmental Instrumentality applicable for the period prior to March 31, 2020. TPC-G submitted that it would make submissions, in future years seeking reimbursement of Income Tax accordingly on the matters applicable for the period prior to March 31, 2020 as an when they are due for claim.

Commission's Analysis and Ruling

7.13.4 The Commission has computed the RoE for the Control Period in accordance with Regulation 29 of the MERC MYT Regulations, 2019. The Closing Equity of FY 2019-20 has been considered as Opening Equity of FY 2020-21 and onwards. Addition to equity is considered equal to 30% of the capitalization approved in this Order for respective year of the Control Period as specified in the MYT Regulations, 2019.

7.13.5 As regards TPC-G's request to consider the RoE rate as 15.5% at the tariff determination stage itself, the Commission is of the view that this would be in violation of the provisions of the MYT Regulations, 2019, and amount to pre-empting the process of assessment of performance at the true-up stage, to ascertain whether the Licensee is entitled to the additional RoE. Hence, the Commission has allowed the RoE at the Base Rate of 14% only, duly grossed up by the applicable Tax rate.

7.13.6 As regards TPC-G's request for deferred tax liability, the Commission notes that there is no regulatory assets created for TPC-G in the past as well as in the present Order. Further, if there would be any claim towards deferred tax liability, it may be considered as an when it is submitted before the Commission as per the provisions of MYT Regulations, 2019, subject to prudence check.

7.13.7 Further, Regulation 34 of the MYT Regulations, 2019 provides for pre-tax RoE to be computed for the Control Period. The MYT Regulations specify that the effective tax rate as per latest truing up year shall be considered for grossing up the RoE for MYT Control Period. The MAT rate for FY 2017-18 and FY 2018-19 was 21.34% and 21.55%, respectively. The Corporate Tax Rate for FY 2017-18 and FY 2018-19 was 34.608% and 34.95%, respectively. However, the Government of India (GoI) has reduced the effective Income Tax rates recently. The effective MAT rate is reduced to 17.47% and effective Corporate Tax rate is reduced to 25.17%. Therefore, the Commission has considered the Effective Income Tax rate after factoring the reduced Tax rates, for allowing pre-tax RoE for the MYT Control Period, so that the benefit of reduced Tax rates is passed on to the consumers.

7.13.8 Since Tax payable for TPC-G for FY 2018-19 has been calculated under Corporate tax rate for Unit 5 to 7 & Hydro Stations and MAT rate for Unit 8, the Commission has derived the pre-tax Rate of Return of 18.71% for Unit 5 to 7 and Hydro Stations and 16.96% for Unit 8 after applying on base rate of RoE of 14%.

7.13.9 The pre-tax ROE approved by the Commission for the Control Period is shown in the Table below:

Table 119 Return on Equity for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Unit 5 to 7 & Hydro Stations					
Opening Balance	1,373.58	1,389.30	1,400.61	1,407.33	1,407.33
Addition	15.72	11.32	6.71	-	-
Reduction	-	-	-	-	-
Closing balance	1,389.30	1,400.61	1,407.33	1,407.33	1,407.33
RoE Grossed up with Tax Rate(%)	18.71%	18.71%	18.71%	18.71%	18.71%
Return on Equity	**258.45**	**260.98**	**262.67**	**263.30**	**263.30**
Unit 8					

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Opening Balance	358.66	359.77	364.79	364.86	364.93
Addition	1.11	5.02	0.07	0.07	0.07
Reduction	-	-	-	-	-
Closing balance	359.77	364.79	364.86	364.93	365.00
RoE Grossed up with Tax Rate (%)	16.96%	16.96%	16.96%	16.96%	16.96%
Return on Equity	**60.93**	**61.46**	**61.89**	**61.90**	**61.91**

7.13.10 **The Commission approves the Return on Equity as per above Table for the Control Period.**

7.14 Non-Tariff Income

TPC-G's Submission

7.14.1 For computation of the fixed charges of the Generating Units, the Non-Tariff Income is considered same as that of actual of FY 2018-19.

Commission's Analysis and Ruling

7.14.2 The Commission has considered Non-Tariff income for FY 2020-21 to FY 2024-25, same as that approved for FY 2018-19 approved in this Order. Accordingly, the Commission has approved the Non-Tariff Income as shown in the following Table:

Table 120 Non-Tariff Income for FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
Unit 5 to 7 & Hydro Stations	30.86	30.86	30.86	30.86	30.86
Unit 8	0.09	0.09	0.09	0.09	0.09

7.14.3 **The Commission approves the Non Tariff Income as per above Table for the Control Period.**

7.15 Annual Fixed Charges

7.15.1 The Annual Fixed Charges of Generating station as specified in the Regulation 42 of the MYT Regulations, 2019 comprises of:

(a) Operation and Maintenance Expenses;

(b) Depreciation;

(c) Interest on Loan Capital;

(d) Interest on Working Capital;

(e) Return on Equity Capital;

(f) Income Tax;

Less

(g) Non-Tariff Income

TPC-G's Submission

7.15.2 TPC-G submitted the Annual Fixed Charges for Control Period as shown in the following Table:

Table 121 Annual Fixed Charges for Control Period from FY 2020-21 to FY 2024-25 for Unit 5 to 7 & Hydro Stations as submitted by TPC-G (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
O&M Expenses	482.84	497.70	513.02	528.82	545.10
Depreciation	178.56	183.04	186.37	186.91	186.96
Interest on Loan Capital	15.94	6.24	1.04	-	-
Interest on Working Capital	35.11	35.41	35.78	36.09	36.27
Return on Equity	309.19	315.75	320.64	321.42	321.50
Less: Allocation of Unit 8 for shared capacity	11.69	11.35	11.02	10.69	10.36
Less: Non-Tariff Income	30.86	30.86	30.86	30.86	30.86
Total Annual Fixed Charges	**979.10**	**995.93**	**1,014.97**	**1,031.70**	**1,048.63**

Table 122 Annual Fixed Charges for Control Period from FY 2020-21 to FY 2024-25 for Unit 8 as submitted by TPC-G (Rs. Crore)

Particulars	**FY 2020-21**	**FY 2021-22**	**FY 2022-23**	**FY 2023-24**	**FY 2024-25**
O&M Expenses	69.73	72.23	74.83	77.53	80.33
Depreciation	59.84	61.18	62.28	62.29	62.30
Interest on Loan Capital	21.46	17.88	13.89	8.53	3.16
Interest on Working Capital	11.23	11.27	11.34	11.37	11.35
Return on Equity	64.53	65.97	67.16	67.17	67.18
Add: Allocation of Unit 8 for shared capacity	11.69	11.35	11.02	10.69	10.36
Less: Non-Tariff Income	0.09	0.09	0.09	0.09	0.09
Total Annual Fixed Charges	**238.38**	**239.79**	**240.42**	**237.48**	**234.59**

