UttarPradesh Electricity Regulatory Commission

Vidyut Niyamak Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow-226010 Phone 2720426 Fax 2720423 E-mail secretary@uperc.org

Sanjay Kumar Singh
Secretary

Ref: UPERC/Secy/D(T)/2019- 303
Dated: 27 August, 2019

To,

1- **Principal Secretary**, Energy, Govt. of U.P. Bapu Bhawan, Vidhan Sabha Marg, Lucknow - 226001.
2- **Secretary**, Energy, Govt. of U.P. Bapu Bhawan, Vidhan Sabha Marg, Lucknow - 226001
3- **Managing Director/Chairman,** U.P. Power Corporation Ltd. 7th Floor, Shakti Bhawan, 14, Ashok Marg, Lucknow- 226001.
4- **Managing Director,** UPPTCL, Shakti Bhawan, 14, Ashok Marg, Lucknow- 226001.
5- **Director (Commercial)**, UPPTCL, Shakti Bhawan, 14, Ashok Marg, Lucknow- 226001.
6- **Chief Engineer** (RAU) Regulatory Affairs Unit 15th Floor, Shakti Bhawan Extension,14 – Ashok Marg, Lucknow – 226001.

Sub: **Approval on True-up of FY 2016-17, APR for FY 2017-18 & 2018-19, Revised ARR for FY 2019-20 & for UPPTCL (Petition No. 1453/2019) order under Section 64 of the Electricity Act, 2003.**

Sir,

Kindly find enclosed herewith a copy of the Commission's Order dated 27th August, 2019 regarding above cited matter. The Tariff Order is also uploaded at the Commission's website- www.uperc.org.

Yours sincerely

Sanjay 27/8/19

(Sanjay Kumar Singh)
Secretary

Encl: As above.

UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION

LUCKNOW

Petition No.: 1453 / 2019

DETERMINATION OF ANNUAL PERFORMANCE REVIEW (APR) FOR FY 2017-18 & FY 2018-19, AGGREGATE REVENUE REQUIREMENT (ARR) FOR FY 2019-20

&

TRUE UP OF ARR FOR FY 2016-17

FOR

UTTAR PRADESH POWER TRANSMISSION CORPORATION LIMITED

ORDER UNDER SECTION 64 OF

THE ELECTRICITY ACT, 2003

August 27, 2019

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UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION

Petition No.: 1453 / 2019

IN THE MATTER OF:

DETERMINATION OF AGGREGATE PERFORMANCE REVIEW (APR) FOR FY 2017-18 AND FY 2018-19 AND AGGREGATE REVENUE REQUIREMENT (ARR) FOR FY 2019-20 AND TRUE UP OF ARR FOR FY 2016-17

And

IN THE MATTER OF:

Uttar Pradesh Power Transmission Corporation Limited, Lucknow (UPPTCL)

ORDER

The Commission, having deliberated upon the above Petition and also the subsequent filings by the Petitioner, and the Petition thereafter being admitted on May 30, 2019, and having considered the views / comments / suggestions / objections / representations received from the stakeholders during the course of the above proceedings and also in the Public Hearings held, in exercise of powers vested under Sections 61, 62, 64 and 86 of the Electricity Act, 2003 (hereinafter referred to as 'the Act'), hereby passes this Order signed, dated and issued on August 27, 2019. The Licensee, in accordance with Regulation 13.3 of the Uttar Pradesh Electricity Regulatory Commission (Multi Year Transmission Tariff) Regulations, 2014, shall publish the Tariff approved by the Commission in at least two (2) English and two (2) Hindi daily newspapers having wide circulation in the area of supply and shall put up the approved Tariff on its internet website.

The Tariff so published shall be in force after seven days from the date of such publication of the Tariffs and shall, unless amended or revised, continue to be in force for such period as may be stipulated therein. The Commission may issue clarification / corrigendum / addendum to this Order as it deems fit from time to time with the reasons to be recorded in writing.

1. BACKGROUND AND PROCEDURAL HISTORY

1.1 BACKGROUND

1.1.1 The Uttar Pradesh Electricity Regulatory Commission (hereinafter referred to as the 'UPERC' or 'the Commission') was formed under U.P. Electricity Reform Act, 1999 by the Government of Uttar Pradesh (GoUP) in one of the first steps of reforms and restructuring process of the power sector in the State. Thereafter, in pursuance of the reforms and restructuring process, the erstwhile Uttar Pradesh State Electricity Board (UPSEB) was unbundled into the following three separate entities through the first reforms Transfer Scheme dated January 14, 2000:

- Uttar Pradesh Power Corporation Limited (UPPCL): vested with the function of Transmission and Distribution within the State.
- Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL): vested with the function of Thermal Generation within the State.
- Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL): vested with the function of Hydro Generation within the State.

1.1.2 Through another Transfer Scheme dated January 15, 2000, assets, liabilities and personnel of Kanpur Electricity Supply Authority (KESA) under UPSEB were transferred to Kanpur Electricity Supply Company Limited (KESCO), a Company registered under the Companies Act, 1956.

1.1.3 After the enactment of the Electricity Act, 2003 (EA 2003), the need was felt for further unbundling of UPPCL (responsible for both Transmission and Distribution functions) along functional lines. Therefore, the following five new Distribution Companies (hereinafter collectively referred to as 'Discoms') were created vide Uttar Pradesh Transfer of Distribution Undertaking Scheme, 2003 dated August 12, 2003, to undertake distribution and supply of electricity in the areas under their respective zones specified in the Scheme:

- Dakshinanchal Vidyut Vitran Nigam Limited (Agra Discom or DVVNL)
- Madhyanchal Vidyut Vitran Nigam Limited (Lucknow Discom or MVVNL)
- Pashchimanchal Vidyut Vitran Nigam Limited (Meerut Discom or PVVNL)
- Purvanchal Vidyut Vitran Nigam Limited (Varanasi Discom or PuVVNL)
- Kanpur Electricity Supply Company (Kanpur Discom or KESCO)

1.1.4 Under this Scheme, the role of UPPCL was specified as "Bulk Supply Licensee" as per the Licence granted by the Commission and as "State Transmission Utility" under sub-section (1) of Section 27-B of the Indian Electricity Act, 1910.

1.1.5 Subsequently, the Uttar Pradesh Power Transmission Corporation Limited (UPPTCL), a Transmission Company (TRANSCO), was incorporated under the Companies Act, 1956 by an amendment in the 'Object and Name' clause of the Uttar Pradesh Vidyut Vyapar Nigam Limited. The TRANSCO started functioning with effect from July 26, 2006 and is entrusted with the business of transmission of electrical energy to various Utilities within the State of Uttar Pradesh. This function was earlier vested with UPPCL. Further, Government of Uttar Pradesh (GoUP), in exercise of powers vested under Section 30 of the Electricity Act, 2003, vide notification No. 122/U.N.N.P/24-07 dated July, 18, 2007 notified Uttar Pradesh Power Transmission Corporation Limited as the "State Transmission Utility" (STU) of Uttar Pradesh. Subsequently, on December 23, 2010, the Government of Uttar Pradesh notified the Uttar Pradesh Electricity Reforms (Transfer of Transmission and Related Activities Including the Assets, Liabilities and Related Proceedings) Scheme, 2010, which provided for the transfer of assets and liabilities from UPPCL to UPPTCL with effect from April 1, 2007.