Commission's Analysis and Ruling

7.15.3 After approving each components of Annual Fixed Charges, the Commission approves the Annual Fixed Charges for Control Period as shown in the following Tables:

Table 123 Annual Fixed Charges for Control Period from FY 2020-21 to FY 2024-25 for Unit 5 to 7 & Hydro Stations as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21		FY 2021-22		FY 2022-23		FY 2023-24		FY 2024-25	
	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved
O&M Expenses	482.84	421.17	497.70	434.14	513.02	447.51	528.82	461.30	545.10	475.52
Depreciation	178.56	131.07	183.04	132.58	186.37	133.59	186.91	133.97	186.96	133.97
Interest on Loan Capital	15.94	20.79	6.24	12.12	1.04	3.77	-	-	-	-
Interest on Working Capital	35.11	31.43	35.41	31.69	35.78	31.95	36.09	32.17	36.27	32.40
Return on Equity	309.19	258.45	315.75	260.98	320.64	262.67	321.42	263.30	321.50	263.30
Less: Allocation of Unit 8 for shared capacity	11.69	11.69	11.35	11.35	11.02	11.02	10.69	10.69	10.36	10.36
Less: Non-Tariff Income	30.86	30.86	30.86	30.86	30.86	30.86	30.86	30.86	30.86	30.86
Total Annual Fixed Charges	**979.10**	**820.37**	**995.93**	**829.31**	**1,014.97**	**837.61**	**1,031.70**	**849.20**	**1,048.63**	**863.97**

Table 124 Annual Fixed Charges for Control Period from FY 2020-21 to FY 2024-25 for Unit 8 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21		FY 2021-22		FY 2022-23		FY 2023-24		FY 2024-25	
	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved
O&M Expenses	69.73	69.73	72.23	72.23	74.83	74.83	77.53	77.53	80.33	80.33
Depreciation	59.84	61.65	61.18	62.18	62.28	62.61	62.29	62.63	62.30	62.64
Interest on Loan Capital	21.46	21.20	17.88	16.47	13.89	11.59	8.53	6.20	3.16	1.75
Interest on Working Capital	11.23	9.79	11.27	9.82	11.34	9.86	11.37	9.86	11.35	9.87
Return on Equity	64.53	60.93	65.97	61.46	67.16	61.89	67.17	61.90	67.18	61.91
Add: Allocation of Unit 8 for shared capacity	11.69	11.69	11.35	11.35	11.02	11.02	10.69	10.69	10.36	10.36
Less: Non-Tariff Income	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Total Annual Fixed Charges	**238.38**	**234.89**	**239.79**	**233.41**	**240.42**	**231.71**	**237.48**	**228.71**	**234.59**	**226.77**

7.15.4 **The Commission approves the Total Annual Fixed Charges as per above Tables for the Control Period.**

7.16 Station wise Annual Fixed Charges

Commission's Analysis and Ruling

7.16.1 Based on the methodology adopted in the previous Orders, the Commission has allocated the Annual Fixed Charges to Thermal Units and Hydro Generating Stations as shown in the following Table:

Table 125 Unit wise Annual Fixed Charges for Control Period from FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Unit/ Station	FY 2020-21		FY 2021-22		FY 2022-23		FY 2023-24		FY 2024-25	
	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved	TPC-G Petition	Approved
Unit 5	450.32	383.64	454.98	385.48	462.39	387.30	471.69	394.98	481.10	403.23
Unit 7	177.92	148.25	178.02	146.34	179.99	144.92	182.86	148.42	185.29	150.56
Unit 8	238.38	234.89	239.79	233.41	240.42	231.71	237.48	228.71	234.59	226.77
Total Thermal (A)	**866.62**	**766.79**	**872.79**	**765.23**	**882.80**	**763.92**	**892.03**	**772.11**	**900.98**	**780.56**
Bhira	129.79	107.22	135.09	111.89	138.88	115.93	139.39	112.87	141.09	114.32
Bhivpuri	88.24	72.37	90.34	73.59	92.06	74.63	93.38	75.77	94.65	76.88
Khopoli	132.83	108.89	137.50	112.00	141.63	114.83	144.38	117.15	146.50	118.98
Total Hydro (B)	**350.86**	**288.47**	**362.93**	**297.49**	**372.58**	**305.40**	**377.15**	**305.79**	**382.24**	**310.18**
Total (A)+(B)	**1,217.48**	**1,055.26**	**1,235.72**	**1,062.71**	**1,255.38**	**1,069.32**	**1,269.18**	**1,077.90**	**1,283.22**	**1,090.74**

7.16.2 **The Commission approves the Unit-wise Annual Fixed Charges for Thermal Station and Station wise Annual Fixed Charges for Hydro Stations as per above Table for the Control Period.**

7.17 Energy Charges

TPC-G's Submission

7.17.1 TPC-G submitted that it uses Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS) and Imported RLNG (Regasified Liquid Natural Gas) for its Generating Units at Trombay. Further, TPC-G submitted its Fuel Utilisation Plan as per Regulation 40 of MYT Regulations, 2019.

7.17.2 For the purpose of determination of Energy Charges for Control Period, TPC-G has considered weighted average of the coal prices from July, 2019 to September, 2019. The fuel parameters considered by TPC-G is shown in the following Table:

Table 126 Fuel Parameters for Control Period from FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Fuel	Rs / MT	Rs / Mkcal	GCV (Mkcal/MT)
Coal	6440	1380	4.666
APM Gas	18,023	1373	13.13
RLNG	43,487	3320	13.10
Oil	55,364	5346	10.36

7.17.3 In view of the above, TPC-G proposed the Energy Charges for Control Period as shown in the following Table:

Table 127 Energy Charges for Control Period from FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

Unit	Fuel	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	APM	3.763	3.763	3.763	3.763	3.763
	Oil	14.653	14.653	14.653	14.653	14.653
	Coal	3.783	3.783	3.783	3.783	3.783
	RLNG	9.100	9.100	9.100	9.100	9.100
Unit 7	APM	2.880	2.880	2.880	2.880	2.880
	RLNG	6.965	6.965	6.965	6.965	6.965
Unit 8	Coal	3.707	3.707	3.707	3.707	3.707
	Oil	0.028	0.028	0.028	0.028	0.028

Commission's Analysis and Ruling

7.17.4 The Commission notes that Regulation 40 of MYT Regulations, 2019 specifies the provisions related to Fuel Utilisation Plan, wherein Generation Companies are required to forecast the fuel requirement, provide the contracted sources, alternate arrangement of Fuel, etc. The relevant extract of Regulation is as under:

*"**40 Fuel Utilisation Plan***

40.1 The Generating Company shall prepare and submit Fuel Utilisation Plan for the Control Period commencing on April 1, 2020, along with the Petition for determination of Tariff for the Control Period from April 1, 2020 to March 31, 2025, in accordance with Part A of these Regulations, to the Commission for approval.