1.1.6 Thereafter, on January 21, 2010, as the successor Distribution Companies of UPPCL (a Deemed Licensee), the Discoms created through the notification of the UP Power Sector Reforms (Transfer of Distribution Undertakings) Scheme, 2003 were issued fresh Distribution Licences, which replaced the UP Power Corporation Ltd (UPPCL) Distribution, Retail & Bulk Supply Licence, 2000.

1.1.7 UPPTCL is entrusted with the responsibilities of planning and development of an efficient and economic intra-State transmission system, providing connectivity and allowing open access for use of the intra-State transmission system in coordination, among others, Licensees and Generating Companies. In doing so, it is guided by the provisions of the UP Electricity Grid Code, 2007, UPERC (Terms and Conditions for Open Access) Regulations, 2004, and UPERC (Grant of Connectivity to intra-State Transmission System) Regulations, 2010 as amended from time to time.

1.1.8 The Government of Uttar Pradesh (GoUP), in exercise of the powers vested under Section 31 of the Electricity Act, 2003, vide Notification No. 78/24-U.N.N.P.-11-525/08 dated January 24, 2011 notified the "Power System Unit" as the "State Load Despatch Centre" of Uttar Pradesh for the purpose of exercising the powers and discharging the functions under Part V of the Electricity Act, 2003. SLDC is operating as a part of the Uttar Pradesh Power Transmission Corporation Ltd., in its capacity as the State Transmission Utility. SLDC is the apex body to ensure integrated operation of the power system in the State.

1.2 TRANSMISSION TARIFF REGULATIONS

1.2.1 The Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2006 (hereinafter referred to as the "Transmission Tariff Regulations, 2006") were notified by the Commission on October 6, 2006. These Regulations are applicable for the purposes of ARR filing and Tariff determination of the Transmission Licensees within the State of Uttar Pradesh from FY 2007-08 onwards.

1.2.2 Further, the Uttar Pradesh Electricity Regulatory Commission (Multi Year Transmission Tariff) Regulations, 2014 (hereinafter referred to as the "Transmission MYT Regulations, 2014") have been notified on May 12, 2014. These Regulations shall be applicable for determination of Tariff in all cases covered under these Regulations from April 1, 2015 to March 31, 2020, unless extended by an Order of the Commission. Embarking upon the MYT framework, the Commission has divided the period of five years (i.e. April 1, 2015 to March 31, 2020) into two periods namely –

a) Transition period (April 1, 2015 to March 31, 2017)
b) Control Period (April 1, 2017 to March 31, 2020)

1.2.3 The transition period of two years ended in FY 2016-17. The Transmission Tariff Regulations, 2006 shall remain applicable during the Truing Up for the transition period (FY 2015-16 to FY 2016-17) whereas, the first Control Period of the MYT Period (FY 2017-18 to FY 2019-20), shall be governed in accordance with the Transmission MYT Regulations, 2014.

2. PROCEDURAL HISTORY

2.1 BUSINESS PLAN, ARR & TARIFF PERIOD FOR MYT CONTROL PERIOD FROM FY 2017-18 TO FY 2019-20

2.1.1 The Commission, vide its Order dated November 30, 2017, approved the ARR and Transmission Tariff for MYT Control Period (FY 2017-18, FY 2018-19 and FY 2019-20) for UPPTCL. In the said Order, the Commission also approved the true up for FY 2014-15.

2.2 SUO-MOTO PROCEEDINGS ON ANNUAL PERFORMANCE REVIEW (APR) FOR FY 2016-17 AND FY 2017-18 AND AGGREGATE REVENUE REQUIREMENT (ARR) FOR FY 2018-19 AND PETITION FOR TRUE UP OF ARR FOR FY 2015-16 FILED BY THE LICENSEE

2.2.1 The Commission, vide its Order dated January 08, 2019, approved the ARR and Transmission Tariff for FY 2018-19 for UPPTCL and the Annual Performance Review (APR) for FY 2016-17 and FY 2017-18. In the said Order, the Commission also approved the true up for FY 2015-16.

2.3 DETERMINATION OF ANNUAL PERFORMANCE REVIEW (APR) FOR FY 2017-18 AND FY 2018-19 AND AGGREGATE REVENUE REQUIREMENT (ARR) FOR FY 2019-20 AND PETITION FOR TRUE UP OF ARR FOR FY 2016-17 FILED BY THE LICENSEE

2.3.1 As per the provisions of the Transmission MYT Regulations, 2014, the Transmission Licensees' were required to file their ARR / Tariff Petitions before the Commission latest by November 30th each year so that the Tariff can be determined and be made applicable for the subsequent financial year.

2.3.2 The True up Petition for FY 2016-17, Annual Performance Review for FY 2017-18 and FY 2018-19 and Approval of ARR / Tariff for FY 2019-20 was filed by UPPTCL (hereinafter referred to as the 'Licensee' or the 'Petitioner') under Section 64 of the Electricity Act, 2003 on March 19, 2019 (Petition No. 1453 / 2019). However, they did not submit the requisite fees for determination of Tariff under MYT for ARR of FY 2019-20 Petition.

2.3.3 Thereafter, the UPPTCL submitted the fees for determination of Tariff under MYT for ARR of FY 2019-20 Petition on April 25, 2019.

2.4 PRELIMINARY SCRUTINY OF THE PETITIONS

2.4.1 A preliminary analysis of the APR Petition for FY 2017-18 and FY 2018-19 and Tariff for FY 2019-20 was undertaken by the Commission, wherein it was observed that the Petitioner has claimed Rs. 23.61 Crore as UPERC Licence Fee in True Up Petition of FY 2016-17 as one of the components under A&G Expenses.

2.4.2 In this regard, the Commission scheduled the validation session with UPPTCL on May 03, 2019 and the first Deficiency e-mail was sent by the Commission dated May 03, 2019, wherein the Licensee was directed to explain why the same should be allowed by the Commission and why the provision for the same was not made in the earlier Accounts / Balance Sheets.

2.4.1 The Commission directed the Licensee by e-mail dated May 03, 2019 to submit the details regarding break up of Energy Handled (MU) by UPPTCL for FY 2016-17 and to submit the Reconciliation of Fixed Asset Register (FAR) submitted as Annexure-10 in its Petition with the audited accounts submitted on March 19, 2019, respectively.

2.4.2 The Commission also directed the Licensee by e-mail dated May 03, 2019 to submit the justification for the claimed Arrears of Rs. 30.55 Crore under the head of Employee Expenses in FY 2017-18, FY 2018-19 and FY 2019-20. The Commission also directed the Licensee via e-mail dated May 03, 2019, to submit the basis for projection of Energy Handled (MU) by UPPTCL for FY 2019-20.