40.2 The Fuel Utilisation Plan should ensure that fuel quantum is allocated to different generating Stations/Units in accordance with the merit order of different generation Stations/Units in terms of variable cost:

Provided that the fuel allocation should be such that, subject to system and other constraints, the least cost generating Stations/Units are operated at maximum availability and other generating Stations/Units are operated at maximum availability thereafter in the ascending order of variable cost

40.3 The Fuel Utilisation Plan shall comprise the following:
(a) Forecast of fuel requirement for each unit/station;
(b) Details of contracted source, annual contracted quantity, estimated availability from contracted sources and resultant shortage of fuel, if any, for each unit/station;
(c) Use of optimum mix of fuel;
(d) Alternate arrangement for meeting shortage of fuel along with impact on variable cost of unit/station;
(e) Plan for swapping of fuel source for optimising the cost, if any, along with detailed justification and cost savings;
(f) Net cost savings in variable cost of each unit, if any, after optimum utilisation of Fuel:

Provided that the forecast or estimates for the Control Period from FY 2020-21 to FY 2024-25 shall be prepared for each month over the Control Period:

Provided further that Fuel Utilisation Plan shall be prepared based on past data and reasonable assumptions for future."

7.17.5 The Commission notes that TPC-G submitted the Fuel Utilisation Plan for Coal, Oil and Gas. The Coal is utilised in Unit 5 and Unit 8, Gas is utilised in Unit 7 and Oil is utilised in Unit 5 and Unit 8.

7.17.6 In response to the Commission's query regarding the existing arrangement of contracts, TPC-G submitted that coal contracts in place are of annual requirement of Unit 5 and Unit 8 upto July/August 2020.

7.17.7 Regarding the imported coal, it is submitted that Thermal Generating Station at Trombay needs ultra-low sulphur, low ash and Mid GCV coal to adhere with the stringent environment norms. Since, PPAs were not finalised during the year 2019 and there was uncertainty with respect to future tie-ups, the coal tie-ups were done only for a period of one year. The long term contract with Adaro is valid till 2020. Also, annual contract with Kideco and with Avra are valid upto July 31, 2020.

7.17.8 Regarding further fuel arrangement, the Commission notes the TPC-G's submission that, existing PPAs are valid till March 31, 2024 and hence, it is exploring the options to tie up Coal on annual basis or on term basis, to get competitive prices for the required quantity in the best interest of consumers.

7.17.9 As regards Gas Contract, the Commission notes that existing APM gas Contract with GAIL is valid upto December 31, 2020. TPC-G submitted that it will be approaching GAIL for renewal of the contracts for further period as per usual practice.

7.17.10 **It is the primary responsibility of Generating Companies to ensure supply of fuel for operation of the plant However, the Commission, in the present Order, has reviewed the fuel arrangement to ensure the availability of plant. Further, TPC-G has tied up its capacity with BEST and TPC-D, which are supplying power to Consumers in Mumbai city. The Commission notes that TPC-G has entered into Fuel Supply arrangement for shorter period in view of uncertainty of PPAs. The existing Coal contracts are valid upto July & August 2020 and Gas Contract upto December 2020. There is limited time available for entering into Fuel Supply contract. Hence, the Commission directs TPC-G to enter into fuel supply contracts or arrangement so as to ensure the supply of fuel till the validity of PPA, i.e., upto March 31, 2024 through transparent process of Competitive Bidding. Further, TPC-G is directed to submit its Status report, on arrangement of Fuel Supply for future period, to the Commission within three (3) months from the date of this Order.**

7.17.11 As regards the determination of Energy Charges, Regulation 50.6 of MYT Regulations, 2019 specifies as under:

"Provided that the landed cost of primary fuel and secondary fuel for tariff

determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating Station, preceding the first month for which the Tariff is to be determined for existing stations and immediately preceding three months in case of new generating stations shall be taken into account :"

7.17.12 In view of the above, the Commission sought the details of latest prices of Fuels. The Commission has considered the fuel prices based on actual fuel prices for the period April to September 2019 as shown in the following Table:

Table 128 Fuel Parameters for Control Period as considered by the Commission (Rs. Crore)

Fuel	Rs / MT	Rs / Mkcal	GCV (Mkcal/MT)
Coal	6,510.59	1,331.18	4,890.84
APM Gas	16,640.35	1,265.67	13,147.44
RLNG	43,487.03	3,320.16	13,097.85
Oil	55,983.33	5,535.78	10,112.99

7.17.13 Further, GCV of Fuel has been considered same for each year of the Control Period. The Commission has considered the escalation of 3% per annum in landed prices of fuel from FY 2020-21 onwards for approving the Tariff for Control Period based on past trends of variations in fuel prices. Accordingly, the landed price of fuel considered for projection of Energy Charges is shown in the following Table:

Table 129 Landed Price of Fuel for Control Period as considered by the Commission (Rs. Crore)

Fuel	Landed Price of Fuel (Rs./MT or SCM or kL)				
	FY 21	FY 22	FY 23	FY 24	FY 25
Coal	6,705.91	6,907.09	7,114.30	7,327.73	7,547.56
APM Gas	17,139.56	17,653.75	18,183.36	18,728.86	19,290.73
RLNG	44,791.64	46,135.39	47,519.45	48,945.03	50,413.38
Oil	57,662.83	59,392.71	61,174.49	63,009.73	64,900.02

7.17.14 After considering the above said Fuel parameters, the Energy Charges for Control period as approved by the Commission for Thermal Units are shown in the following Table:

Table 130 Energy Charges for Control Period from FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Unit	Fuel	FY 2020-21			
		Normative Heat Rate (kcal/kWh)	Average Fuel Price (Rs./MCal)	Normative Auxiliary Consumption (%)	Energy Charge Rate (Rs./kWh)
Unit 5	APM	2,549	1,303.64	6.00%	3.535
	Oil	2,549	5,701.85	6.00%	15.462
	Coal	2,549	1,371.12	6.00%	3.718
	RLNG	2,549	3,419.77	6.00%	9.273
Unit 7	APM	2,035	1,303.64	2.75%	2.728
	RLNG	2,035	3,419.77	2.75%	7.156
Unit 8	Coal	2,430	1,371.12	8.50%	3.672

Unit	Fuel	FY 2021-22			
		Normative Heat Rate (kcal/kWh)	Average Fuel Price (Rs./MCal)	Normative Auxiliary Consumption (%)	Energy Charge Rate (Rs./kWh)
Unit 5	APM	2,549	1,342.75	6.00%	3.641
	Oil	2,549	5,872.91	6.00%	15.926
	Coal	2,549	1,412.25	6.00%	3.830
	RLNG	2,549	3,522.36	6.00%	9.552
Unit 7	APM	2,035	1,342.75	2.75%	2.810
	RLNG	2,035	3,522.36	2.75%	7.371
Unit 8	Coal	2,430	1,412.25	8.50%	3.783

Unit	Fuel	FY 2022-23			
		Normative Heat Rate (kcal/kWh)	Average Fuel Price (Rs./MCal)	Normative Auxiliary Consumption (%)	Energy Charge Rate (Rs./kWh)
Unit 5	APM	2,549	1,383.04	6.00%	3.750
	Oil	2,549	6,049.10	6.00%	16.403
	Coal	2,549	1,454.62	6.00%	3.944
	RLNG	2,549	3,628.03	6.00%	9.838
Unit 7	APM	2,035	1,383.04	2.75%	2.894
	RLNG	2,035	3,628.03	2.75%	7.592
Unit 8	Coal	2,430	1,454.62	8.50%	3.896

Unit	Fuel	FY 2023-24			
		Normative Heat Rate (kcal/kWh)	Average Fuel Price (Rs./MCal)	Normative Auxiliary Consumption (%)	Energy Charge Rate (Rs./kWh)
Unit 5	APM	2,549	1,424.53	6.00%	3.863
	Oil	2,549	6,230.57	6.00%	16.895
	Coal	2,549	1,498.25	6.00%	4.063
	RLNG	2,549	3,736.87	6.00%	10.133
Unit 7	APM	2,035	1,424.53	2.75%	2.981
	RLNG	2,035	3,736.87	2.75%	7.820
Unit 8	Coal	2,430	1,498.25	8.50%	4.013

Unit	Fuel	FY 2024-25			
		Normative Heat Rate (kcal/kWh)	Average Fuel Price (Rs./MCal)	Normative Auxiliary Consumption (%)	Energy Charge Rate (Rs./kWh)
Unit 5	APM	2,549	1,467.26	6.00%	3.979
	Oil	2,549	6,417.49	6.00%	17.402
	Coal	2,549	1,543.20	6.00%	4.185
	RLNG	2,549	3,848.98	6.00%	10.437
Unit 7	APM	2,035	1,467.26	2.75%	3.070
	RLNG	2,035	3,848.98	2.75%	8.054
Unit 8	Coal	2,430	1,543.20	8.50%	4.133

7.17.15 The Commission notes that it has determined the price of various Fuel against each Stations to ensure the billing of Energy Charges based on utilised Fuel.

7.17.16 The Commission notes that Energy Charge Rate for use of RLNG is very high. In response to the Commission's query regarding use of RLNG, TPC-G submitted that RLNG is used only when APM gas availability from GAIL drops below the minimum requirement for Combined Cycle operation coupled with load requirement from MSLDC. With respect to use of RLNG in Unit 5, it is clarified that Unit 5 is multi fired unit and can use Oil for generation. However, the use of oil in case of Unit 5 is limited to minimum necessary for smooth operation of the Unit, similar to Unit 8.

7.17.17 **The Commission notes that Unit 5 is multi fired unit. It is desired that Unit 5 shall run on primary fuel i.e., Coal. The use of RLNG and Oil shall be made minimal. Similarly, Energy Charges for Unit 7 for APM are much lesser than for RLNG. Hence, use of RLNG shall also be made minimal in Unit 7.**

7.17.18 **In view of the above, the Commission views that the use of RLNG shall be done after duly considering the economic despatch. Hence, the use of RLNG in Unit 5 and Unit 7 shall be done only in consultation with MSLDC.**

7.18 Capacity Charge and Energy Charge for Hydro Stations

TPC-G's Submission

7.18.1 TPC-G submitted the Capacity Charge and Energy Charge for Hydro Stations in accordance with Regulation 51 of MYT Regulations, 2019.

Table 131 Capacity Charge and Energy Charge for Hydro Stations from FY 2020-21 to FY 2024-25 as submitted by TPC-G (Rs. Crore)

	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Bhira					
Total Fixed Cost (Rs. Crore)	129.79	135.09	138.88	139.39	141.09
NAPAF (%)	90.00%	90.00%	90.00%	90.00%	90.00%
Projected Availability (%)	98.58%	99.05%	98.76%	92.90%	99.22%
Capacity Charges (Rs. Crore)	71.08	74.34	76.20	71.94	77.77
Net Design Energy (MU)	731.34	731.34	731.34	731.34	731.34
Energy Charge (Rs./kWh)	0.887	0.924	0.949	0.953	0.965
Bhivpuri					
Total Fixed Cost (Rs. Crore)	88.24	90.34	92.06	93.38	94.65
NAPAF (%)	90.00%	90.00%	90.00%	90.00%	90.00%
Projected Availability (%)	97.39%	97.39%	99.58%	99.85%	99.59%
Capacity Charges (Rs. Crore)	47.74	48.88	50.93	51.80	52.37
Net Design Energy (MU)	189.91	189.91	189.91	189.91	189.91
Energy Charge (Rs./kWh)	2.323	2.378	2.424	2.459	2.492
Khopoli					
Total Fixed Cost (Rs. Crore)	132.83	137.50	141.63	144.38	146.50
NAPAF (%)	90.00%	90.00%	90.00%	90.00%	90.00%
Projected Availability (%)	96.59%	97.94%	99.58%	99.85%	99.59%
Capacity Charges (Rs. Crore)	71.28	74.81	78.35	80.09	81.05
Net Design Energy (MU)	171.68	171.68	171.68	171.68	171.68
Energy Charge (Rs./kWh)	3.869	4.005	4.125	4.205	4.267

Commission's Analysis and Ruling

7.18.2 The Commission has computed the Capacity Charge and Energy Charge for Hydro Stations as per provisions of Regulation 51 of MYT Regulations, 2019.

7.18.3 For computation of Energy Charges, the Commission has considered the Design Energy for each Station as shown in the following Table:

Table 132 Net Design Energy considered by the Commission (MU)

Particulars	Bhira	Bhivpuri	Khopoli
Gross Design Energy (MU)	744.12	193.23	174.68
Auxiliary Consumption (%)	1.00%	1.20%	1.20%
Net Design Energy (MU)	736.68	190.91	172.58

7.18.4 Further, the Commission notes that TPC-G has determined the Capacity Charges including incentive based on the projected availability. The Commission notes that Regulation 51.3 of MYT Regulations, 2019 specifies that Capacity Charge (inclusive of incentive) shall be payable to Hydro Stations for calendar month based on Plant Availability Factor achieved in that month. TPC-G has projected the Annual Plant Availability Factor for each Hydro Generating Stations, which would not be same during each month. Hence, determination of Capacity Charges based on projected availability would not be appropriate. In view of the above, while determining the Capacity Charges for Control Period, the Commission has not considered Incentive and the same shall be recovered as per the provisions of MYT Regulations, 2019.

7.18.5 The Capacity Charges and Energy Charges approved by the Commission for Control Period is shown in the following Table:

Table 133 Capacity Charge and Energy Charge for Hydro Stations from FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	**FY 2020-21**		**FY 2021-22**		**FY 2022-23**		**FY 2023-24**		**FY 2024-25**	
	TPC-G Petition	**Approved**	**TPC-G Petition**	**Approved**	**TPC-G Petition**	**Approved**	**TPC-G Petition**	**Approved**	**TPC-G Petition**	**Approved**
Bhira										
Total Fixed Cost (Rs. Crore)	129.79	107.22	135.09	111.89	138.88	115.93	139.39	112.87	141.09	114.32
Capacity Charges (Rs. Crore)	71.08	53.61	74.34	55.95	76.20	57.96	71.94	56.43	77.77	57.16
Net Design Energy (MU)	731.34	736.68	731.34	736.68	731.34	736.68	731.34	736.68	731.34	736.68
Energy Charge (Rs./kWh)	0.887	0.728	0.924	0.759	0.949	0.787	0.953	0.766	0.965	0.776
Bhivpuri										
Total Fixed Cost (Rs. Crore)	88.24	72.37	90.34	73.59	92.06	74.63	93.38	75.77	94.65	76.88
Capacity Charges (Rs. Crore)	47.74	36.18	48.88	36.79	50.93	37.32	51.80	37.89	52.37	38.44
Net Design Energy (MU)	189.91	190.91	189.91	190.91	189.91	190.91	189.91	190.91	189.91	190.91
Energy Charge (Rs./kWh)	2.323	1.895	2.378	1.927	2.424	1.955	2.459	1.984	2.492	2.014
Khopoli										
Total Fixed Cost (Rs. Crore)	132.83	108.89	137.50	112.00	141.63	114.83	144.38	117.15	146.50	118.98
Capacity Charges (Rs. Crore)	71.28	54.44	74.81	56.00	78.35	57.42	80.09	58.58	81.05	59.49
Net Design Energy (MU)	171.68	172.58	171.68	172.58	171.68	172.58	171.68	172.58	171.68	172.58
Energy Charge (Rs./kWh)	3.869	3.155	4.005	3.245	4.125	3.327	4.205	3.394	4.267	3.447

8 Generation Tariff for FY 2020-21 to FY 2024-25

The Commission has approved the following Generation Tariff for 4th MYT Control Period from FY 2020-21 to FY 2024-25.

8.1 Tariff for Thermal Generating Units

8.1.1 The Commission approves the Tariff for Thermal Generating Units for Control Period as under:

Annual Fixed Charges

8.1.2 The Unit-wise Annual Fixed Charges approved for the Control period are shown in the following Table:

Table 134 Unit wise Annual Fixed Charges for Control Period from FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	383.64	385.48	387.30	394.98	403.23
Unit 7	148.25	146.34	144.92	148.42	150.56
Unit 8	234.89	233.41	231.71	228.71	226.77

8.1.3 MYT Regulations, 2019 stipulates that the target Availability for full recovery of Annual Fixed Charges shall be 85% (normative Availability). The Availability approved by the Commission for TPC-G's Thermal Station Units is more than 85%. Hence, the Commission approves the full recovery of Fixed Charges for all the Units of the Thermal Station.

8.1.4 Further, as regards the recovery of Annual Fixed Cost, Regulation 50 (A) of MYT Regulations, 2019, stipulates as follows:

"The fixed cost of a thermal generating station shall be computed on annual basis based on the norms specified under these Regulations and recovered on monthly basis under Capacity Charge. The total Capacity Charge payable for a generating station shall be shared by its beneficiaries as per their respective percentage share or allocation in the capacity of the generating station. The Capacity Charge shall be recovered under two segments of the year, i.e., High Demand Season (period of three months) and Low Demand Season (period of remaining nine months), and within each season in two parts, viz., Capacity Charge for Peak Hours of the

month and Capacity Charge for Off-Peak Hours of the month"

8.1.5 As regards declaration of High Demand Season and Low Demand Season and Peak Hours and Off-Peak Hours of the month, Regulation 50.3 stipulates as follows:

The hours of Peak and Off-Peak periods during a day shall be declared by the SLDC at least a week in advance. The High Demand Season (period of three months, consecutive or otherwise) and Low Demand Season (period of remaining nine months, consecutive or otherwise) in the State shall be declared by the SLDC, at least six months in advance:

Provided that the SLDC, after duly considering the comments of the concerned stakeholders, shall declare Peak Hours and High Demand Season in such a way as to coincide with the Peak Hours and High Demand Season of the State.

8.1.6 The SLDC in consultation with the concerned stakeholder has declared the High and Low Demand Season as follows:

- High Demand Season/Months – April, May and October
- Low Demand Season/Months – June, July, August, September, November, December, January, February and March

8.1.7 Further, as per provisions of MYT Regulations, 2019, SLDC shall declare the hours of Peak and Off-Peak periods during a day for each month hall be declared by the SLDC at least a week in advance after consultation with the comments of concerned stakeholders.