2.4.3 Further, the Commission sent the second, third, fourth, fifth and sixth deficiencies through email dated May 10, 2019, May 29, 2019, June 20, 2019, June 26, 2019 and August 04, 2019 respectively, and directed to submit the reply to following queries:

(a) Queries of Second Deficiency through email:

i. Provide the breakup of consumer-wise Energy Handled (MU) by UPPTCL for FY 2017-18.

ii. To apprise the Commission about compliance of the Order dated October 31, 2018 in Petition No. 987 of 2014 and Order dated October 31, 2018 in Petition No. 1020 of 2015 as directed in the 2018-19 Tariff Order dated January 08, 2019.

(b) Queries of Third Deficiency through email:

i. Submit the Comptroller and Auditor General of India (CAG) and Statutory Audit Report for FY 2016-17 (True up year).

ii. Submit the details of Budget Allocation and release of the same by GoUP for UPPTCL for FY 2016-17, FY 2017-18, FY 2018-19 and FY 2019-20.

iii. Submit the computations for Per unit Employee Expense with Ckt Km, MVA, MU and MW for FY 2016-17, FY 2017-18 and FY 2018-19 and compare them with the Benchmarked values.

iv. Submit the comparison of Transmission Losses with other States in India for FY 2016-17, FY 2017-18 and FY 2018-19.

v. Submit the details regarding the capex approved in the Tariff Order and actual capex done in last 5 years in a Table.

(c) Queries of Fourth Deficiency through email:

i. Submit the Executive Summary (2-3 pages) of the "Loss Estimation Study based on the Load Flow Studies" mentioned in directives section of the submitted Petition.

ii. Submit the Executive Summary (2-3 pages) of the "Capital Investment Plan for FY 2018-19 to FY 2021-22" mentioned in directives section of the submitted Petition.

(d) Queries of Fifth Deficiency through email:

i. Submit the last 10-year GFA and CWIP details as per the format attached in the email.

ii. Submit the detailed list of assets capitalised (Rs. 5,299.80 Crore) for FY 2016-17 along with the Project Name, Start Date of Project and Commissioning date of the project, etc.

(e) Queries of Sixth Deficiency through email:

i. As per the Regulation 19A (b) of UPERC Multi Year Transmission Tariff Regulations, 2014 and UPERC Terms and Conditions of Transmission Tariff Regulations 2006, for capital expenditure greater than INR 10 Crore, the Licensee shall seek prior approval of the Commission.

ii. In reference to the above Submit the project wise details with Description of Asset, Asset Value, COD and Approval Order date last 10-year GFA and CWIP details as per the format attached in the email.

2.4.4 Subsequently, UPPTCL submitted the reply to most of the deficiencies on May 08, 2019, May 17, 2019, June 07, 2019, June 20, 2019, June 28, 2019, July 29, 2019 and August 29, 2019.

2.5 ADMITTANCE OF THE PETITIONS

The Commission, vide its Admittance Order dated May 30, 2019 (**Annexed as: Annexure-II**), directed UPPTCL to publish the Public Notice consisting of the summary and highlights of the proposed Aggregate Revenue Requirement and Tariffs for FY 2019-20, Annual Performance Review of FY 2017-18 and FY 2018-19, and True up for FY 2016-17 along with its website address in at least two (2) English and two (2) Hindi language daily Newspapers widely circulated in the area to which the Petition pertains, inviting suggestions and objections within 15 days from the date of publication of the Public Notice(s), from all stakeholders and the public at large. The Public Notice should also contain the details of the Transmission Loss and Transmission Tariff for FY 2019-20.

Further, the Public Notice(s) should inform the stakeholders and public at large to regularly check the websites of UPPTCL for further submissions made in respect to these proceedings. The Commission further directed the Petitioner to put all details on its internet website, in PDF format, showing detailed computations, the Petition submitted to the Commission along with all regulatory filings, information, particulars and documents, clarification and additional information on inadequacies / deficiencies, benchmarking studies report, etc., and all subsequent events and material placed on record if any, made from time to time before the issuance of final Tariff Order. The Licensee will also inform the Commission of the same by providing the internet links. The Petitioner may not provide or put up any such information, particulars or documents, which are confidential in nature, without the prior approval of the Commission.

2.6 PUBLICITY OF THE PETITIONS

2.6.1 The Public Notice detailing the salient features of the Petitions were published by the Petitioner in daily newspapers as detailed below, inviting objections from the public at large and all stakeholders:

- Amar Ujala (Hindi) : June 07, 2019
- Hindustan Times (English) : June 07, 2019
- The Times of India (English) : June 08, 2019
- Dainik Jagran (Hindi) : June 08, 2019

3. PUBLIC HEARING PROCESS

3.1 OBJECTIVE

3.1.1 The Commission, in order to achieve the twin objectives, i.e., to observe transparency in its proceedings and functions and to protect interest of consumers, has always attached importance to the views/comments/ suggestions/objections/representations of the public on the true up and ARR / Tariff determination process. The process gains significant importance in a "cost plus regime", wherein the entire cost allowed to the Petitioner gets transferred to the consumer.

3.1.2 The comments of the consumers play an important role in the determination of Tariff. Factors such as quality of electricity supply and the service levels need to be considered while determining the Tariff.

3.1.3 The Commission, held the hearing for UPPTCL on June 25, 2019 in Lucknow. In the Public Hearing, various stakeholders as well as the public at large were provided a platform where they were able to share their views / comments / suggestions / objections / representations on the Proceedings on True up of ARR for FY 2016-17, APR for FY 2017-18 and FY 2018-19 and ARR for FY 2019-20. This process also enables the Commission to adopt a transparent and participative approach in the process of its proceedings.

3.2 VIEWS / COMMENTS / SUGGESTIONS / OBJECTIONS / REPRESENTATIONS ON DETERMINATION OF APR FOR FY 2017-18 AND FY 2018-19, ARR FOR FY 2019-20 AND TRUE UP OF ARR FOR FY 2016-17

3.2.1 The Commission has received specific views / comments / suggestions / objections / representations from five stakeholders on the Petition filed by UPPTCL on True up of ARR for FY 2016-17, APR for FY 2017-18 and FY 2018-19 and ARR for FY 2019-20. The list of consumers, who attended the Public Hearings, is appended at **Annexure I**.

3.2.2 The issues raised therein, the replies given by the Licensee and the views of the Commission have been summarised as detailed below:

TRANSMISSION TARIFF

A) Comment/Suggestion of the stakeholders

3.2.3 Shri Avadhesh Kumar Verma, Chairman- U.P. Rajya Vidyut Upbhokta Parishad, submitted that UPPTCL in its ARR Petition for FY 2019-20 claimed the Transmission Tariff at Rs. 0.24 / Unit, which is higher than the Transmission Tariff approved by the Commission (Rs. 0.19 / Unit) in Tariff Order for FY 2018-19 dated January 08, 2019. He requested the Commission to disallow this Tariff hike.

3.2.4 Shri Nihar Varshney, Rimjhim Ispat Ltd., submitted that the existing Transmission rates are quite high and hence, they must not be increased further otherwise the already reeling industry will close down.

B) Petitioner's Response:

3.2.5 Petitioner submitted that UPPTCL has claimed the Revised ARR of Rs. 2,890.37 Crore for FY 2019-20 against Rs. 4,136.62 Crore as approved in the MYT Order dated November 30, 2017. The revised ARR is claimed in line with the provisions of the MYT Transmission Regulations, 2014 and methodology approved by the Commission in its past MYT Orders. Further, the Transmission Tariff of Rs. 0.2440 / kWh as claimed by UPPTCL for FY 2019-20 is derived based on the revised ARR and projected energy to be handled during the FY 2019-20.