8.1.8 Accordingly, the billing of Capacity Charges for thermal stations shall be done as per Regulation 50 (A) of MYT Regulations, 2019, wherein Capacity Charges shall be recovered under two segments of year viz. High demand season and Low Demand Season as declared by SLDC, and within each season in two parts i.e., Capacity Charges for Peak hours of the month and Off-peak hours of the month as per the Peak and Off-Peak hours declared by SLDC.

Energy Charges

8.1.9 The rate of Energy Charges (ex-bus) has been approved based on the methodology detailed earlier in this Order. Any variations in fuel prices and calorific value would be dealt with through the FAC mechanism in accordance with Regulation 50.7 of MYT Regulations, 2019. The following Table details the Unit-wise approved Energy Charge for TPC-G's Thermal Generating Station:

Table 135 Energy Charges for Control Period from FY 2020-21 to FY 2024-25 for Unit 8 as approved by the Commission (Rs. Crore)

Unit	Fuel	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Unit 5	APM	3.535	3.641	3.750	3.863	3.979
	Oil	15.462	15.926	16.403	16.895	17.402
	Coal	3.718	3.830	3.944	4.063	4.185
	RLNG	9.273	9.552	9.838	10.133	10.437
Unit 7	APM	2.728	2.810	2.894	2.981	3.070
	RLNG	7.156	7.371	7.592	7.820	8.054
Unit 8	Coal	3.672	3.783	3.896	4.013	4.133

8.1.10 **The Commission views that use of RLNG shall be done after due considering the economic despatch and only in consultation with MSLDC.**

Incentive on Thermal Generation

8.1.11 As per Regulation 50.8 of the MYT Regulations, 2019, TPC-G shall be eligible for Incentive at a flat rate of 50.0 paise/kWh for actual energy generation in excess of ex-bus energy corresponding to target Plant Load Factor during peak hours and at a flat rate of 25.0 paise/kWh for actual energy generation in excess of ex-bus energy corresponding to target Plant Load Factor during peak and off-peak hours, on a cumulative basis within each Season (High Demand Season or Low Demand Season).

8.1.12 **The Commission directs TPC-G that Billing shall be done for each Thermal Generating Unit separately, clearly indicating the capacity charges, energy charges, type of fuel, Fuel Cost adjustment, etc.**

8.2 Tariff for Hydro Generating Stations

8.2.1 The Commission has detailed the computation of Capacity Charges and Energy Charge Rate for Hydro Generating Stations earlier in this Order. The Capacity Charges approved by the Commission for Hydro Generating Stations are at normative Annual Plant Availability Factor.

8.2.2 The Tariff approved for Hydro generating Stations for Control period is shown in the following Table:

Table 136 Capacity Charge and Energy Charge for Hydro Stations from FY 2020-21 to FY 2024-25 as approved by the Commission (Rs. Crore)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Bhira					
Capacity Charges (Rs. Crore)	53.61	55.95	57.96	56.43	57.16
Net Design Energy (MU)	736.68	736.68	736.68	736.68	736.68
Energy Charge (Rs./kWh)	0.728	0.759	0.787	0.766	0.776
Bhivpuri					
Capacity Charges (Rs. Crore)	36.18	36.79	37.32	37.89	38.44
Net Design Energy (MU)	190.91	190.91	190.91	190.91	190.91
Energy Charge (Rs./kWh)	1.895	1.927	1.955	1.984	2.014
Khopoli					
Capacity Charges (Rs. Crore)	54.44	56.00	57.42	58.58	59.49
Net Design Energy (MU)	172.58	172.58	172.58	172.58	172.58
Energy Charge (Rs./kWh)	3.155	3.245	3.327	3.394	3.447

8.2.3 Any variation in Actual generation vis-à-vis Net Design Energy shall be incentivise/disincentivise as per Regulation 51 of MYT Regulations, 2019.

8.2.4 **The Commission directs TPC-G that Billing shall be done for each Hydro Generating Stations separately, clearly indicating the capacity charges, energy charges and incentive, if any.**

8.3 Past Recoveries from Distribution Licensees

8.3.1 In earlier Sections, the Commission has computed the past Revenue Gap on account of the impact of Review Order, Truing up of FY 2017-18 & FY 2018-19 and provisional Truing up for FY 2019-20. As discussed earlier, the amounts to be recovered from the Distribution Licensees, as approved by the Commission, is shown in the Table below:

Table 137 Recovery of Cumulative Revenue Gap/(surplus) from Distribution Licensee as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Past recoveries approved in this Order			
		BEST	TPC-D	AEML-D	Total
1	Impact of Review Order	7.03	6.77	-	13.80
2	Truing up for FY 2017-18	(0.27)	3.09	-	2.81
3	Truing up for FY 2018-19	(42.46)	(47.46)	-	(89.92)

Sl. No.	Particulars	Past recoveries approved in this Order			
		BEST	**TPC-D**	**AEML-D**	**Total**
4	Provisional Truing up for FY 2019-20	(26.37)	(31.68)	-	(58.04)
5	Recovery of amount of entry tax	99.49	81.97	50.35	231.80
6	Difference in the Standby Charges as worked out by Hon'ble ATE	44.57	26.50	35.53	106.61
7	**Grand Total**	**81.99**	**39.18**	**85.88**	**207.05**

8.3.2 **The Commission has also considered the carrying cost for such recovery during the year and approves the net past Revenue Gaps to be passed on to or recovered from the Distribution Licensees, viz. BEST, TPC-D and AEML-D, as shown in Table below:**

Table 138 Net Amount for recovery from Distribution Licensee as approved by the Commission (Rs. Crore)

Sl. No.	Particulars	Past recoveries approved in this Order			
		BEST	**TPC-D**	**AEML-D**	**Total**
1	Cumulative Revenue gap till end of FY 2019-20	81.99	39.18	85.88	207.05
2	Carrying cost during recovery period from April 1, 2020 to March 31, 2021 @ 9.55%	1.79	0.61	2.40	4.80
3	Net Amount for recovery during FY 2020-21	83.78	39.79	88.28	211.84

The Commission allows TPC-G to recover this approved amount, on account of past recoverable, from the concerned Distribution Licensees, viz, BEST, AEML-D and TPC-D in twelve (12) equal monthly instalments from April 1, 2020 to March 31, 2021. The Commission directs TPC-G to bill the amount towards recovery of past revenue gaps separately and shall not include the same in Capacity Charges.

9 Directives

The Commission's Directives, the compliance submitted by TPC-G in the present Petition and Commission's rulings on the same is discussed as under:

9.1 Actual Interest rate for Long Term Loan Capital

Directive

9.1.1 The Commission directed TPC-G to submit the appropriate documentary evidence in the claim of Interest Rate for computing interest expense on Long Term Loan Capital, applicable for True up of each of the years of the 3rd Control Period for all Tariff proceedings. The documentary evidence in the form of Bank Statements should include each loan wise opening balance and closing balances, repayments, interest paid and effective interest rate. Apart from the above, the loan sanction documents should be submitted.

TPC-G's Response

9.1.2 TPC-G stated that the documentary evidence in the form of Bank Statements including loan wise opening and closing balance, repayments, interest paid and effective interest rate along with the loan sanction documents as applicable for FY 2017-18 and FY 2018-19 have been submitted with the instant petition.

Commission's View

9.1.3 The Commission noted that TPC-G in the present Petition has submitted the documentary evidences of actual loans taken and the same has been considered while carrying out the truing up for FY 2017-18 and FY 2018-19. The same practice shall be continued in next Tariff proceedings.

9.2 Detailed analysis for cost of common/shared facilities for Unit 8

Directive

9.2.1 The Commission directed TPC-G to submit the detailed analysis of this claim along with details of the capital cost of the common facilities and fixed cost components for each of the respective years from FY 2017-18 onwards. Further, the analysis should include the details of capital cost along with year of commissioning, asset wise depreciation, debt and equity considered, outstanding debt, etc. so that the entire fixed cost for each of the years from the commissioning of the asset can be assessed. Wherever possible the analysis should be supported by certification from Chartered Accountant. This analysis should be submitted to the Commission within 6 months from the date of the Order. Final results of this analysis will be considered by the Commission in the next Tariff proceeding for approval of cost of common/shared facilities in True up for FY 2017-18, FY 2018-19 and FY 2019-20.

TPC-G's Response

9.2.2 TPC-G vide its letter CREG/MUM/MERC/2019/214 dated 4th October 2019 has submitted the report to the Commission. Further, final results of this analysis have been considered by TPC-G in the Tariff proceeding for approval of cost of common/shared facilities in True up for FY 2017-18, FY 2018-19 and FY 2019-20.

Commission's View

9.2.3 The Commission noted the submissions made by TPC-G regarding the cost of common and shared facilities of Unit 8 and accordingly considered the cost in the present Petition.

9.3 Fixed Cost Bifurcation methodology and documentary evidence

Directive

9.3.1 The Commission directed TPC-G to submit the detailed computation, methodology and linked excel sheet for bifurcation of unit and plant wise fixed cost in the subsequent Tariff proceedings. Further, the assumptions used in the computation methodology, such as opening & closing GFA, opening & closing equity balances, etc. of each unit should be certified from a Chartered Account. The above requirements should be fulfilled for fixed cost bifurcation and claim of fixed cost of tied up units.

TPC-G's Response

9.3.2 TPC-G stated that at the time of the issuance of the MTR Order in Case No. 65 of 2018, the process of tie up of Generation capacities of TPC-G was sub-judice with the Commission. Further, the Unit 5 and Bhira generating capacities were offered in the Medium Term Competitive Bidding undertaken by BEST and hence were not proposed under Section 62 during FY 2019-20. Accordingly, there was a possibility of part of the generating units of existing ARR combination, getting tied up under 62 and Section 63. In view of this uncertainty, the directive was included to ascertain the cost attributable to the units that would get tied up under Section 62 and form part of Tariff Petition in 4th MYT Control Period.

9.3.3 However, subsequent to the Orders of the Commission in Petitions filed by BEST and Tata Power-D in Case No. 248 of 2018 and Case No. 39 of 3019, the generating capacities of Tata Power-G continued the tie up with BEST and Tata Power-D in the same ratio of 51.17% and 48.83% respectively.

9.3.4 In view of the above, the context in which the directive was issued does not sustain. Hence, TPC-G has continued the existing approved method of bifurcation of fixed cost to various units of TPC-G.

Commission's View

9.3.5 The directive was given irrespective of the PPA capacity tie-up. The allocation methodology pertaining to units/station under Section 62 were sought. However, in the present Petition also, TPC-G has not submitted the same. Similarly, the unit-wise computation of fixed cost components were sought by TPC-G and the same was not submitted.

9.3.6 **The Commission once again directs the TPC-G to submit the detailed computation, methodology and linked excel sheet for bifurcation of unit and plant wise fixed cost within 6 months from the date of this Order.**

9.4 Brand Equity

Directive

9.4.1 TPC-G is directed to submit all the necessary details and justification for being allowed pass through of the Brand Equity expenses along with its next Petition.

TPC-G's Response

9.4.2 TPC-G has submitted the details which have been discussed in Chapter 3 of this Order.

Commission's View

9.4.3 The Commission has analysed the submission made by TPC-G on the issue of brand equity. The detailed analysis and rulings of the Commission was given in Chapter 3 of this Order.

9.5 New Directives

Auxiliary Consumption of FGDs

9.5.1 The Commission directs that all necessary metering arrangements shall be undertaken by TPC-G for measurement of Auxiliary consumption for FGDs of Unit 5 and Unit 8.

Fuel Supply Contracts or Arrangements

9.5.2 The Commission directs TPC-G to enter into fuel supply contracts or arrangement so as to ensure the supply of fuel till the validity of PPA, i.e., upto March 31, 2024 through transparent process of Competitive Bidding. Further, TPC-G is directed to submit its Status report, on arrangement of Fuel Supply for future period, to the Commission within three (3) months from the date of this Order.

10 Applicability of Order

This Order shall come into effect from 1 April, 2020.

The Petition of The Tata Power Co. Ltd. (Generation Business)'s in Case No. 300 of 2019 stands disposed of accordingly.