3.2.6 The Commission vide its Suo-moto Order dated January 08, 2019 had allowed the Transmission Tariff of Rs. 0.1905 / kWh against Rs. 0.2370 / kWh claimed by UPPTCL for FY 2018-19. The Commission while approving the revised Transmission Tariff for FY 2018-19 had disallowed significant portion of the ARR on account of non-submission of the revised capital investment plan and details of networks. However, UPPTCL has already submitted the detailed capital investment plan along with complete details of the network vide its letter dated February 27, 2019. Hence, the revised Transmission Tariff of Rs. 0.2440 / kWh for FY 2019-20 may be allowed by the Commission. Further, the revised Transmission Tariff of Rs. 0.2440 / kWh for FY 2019-20 as claimed by UPPCTL is only marginally higher than the Transmission Tariff claimed by UPPTCL for FY 2018-19.

C) Commission's Views:

3.2.7 The Commission has taken note of the objections / suggestions made by the stakeholders and the reply of the Petitioner. The Commission's decisions on the various components of the ARR and the Transmission Tariff for FY 2019-20 are detailed in the subsequent Chapter of this Order.

TRANSMISSION LOSS

A) Comment/Suggestion of the stakeholders

3.2.8 Shri Avadhesh Kumar Verma, Chairman- U.P. Rajya Vidyut Upbhokta Parishad, submitted that UPPTCL has projected Transmission loss of 3.56% for FY 2019-20, which is nearly equal to the losses in previous years. The Transmission loss of other States like Andhra Pradesh - 3.10%, Chhattisgarh - 3.22%, Maharashtra - 3.11%, and Odisha - 3%, is lower than that in Uttar Pradesh. He requested the Commission that in view of the above, the Transmission loss for Uttar Pradesh should not be approved more than 3%.

3.2.9 UPPCL submitted that UPPTCL should submit month-wise Transmission losses for FY 2016-17, FY 2017-18, FY 2018-19 and projections for Transmission loss reduction trajectory for FY 2019-20 with detailed computation. UPPCL requested the Commission to direct UPPTCL to provide details such as input energy, energy handled for FY 2016-17 to FY 2019-20, and detailed methodology for computation of Transmission losses at State periphery, as such details are not provided in the Petition.

3.2.10 Further, UPPCL requested the Commission to direct UPPTCL to submit sub-station wise detailed metering status (working /not working) at State and Discom peripheries and also submit the period since when the meters are not in working condition, as it has been observed as per the status provided by UPPTCL that several meters are not working. UPPCL desired to know the basis on which UPPTCL is calculating Intra-State Transmission losses, if meters are not in working condition.

B) Petitioner's Response:

3.2.11 UPPTCL submitted that the actual Transmission losses are variable and dynamic in nature and for a particular year largely depend on the quantum and direction of energy flow from generation point to load point and also on types of load, type of generation despatch voltage, reactive power compensation, voltage profile, seasonal variation, etc. Further, Transmission losses approved by the Commission for UPPTCL for FY 2017-18 are 3.79% and actual Transmission loss for FY 2017-18 is 3.56%, which is within the limit approved by the Commission. Also, as per MoU sign under 'UDAY' Scheme, UPPTCL has to reduce the Intra-

State Transmission losses to 3.95% by March 31, 2020, which has already been achieved. The Transmission losses of key States for last three years are as below:

Table 1: Transmission Loss (%) of Key States for last Three Years

States	FY 2016-17	FY 2017-18	FY 2018-19
Andhra Pradesh	2.92	3.13	3.10
Assam	3.54	3.55	3.55 (A)
Bihar	4.74	4.49	4.73 (P)
Chhattisgarh	2.81	3.05	3.22 (A)
Gujarat	3.85	3.72	-
Karnataka	3.28	3.22	3.17
Maharashtra	3.63	3.30	3.11
Odisha	3.58	3.34	3.00 (A)
Uttar Pradesh	3.55	3.56	3.56 (P)

Note: (A) – Approved & (P) – Proposed or Expected Losses

3.2.12 It may be observed from the above Table that the Transmission losses for UPPTCL are comparable to the losses in other key States. UPPPTCL shall further endeavour to reduce the Transmission losses, on the basis of existing network till FY 2019-20 and load generation balance scenario, through Reactive power management, up-gradation of conductors and substations and other system strengthening to eliminate overloading of lines and transformers (if any).

3.2.13 UPPTCL submitted the computation of Transmission losses for FY 2016-17 as follows:

Table 2: COMPUTATION FOR TRANSMISSION LOSSES FOR FY 2016-17

FY 2016-17								
Sl. No.	**Details of Injecting Entity**	**Actual Injection (MU)**	***Source:***	**Sl. No.**	**Details of Drawee Entity**	**Actual Drawal (MU)**	***Source:***	**Transmission Losses (%)**
1	Inter-State	43,436.90	*NRLDC*	1	MVVNL	19,128.97	*Trans. Zone Energy A/c*	**3.554%**
2	IPP	30,925.96	UPSLDC	2	DVVNL	22,244.68		
3	UPRVUNL	25,859.80	UPSLDC	3	PuVVNL	23,676.13		
4	UPJVUNL	1,166.87	UPJVNL	4	PVVNL	31,110.59		
5	CPP/Co-GEN/SOLAR	4,122.95	Trans. Zone Energy A/c	5	KESCO	3,688.94		
6	-	-		6	NPCL	1,572.87	UPSLDC	
7	-	-		7	Open Access Customer	340.89		
	TOTAL	**105,512.48**			**TOTAL**	**101,763.08**		

Note: The above losses are computed based on the actual injections data only.

3.2.14 UPPTCL submitted the computation of Transmission losses for FY 2017-18 and FY 2018-19 as follows:

Table 3: COMPUTATION OF TRANSMISSION LOSSES FOR FY 2017-18

FY 2017-18								
Sl. No.	**Details of Injecting Entity**	**Actual Injection (MU)**	***Source:***	**Sl. No.**	**Details of Drawee Entity**	**Actual Drawal (MU)**	***Source:***	**Transmission Losses (%)**
1	Inter-State	48,233.45	*NRLDC*	1	MVVNL	21,857.02	*Trans. Zone Energy A/c*	**3.563%**
2	IPP	35,452.55	*UPSLDC*	2	DVVNL	25,009.71		
3	UPRVUNL	28,624.72	*UPSLDC*	3	PuVVNL	27,016.33		
4	UPJVUNL	1,471.04	*UPJVNL*	4	PVVNL	34,438.67		
5	CPP/Co-GEN/SOLAR	4,763.27	*Trans. Zone Energy A/c*	5	KESCO	3,677.92		
		-		6	NPCL	1,811.01	*UPSLDC*	
		-		7	Open Access Customer	510.47		
	TOTAL	**1,18,545.03**			**TOTAL**	**1,14,321.13**		

Note: The above losses are computed based on the actual injections data only.

Table 4: COMPUTATION OF TRANSMISSION LOSSES FOR FY 2018-19

FY 2018-19								
Sl. No.	**Details of Injecting Entity**	**Actual Injection (MU)**	***Source:***	**Sl. No.**	**Details of Drawee Entity**	**Actual Drawal (MU)**	***Source:***	**Transmission Losses (%)**
1	Inter-State	49,668.94	*NRLDC*	1	MVVNL	21,287.18	*Trans. Zone Energy A/c*	**3.568%**
2	IPP	30,209.51	*UPSLDC*	2	DVVNL	24,082.45		
3	UPRVUNL	29,135.00	*UPSLDC*	3	PuVVNL	26,153.55		
4	UPJVUNL	1,185.03	*UPJVNL*	4	PVVNL	33,336.73		
5	CPP/Co-GEN/ SOLAR	5,680.65	*Trans. Zone Energy A/c*	5	KESCO	3,468.97		
		-		6	NPCL	2,010.92	*UPSLDC*	
		-		7	NR-UP	735.41		
		-		8	Open Access Customer	669.83		
	TOTAL	**1,15,879.13**			**TOTAL**	**1,11,745.04**		

Note: The above losses are computed based on the actual injections data only.

3.2.15 Further, UPPTCL has projected the Transmission losses for FY 2018-19 as 3.56%. UPPTCL has also provided the total input energy and energy expected to be transmitted by UPPTCL in Form F1 of the MYT Tariff formats for FY 2018-19.

3.2.16 UPPTCL has projected the Transmission losses for FY 2019-20 as 3.56%. UPPTCL has also provided the expected total input energy and expected energy to be transmitted by UPPTCL for FY 2019-20 in Form F1 of the MYT Tariff formats. UPPTCL further submitted that for Inter-State transactions, interface meters are provided at State periphery by CTU, accordingly RLDCs are accounting Inter-State drawal of States (STU) on the basis of these meters. For energy drawal at Discom's periphery from Intra-State Transmission system, meters are provided at all T-D feeding points/feeders of various voltage level and accordingly energy drawal of Discoms is being accounted through these meters. Further, installation of ABT compliant meters at some T-D interface points (i.e., LV side of the transformer) having various T-D feeding points/feeders is under process.

C) Commission's Views:

3.2.17 The Commission has taken note of the reply of the Petitioner on Transmission loss with the details of actual energy injection and actual energy drawal by UPPTCL. The Commission's decision on the Transmission loss for FY 2019-20 is detailed in the subsequent Chapter of this Order. **Further, the Commission directs the Petitioner to expedite the process of installation of ABT compliant meters at all T-D interface points.**

RETURN ON EQUITY

A) Comment/Suggestion of the stakeholders

3.2.18 Shri Avadhesh Kumar Verma, Chairman-U.P. Rajya Vidyut Upbhokta Parishad, submitted that UPPTCL has claimed 2% Return on Equity, however, it is running in loss. He requested the Commission to disallow this claim until UPPTCL becomes a profitable Company.

B) Petitioner's Response:

3.2.19 UPPTCL submitted that although as per the provisions of the Transmission Tariff Regulations, 2006, a return of @ 14% on equity base, and a return of @ 15.5% as per the MYT Transmission Regulations, 2014 is permissible to UPPTCL. However, in view of the huge gap in the recovery of cost of supply at the Discom level, the UPPTCL was of the view that return on equity would only result in accumulation of receivables. As such, the UPPTCL has been claiming return on equity @ 2% since FY 2009-10 onwards. Thus, UPPTCL is currently sacrificing ~87% of its allowable return on equity.

C) Commission's Views:

3.2.20 The Commission has noted the objection / suggestion made by the stakeholder in this regard. The Commission has discussed the same in detail subsequently in this Order.

DELAY IN TRUE UP

A) Comment/Suggestion of the stakeholders

3.2.21 Shri Avadhesh Kumar Verma, Chairman- U.P. Rajya Vidyut Upbhokta Parishad, submitted that UPPTCL's claim for True Up is delayed by one year as compared to UPPCL, and requested the Commission to ask the clarification in this regard.

B) Petitioner's Response:

3.2.22 UPPTCL submitted that the accounts audit process involves collection of data form various field units, compilation and vetting of data at head-quarter level and submission of data/information to the satisfaction of the auditor, etc., due to which the True-up Petitions could not be filed in time in previous years. However, UPPTCL accounts wing has expedited the process of finalization of accounts of subsequent years by adopting certain modifications in the data collection and vetting process by which UPPTCL will be able to squeeze this time gap and shall be to submit the True-up Petitions in a timely manner. UPPTCL expects to submit the True up Petition for FY-2017-18 very shortly.

C) Commission's Views:

3.2.23 The Commission has taken note of the objection / suggestion made by the stakeholder in this regard. **The Commission directs the Petitioner to file the Petition for True up of FY 2017-18 as per UPERC (Multi Year Transmission Tariff) Regulations, 2014.**

TARGET AVAILABILITY

A) Comment/Suggestion of the stakeholders

3.2.24 UPPCL submitted that UPPTCL should submit the monthly Transmission System Availability for FY 2016-17, FY 2017-18 and FY 2018-19 with detailed computation, as recovery of ARR is linked with System Availability. UPPCL requested the Commission to prudently check the computation of Transmission System Availability before allowing the same.

B) Petitioner's Response:

3.2.25 The actual Transmission Availability of UPPTCL network for FY 2016-17 was 99.03%. The same has been computed as per the Annexure B of the Transmission Regulations, 2006. A sample computation of the same for one Transmission zone has been submitted to the Commission.

3.2.26 The provisional Transmission Availability for UPPTCL network for FY 2017-18 and FY 2018-19 may be considered as 99.00 %. The actual Transmission Availability for FY 2017-18 and FY 2018-19 are yet to be finalised and the same may be submitted at the time of True-up for FY 2017-18 and FY 2018-19, respectively.

C) Commission's Views:

3.2.27 The Commission has taken note of Target Availability submitted by UPPTCL and has considered the same while carrying out the analysis. However, the Petitioner has not submitted the month-wise Transmission System Availability. **Further, the Commission directs UPPTCL to submit the month-wise Transmission System Availability along with the subsequent Tariff Petitions.**

FIXED ASSET REGISTER (FAR)

A) Comment/Suggestion of the stakeholders

3.2.28 UPPCL submitted that UPPTCL has not submitted the Fixed Asset Register for FY 2017-18. As FY 2017-18 has ended, the Commission is requested to direct UPPTCL to submit the Fixed Asset Register for FY 2017-18 and allow the Depreciation based on it.

B) Petitioner's Response:

3.2.29 UPPTCL submitted that the FAR for FY 2017-18 has been prepared and is being submitted to the Commission. UPPTCL further submitted that the depreciation expenses are allowed as per the MYT Transmission Regulations, 2014.

C) Commission's Views:

3.2.30 The Commission has noted the suggestion of the UPPCL and reply of the Petitioner on FAR for FY 2017-18. The Commission will do the prudence check of UPPTCL submission while carrying out the True up of FY 2017-18.