Sd/-	**Sd/-**	**Sd/-**
(Mukesh Khullar)	**(I. M. Bohari)**	**(Anand B. Kulkarni)**
Member	**Member**	**Chairperson**

(Abhijit Deshpande)
Secretary

Appendix – I

List of persons at the Technical Validation Session (TVS) on 25 November, 2019

Sr. No.	Name	Organisation
1.	Shri Ashish Bhat	Tata Power
2.	Shri Sanjay Kumar	Tata Power
3.	Ms Swati Mehendale	Tata Power
4.	Shri Amey Mhapsekar	Tata Power
5.	Shri Vikrant Ambole	Tata Power
6.	Shri Vinay K Jain	Tata Power
7.	Shri Prashant Kumar	Tata Power

Appendix – II

List of persons at the Public Hearing on 6 January, 2020

Sr. No.	Name	Organisation
1.	Shri Amey Mhapsekar	Tata Power
2.	Shri Abhijeet Patil	Tata Power
3.	Shri A G Patil	Tata Power
4	Shri Dhiraj Kamath	Tata Power
5.	Shri Nagesh Ghatage	Tata Power
6.	Shri Prashant Kumar	Tata Power
7.	Shri Ashish Bhat	Tata Power
8.	Shri Prajakta Wadke	Tata Power
9.	Shri Sanjay Kumar	Tata Power
10.	Shri Vikrant Ambole	Tata Power
11.	Shri S.S. Mairh	BEST Undertaking
12.	Shri V. U. Kurade	BEST Undertaking

Annexure I – Component wise Annual Fixed Cost (Rs Crore) for MYT Control Period from FY 2020-21 to FY 2024-25

Sr. No	Particulars	FY 2020-21						
		Unit 4 to 7 plus Hydro	Unit 5	Unit 7	Bhira	Bhivpuri	Khopoli	Unit 8
1	O&M Charges	421.17	235.62	57.65	43.04	32.26	52.60	69.73
2	Depreciation & Related Debits	131.07	42.14	21.65	23.20	17.07	27.01	61.65
3	Interest on Normative Debt	20.79	12.44	6.02	2.32	-	-	21.20
4	Interest on Working Capital	31.43	22.56	4.55	1.62	1.06	1.65	9.79
5	Return on Equity	258.45	87.48	72.59	41.89	24.67	31.83	60.93
6	Allocation of shared services	(11.69)	(6.30)	(5.39)	-	-	-	11.69
7	**Gross Fixed Charges**	**851.23**	**393.94**	**157.07**	**112.07**	**75.06**	**113.09**	**234.98**
8	Less: Non Tariff Income	30.86	10.30	8.82	4.85	2.69	4.20	0.09
9	**Net Fixed Charges**	**820.37**	**383.64**	**148.25**	**107.22**	**72.37**	**108.89**	**234.89**

Sr. No	Particulars	FY 2021-22						
		Unit 4 to 7 plus Hydro	Unit 5	Unit 7	Bhira	Bhivpuri	Khopoli	Unit 8
1	O&M Charges	434.14	242.88	59.42	44.36	33.25	54.22	72.23
2	Depreciation & Related Debits	132.58	42.63	21.90	23.47	17.26	27.32	62.18
3	Interest on Normative Debt	12.12	6.59	2.16	3.38	-	-	16.47
4	Interest on Working Capital	31.69	22.63	4.57	1.68	1.09	1.72	9.82
5	Return on Equity	260.98	87.01	72.21	43.91	24.71	33.15	61.46
6	Allocation of shared services	(11.35)	(6.12)	(5.24)	-	-	-	11.35
7	**Gross Fixed Charges**	**860.16**	**395.61**	**155.02**	**116.81**	**76.31**	**116.41**	**233.49**
8	Less: Non Tariff Income	30.86	10.13	8.68	4.91	2.72	4.41	0.09
9	**Net Fixed Charges**	**829.31**	**385.48**	**146.34**	**111.89**	**73.59**	**112.00**	**233.41**

Sr. No	Particulars	FY 2022-23						
		Unit 4 to 7 plus Hydro	Unit 5	Unit 7	Bhira	Bhivpuri	Khopoli	Unit 8
1	O&M Charges	447.51	250.36	61.25	45.73	34.28	55.89	74.83
2	Depreciation & Related Debits	133.59	42.95	22.07	23.65	17.39	27.53	62.61
3	Interest on Normative Debt	3.77	0.51	(1.34)	4.59	-	-	11.59
4	Interest on Working Capital	31.95	22.70	4.60	1.77	1.11	1.78	9.86
5	Return on Equity	262.67	86.66	71.93	45.50	24.50	34.09	61.89
6	Allocation of shared services	(11.02)	(5.94)	(5.08)	-	-	-	11.02
7	**Gross Fixed Charges**	**868.47**	**397.24**	**153.43**	**121.23**	**77.28**	**119.29**	**231.79**
8	Less: Non Tariff Income	30.86	9.94	8.51	5.30	2.64	4.46	0.09
9	**Net Fixed Charges**	**837.61**	**387.30**	**144.92**	**115.93**	**74.63**	**114.83**	**231.71**

Sr. No	Particulars	FY 2023-24						
		Unit 4 to 7 plus Hydro	Unit 5	Unit 7	Bhira	Bhivpuri	Khopoli	Unit 8
1	O&M Charges	461.30	258.07	63.14	47.14	35.34	57.62	77.53
2	Depreciation & Related Debits	133.97	43.08	22.13	23.72	17.44	27.61	62.63
3	Interest on Normative Debt	-	-	-	-	-	-	6.20
4	Interest on Working Capital	32.17	22.82	4.63	1.78	1.12	1.82	9.86
5	Return on Equity	263.30	86.66	71.93	45.50	24.50	34.70	61.90
6	Allocation of shared services	(10.69)	(5.76)	(4.93)	-	-	-	10.69
7	**Gross Fixed Charges**	**880.05**	**404.87**	**156.89**	**118.14**	**78.40**	**121.74**	**228.79**
8	Less: Non Tariff Income	30.86	9.89	8.47	5.28	2.63	4.59	0.09
9	**Net Fixed Charges**	**849.20**	**394.98**	**148.42**	**112.87**	**75.77**	**117.15**	**228.71**

Sr. No	Particulars	FY 2024-25						
		Unit 4 to 7 plus Hydro	**Unit 5**	**Unit 7**	**Bhira**	**Bhivpuri**	**Khopoli**	**Unit 8**
1	O&M Charges	475.52	266.03	65.09	48.59	36.43	59.39	80.33
2	Depreciation & Related Debits	133.97	43.08	22.13	23.71	17.44	27.61	62.64
3	Interest on Normative Debt	-	-	-	-	-	-	1.75
4	Interest on Working Capital	32.40	22.94	4.66	1.80	1.14	1.85	9.87
5	Return on Equity	263.30	86.65	71.93	45.49	24.49	34.73	61.91
6	Allocation of shared services	(10.36)	(5.58)	(4.78)	-	-	-	10.36
7	**Gross Fixed Charges**	**894.83**	**413.12**	**159.02**	**119.60**	**79.51**	**123.58**	**226.86**
8	Less: Non Tariff Income	30.86	9.89	8.47	5.28	2.63	4.60	0.09
9	**Net Fixed Charges**	**863.97**	**403.23**	**150.56**	**114.32**	**76.88**	**118.98**	**226.77**