ADVANCE PAYMENT

A) Comment/Suggestion of the stakeholders

3.2.31 Shri Nihar Varshney, Rimjhim Ispat Ltd., submitted that in case an open access consumer makes timely / advance payments, then he may be given a rebate of 1% as is given to the retail consumers on the directions of the Commission.

B) Petitioner's Response:

3.2.32 UPPTCL submitted that as per Regulation 12 (Procedure of STOA customers) of UPERC Open Access Regulations, 2004 and amendment thereof, there is no provision for rebate for timely / advance payment of charges against short-term open access (bilateral transactions).

C) Commission's Views:

3.2.33 The Commission has noted the objections / suggestions of Rimjhim Ispat Ltd. and the reply of the Petitioner in this regard. The rebate for timely/advance payments can be allowed only in accordance with the applicable Regulations.

OPEN ACCESS

A) Comment/Suggestion of the stakeholders

3.2.34 Shri Nihar Varshney, Rimjhim Ispat Ltd., submitted that the Discoms (long-term consumers) get priority over short-term consumers in grant of Open Access while procuring energy from the Exchange. However, both are going through the same bidding process and pay equal charges for Transmission of electricity, hence, there should be no discrimination. It is requested that some small percentage of ATC/TTC or Time slot may be reserved for the short-term open access consumers, so that better planning and price can be achieved by short term Open Access consumers who too play an important role in economy of the State / Country.

B) Petitioner's Response:

3.2.35 UPPTCL submitted that in case of grant of Inter-State short term open access for collective transactions (through Exchange) only concurrence is provided by the UPSLDC to both the long-term customer and short-term customers on the basis of margin available in ATC/TTC, after finalisation of the Inter-State long term open access transactions on term ahead/day ahead/contingency basis. It is to apprise that there is no priority in providing the concurrence to the applicant. The concurrence to the applicant is provided on first come first serve basis.

3.2.36 The ATC/TTC of the State Transmission network in an integrated grid is calculated on the basis of existing long-term arrangements for generation and demand and the existing network. The Transmission networks are constructed for the long-term arrangements only, and the long-term customer has to pay the Transmission charges for the same on the basis of handled long-term capacity. In case of non-transaction against capacity for long-term arrangements, the available margin may be utilised by any applicant (long-term or short-term customers) either through bilateral transactions (STOA through RLDC/SLDC) or through collective transactions (STOA through Exchange). Therefore, percentage of ATC/TTC may not be permanently reserved for short-term customers only.

C) <u>Commission's Views:</u>

3.2.37 The Commission has noted the comments / suggestions of stakeholder and the reply of the Petitioner. The priority in short-term Open Access has to be given in accordance with the Open Access Regulations.

CAPACITY REQUIRED TO CATER THE DEMAND

A) Comment/Suggestion of the stakeholders

3.2.38 Shri Avadhesh Kumar Verma, Chairman- U.P. Rajya Vidyut Upbhokta Parishad, submitted that as per the website of UPPTCL, the capacity of 132 kV substations is around 47,801 MVA. On the other side, the no. of consumers shown by UPPCL is around 3 Crore and the connected load is around 6,76,00,000 kW. It means that there is a difference of 2,00,00,000 kW in the capacity of Transmission substations and the consumers connected load, also there is a load of around 20% of electricity theft on this system. It is very clear from these figures that there is a big mismatch and the capacity of 132 kV substations is less to cater the demand and to provide the 20-24 hours of electricity supply to the consumers.

3.2.39 Noida Power Company Ltd. (NPCL) submitted that NPCL has periodically submitted its demand projections to UPPTCL for incorporating the same in planning and providing Transmission capacity accordingly. The peak demand forecasted till FY 2026-27 was also shared with UPPTCL vide letter dated May 09, 2017 and the same is tabulated below:

Table 5: Peak Demand Projection by NPCL till FY 2026-27

Projected Peak Demand of NPCL for Next 10 Financial Years										
Financial Year	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Peak Demand (MW)	365	414	466	519	574	629	685	740	794	846

3.2.40 Accordingly, UPPTCL has already signed Bulk Power Transmission Agreement and Connectivity Agreements of 555 MW with NPCL, however, considering the above mentioned demand forecast, NPCL would require additional Transmission capacity including sufficient margin in time bound manner to service the load growth particularly in Greater Noida (West) and Industrial Area along with Eastern Peripheral Expressway of its licensed area. NPCL requested the Commission to direct UPPTCL to provide additional Transmission capacity including sufficient margin as required by NPCL in time bound manner so that 24x7 uninterrupted power supply as per demand of the consumers can be provided.

B) Petitioner's Response:

3.2.41 UPPTCL plans the State Transmission network as per the Central Electricity Authority's ("CEA") Transmission Planning Criteria, which provides for creation of Transmission infrastructure to sustain even during contingencies. Further, the Transmission system is constructed to handle the expected peak demand and to improve the overall performance of the grid. UPPTCL has met the peak demand of the State in the past years as mentioned below:

Table 6: Peak Demand Met by UPPTCL in Recent Years

FY	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Peak Demand Met (MW)	12,327	13,003	14,503	16,110	18,061	20,062

3.2.42 Further, the planned capacity of UPPTCL's network will be able to meet the projected peak demand of State Discoms and other long-term customers for FY 2019-20 as mentioned below:

Table 7: Demand Projected by UPPTCL Long Term Consumers

Financial Year	2019-20
Projected Peak Demand (MW)*	22,500
Planned Transmission Capacity against Projected Peak Demand (MW)	24,000

*As per the projections of the PMC cell, UPPCL.

3.2.43 UPPTCL has considered the submission of NPCL vide affidavit dated June 24, 2019. UPPTCL submitted that demand forecasts submitted periodically by NPCL are considered in co-ordinated Transmission planning by the STU.

C) Commission's Views:

3.2.44 The Commission has noted the suggestions of NPCL and the reply of the Petitioner on the same.

PAYMENT RELATED

A) Comment/Suggestion of the stakeholders

3.2.45 Shri Nihar Varshney, Rimjhim Ispat Ltd., submitted that in case of Short-Term Intra-State Open Access (OA) power procurement, the payment for Transmission charges has to be made in advance for the full quantum of energy approved for the month irrespective of the actual quantum received at the consumer end, at the end of the month. So, in case of received energy being less than the approved energy for some reasons, there is no procedure to return the extra charges to the consumer for the energy that is actually not received at consumer end and hence, this leads to huge financial losses for the consumer.

3.2.46 However, in Long term Intra- State OA power procurement, the payment has to be made for the actual quantum of energy received at the consumer end, at the end of the month. Also, in Inter-State OA power procurement, the payment has to be made for the actual quantum of energy approved by NRLDC / SLDC only.

3.2.47 Further, he submitted that in case of Inter-State power procurement, the Intra-State Transmission charges are levied on the regional periphery. Intra-State

Transmission charges should be on the capacity received on the UPPTCL periphery after deducting the withdrawal losses.

B) Petitioner's Response:

3.2.48 UPPTCL submitted that in case of short-term Intra-State Open Access, as per the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Open Access) Regulations, 2004 (UPERC Open Access Regulations, 2004), short-term customers/applicants are liable to pay Intra-State Transmission charges as per the schedule of payment issued by the SLDC for approved energy. Further, the supplementary bills are issued in case of deviations if drawal energy (scheduled after accounting losses in approved energy) is more than the approved energy.

3.2.49 In case of short-term Inter-State open access as per the Central Electricity Regulatory Commission (Open Access in Inter-State Transmission) Regulations, 2008, as amended from time to time and procedure therein, the short-term customers/applicants are liable to pay Intra-State Transmission charges in addition to Inter-State Transmission charges (PoC Charges) for approved energy to RLDC if Intra-State Transmission network is used. The same are disbursed by RLDC to respective licensees. Further, the scheduled quantum of drawal energy at State periphery is finalised by RLDC after accounting for withdrawal losses in approved energy. Further, the scheduled quantum of drawal energy at interface points of consumer is finalised by SLDC after accounting for the approved State-Transmission losses in scheduled quantum of energy at State periphery.

3.2.50 In case of long-term open access, capacities are reserved for the consumers and in real time transactions, their schedules are finalised and approved by the UPSLDC. The same is considered as approved energy for long-term open access consumers. Long-term open access consumers are billed Transmission charges bills on the basis of this energy as per drawal energy account issued by the UPSLDC. Further, Discoms are being billed Transmission charges on the basis of actual drawal at T-D point as per the directive of the Commission vide Order dated April 15, 2008. Long-term customers other than Discoms are also being billed the Transmission charges on the basis of actual drawn open access energy at T-D points as per the direction of the Commission issued vide Letter No. UPERC/Secy/VCA/2015-545 dated 15th/16th June 2015.

C) Commission's Views:

3.2.51 The Commission has noted the objection / suggestion of Rimjhim Ispat Ltd. and the reply of the Petitioner. The payment of Transmission Charges has to be in accordance with the UPERC Open Access Regulations, 2004.

CHARGES FOR STOA CONSUMERS

A) Comment/Suggestion of the stakeholders

3.2.52 Shri Nihar Varshney, Rimjhim Ispat Ltd., submitted that the UPERC Open Access Regulations, 2014 provide charging of 25% of Transmission charges from STOA consumers, however, in FY 2017-18 and FY 2018-19, the Regulations have not been complied with by the Commission. Once notified, the Regulations are sub-ordinate law to the Electricity Act, 2003 and need to be mandatorily complied with. Hence, the Commission may rectify its error and issue revised rates for FY 2017-18 and FY 2018-19 and also ensure the rates approved for FY 2019-20 for Transmission charges for STOA consumers are kept at 25% of Transmission charges strictly as per the notified Regulations.

B) Petitioner's Response:

3.2.53 UPPTCL submitted that in the present Tariff scenario, the rate of Transmission charges are being approved on the basis of drawal energy of long-term customers, in spite of allocated capacity of the long-term customers. Accordingly, the same rate is being approved for the short-term customers, so that gaming by the customers may be avoided as there will be tendency to utilise the Transmission network on the basis of short-term open access only and customers may not make the transaction against their long-term arrangements. In this scenario, there is insufficiency in the existing network as per the demand scenario. Further, planning of the Transmission network cannot be carried out as injection and drawal scenario cannot be ascertained.

C) Commission's Views:

3.2.54 The Commission is inclined towards the submission of the Petitioner & thereby would be approving equal rates for LT and ST consumers.

REAL TIME DATA

A) Comment/Suggestion of the stakeholders

3.2.55 NPCL submitted that till date, UPPTCL/UPSLDC have not provided to NPCL any access to the ABT Meters installed on T-D interface points to enable it to see and monitor its actual load drawal on real time basis and therefore, it is unable to take effective steps to comply with the DSM Regulations. NPCL added that SCADA cannot be used due to its inherent inaccuracies, time lag and data being stuck, etc.

3.2.56 Therefore, to enable NPCL to comply with DSM Regulations as amended from time to time, the Commission is requested to kindly direct UPPTCL/UPSLDC to provide real-time Special Energy Meter (SEM) data to the Company.

B) <u>Petitioner's Response:</u>

3.2.57 UPPTCL submitted that the comment regarding providing real-time Special Energy Meters data has no relevance to the present Petition, however, as per the CEA (Installation and Operation of meters) (Amendment) Regulations 2014, at T-D interface points, main and check ABT meters are provided at the interface points and standby ABT meters are to be provided at the other end of respective interface points.

3.2.58 Further, M/s NPCL may provide standby ABT meters at their ends in respect of T-D interface points at Transmission end. The data of standby meters may be utilised for real-time monitoring of actual drawal of load for more accuracy as compared to real time monitoring through SCADA data. This standby ABT meter data may also be utilised for verification of main ABT meter data.

C) <u>Commission's Views:</u>

3.2.59 The Commission has noted the comments / suggestion of stakeholder and the reply of the Petitioner.

<u>COMPETITIVE BIDDING</u>

A) <u>Comment/Suggestion of the stakeholders</u>

3.2.60 Sterlite Power Transmission Ltd., submitted that competitive procurement of power, from both conventional and renewable energy sources, has witnessed significant tariff reduction over the years. Transmission sector too has not remained immune to the competitive forces. Inter-State Transmission system has seen the benefits of competition, wherein 30% to 40% reduction in Transmission Tariffs have been realised in projects awarded for development under TBCB route. Similar reduction in Tariffs has been discovered in the recent Intra-State Transmission projects awarded by Uttar Pradesh for developing

Transmission networks for evacuation of power. These recently awarded schemes for three InSTS projects have reportedly achieved around 36% Tariff reduction.

3.2.61 UPPTCL in its current Petition has submitted a capital investment plan of Rs. 23,507 Crore to be invested during FY 2018-19 to FY 2021-22. The investment plan covers development of new / ongoing projects of Rs. 5,760 Crore, Green Energy Corridor-II projects of Rs. 483 Crore, System Augmentation and Strengthening of Rs. 927 Crore in FY 2019-20. The investment is proposed to be funded considering a debt to equity ratio of 70%:30%, along with grant / consumer contribution of Rs. 399 Crore. This also entails raising debt of Rs. 4,740 Crore and an equity infusion of Rs. 2,031 Crore for FY 2019-20 alone. Development of portion of the planned investments through private investments under TBCB will free up capital for the State, which can be deployed for other areas equally important for the Government thus, assisting the State's fiscal position.

3.2.62 Further, the Commission should look at developing all 400 kV and 220 kV Transmission schemes under the Tariff based competitive bidding route. The Commission should come up with a Consultation Paper for determination of the threshold limit above which Transmission projects would be necessarily developed only through the competitive route.

B) <u>Petitioner's Response:</u>

3.2.63 UPPTCL submitted that many of the 765 kV and 400 kV schemes to the tune of Rs. 10000 Crore are presently carried out through TBCB. UPPTCL have also recently completed the bidding process for various schemes to the tune of Rs. 1,400 Crore and some more schemes, planned to be available in system in 2-3 years, are in bidding process through TBCB and same is mentioned in the investment plan for 2019-22 submitted to the Commission. Regarding fixing of threshold limit for TBCB, 765 kV and 400 kV projects are normally planned 3 to 5 years in advance and can get firmed up as per clear requirement for load and grid security and reliability. Other networks are purely Discom specific, which further depends upon development of load centres and are taken up as per requirement only. Therefore 220 kV and 132 kV projects are planned and constructed in a short time. If constructed much in advance, it may cost high to State exchequer and cause undue burden on the consumers.

3.2.64 Also, from the past experience of TBCB, it has been observed that due to Court cases, ROW problems and insolvency issues, etc., schemes under TBCB get delayed, which hampers implementation of planned elements and thus, lead to network insufficiency leading to grid insecurity and service to loads.

3.2.65 Further, considering all the aspects, some 765 kV and 400 kV works are being carried out through TBCB and threshold limit may be decided accordingly considering combination of internal and TBCB projects so that unavailability of any element of TBCB must not lead to higher cost and grid insecurity.

C) Commission's Views:

3.2.66 The Commission has noted the submissions of the stakeholders and the reply of the Petitioner in this regard.

CAPITAL EXPENDITURE AND CAPITALISATION

A) Comment/Suggestion of the stakeholders

3.2.67 Shri Avadhesh Kumar Verma, Chairman- U.P. Rajya Vidyut Upbhokta Parishad, submitted that UPPTCL always over projects the Capital Investment Plan by 30% and the Commission reduces the same. It is a serious issue that UPPTCL is not able to project its future plan.

3.2.68 UPPCL submitted that scheme-wise capital expenditure and capitalisation details for FY 2016-17, FY 2017-18 and FY 2018-19 are essential to exactly know the progress of each scheme, as delay in the project or cost over-run can only be examined if the UPPTCL provides the scheme-wise capex details. Therefore, the Commission is requested to direct UPPTCL to submit details of scheme-wise capex and Capitalisation details and prudently allow the legitimate capex and capitalisation only. Further, it is also requested to disallow unjustified cost over-runs.

3.2.69 Further, UPPCL submitted that UPPTCL has submitted revised capital investment plan of Rs 7,170 Crore for FY 2019-20, which is very high as compared to FY 2018-19, i.e., Rs 3,276 Crore. UPPTCL has not submitted scheme wise details for such a high capital investment plan.

B) Petitioner's Response:

3.2.70 Petitioner submitted that the details of assets energised during FY 2016-17 are submitted to the Commission. Further, UPPTCL has also submitted the updated

FAR upto FY 2016-17 (as provided in Annexure 10 of the ARR and Tariff Petition dated March 18, 2019).

3.2.71 Further, the details of assets energised during FY 2017-18 and FY 2018-19 are submitted to the Commission. UPPTCL has revised the capital investment plan for the period from FY 2018-19 to FY 2021-22, submitted to UPERC on February 27, 2019. The projected capital expenditure of Rs. 3,276 Crore for FY 2018-19 and Rs. 7,170 Crore for FY 2019-20 are as per the revised CAPEX plan. The revised CAPEX plan includes the projected capital expenditure to be made on new/ongoing projects or schemes, projects under the Green Energy Corridor II (Solar Power), power evacuation systems, augmentation works, System Strengthening works and addition of Capacitor/Reactors. A copy of the same was also provided in Annexure 6 of the ARR and Tariff Petition dated March 18, 2019.

C) Commission's Views:

3.2.72 The Commission has taken note of the objections / suggestions made by the UPPCL and the reply submitted by UPPTCL in this regard. The Commission has considered the submissions made by UPPTCL while carrying out the analysis.

EMPLOYEE EXPENSE

A) Comment/Suggestion of the stakeholders

3.2.73 UPPCL submitted that UPPTCL has claimed that actual gross employee expenses were Rs 517.45 Crore as against Rs 522.80 Crore approved by the Commission in the Tariff Order for FY 2016-17. The employee expenses capitalized as per annual accounts are to the tune of Rs 372.09 Crore as against Rs 103.35 Crore approved in the Tariff Order. Therefore, the net employee expenses as per annual accounts are Rs 145.36 Crore as against Rs 419.45 Crore approved in the Tariff Order. UPPTCL should submit clarification regarding such a huge variation in capitalization of employee expenses as compared to the approval in the Tariff Order. UPPCL requested the Commission to direct UPPTCL to provide detailed explanation for increase in employee expense capitalization.

B) Petitioner's Response:

3.2.74 Petitioner submitted that UPPTCL has considered the actual employee expense capitalisation of Rs. 372.09 as per the annual accounts for FY 2016-17. However, in the FY 2016-17 Tariff Order, the Commission had allowed the employee expense capitalisation as per the capitalisation rate for FY 2013-14, which was ~20%. Further, the employee expense capitalisation for any financial year are considered on actual basis once the annual accounts are finalised. In case the annual accounts are not finalised then the employee expense capitalisation rate for that year is considered based on the actual interest capitalisation rate of the latest audited accounts available. Further, the same is in line with the past practice of the Commission while approving the employee expense capitalisation. It is also to be noted that in FY 2016-17, the expenses capitalised has increased as pending capitalisation work of previous years have been carried out during this year.

C) Commission's Views:

3.2.75 The Commission has noted the suggestion of the UPPCL and reply of the Petitioner on employee expense capitalisation. The Commission has done the prudence check of UPPTCL submission while carrying out the analysis.

DEBT: EQUITY RATIO

A) Comment/Suggestion of the stakeholders

3.2.76 UPPCL submitted that the Commission in the FY 2007-08 True up Order dated May 21, 2013 and subsequently in the Orders dated May 31, 2013; October 01, 2014; June 18, 2015; August 01, 2016; November 30, 2017 and November 12, 2018 had approved the True ups for FY 2008-09 to FY 2015-16, considering a normative Tariff approach with a gearing of 70 : 30. Considering this approach, 70% of the capital expenditure undertaken in any year was considered to be financed through loan and balance 30% was considered to be financed through equity contributions. UPPTCL for the purposes of this True up Petition for FY 2016-17 has claimed the interest and finance charges based on the same philosophy.

3.2.77 However, UPPTCL has not shown the actual debt : equity ratio in its Petition, which is necessary before considering any normative debt as per clause 3.9 of UPERC Transmission Tariff Regulations, 2006. Relevant part of the Regulation is extracted as below:

Quote

"3.9 Debt Equity Ratio

In case of all projects, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.

Provided that in case of the projects where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

Provided further that in case of existing projects, the actual debt equity shall be used for tariff determination.

The debt and equity amounts arrived at in accordance with clause (1) above shall be used for calculating interest on loan, return on equity and Advance Against Depreciation."

Unquote

Therefore, the Commission is requested to prudently check the actual debt and equity component of UPPTCL before allowing them normative debt : equity.

B) Petitioner's Response:

3.2.78 The actual Debt:Equity ratio as per the annual accounts for FY 2016-17 is 48.82% as on March 31, 2017. The computation for the same has been shown below:

Table 8: Debt : Equity computation for FY 2016-17

Years	2016-17
Tangible Asset	12,423.23
Intangible Asset	0.70
CWIP	6,897.76
Total	**19,321.69**
Long Term Borrowings Total	9,432.84
Debt/Equity Ratio (%)	**48.82%**

C) Commission's Views:

3.2.79 The Commission has noted the objections / suggestions of UPPCL and the reply of the Petitioner. The Commission has done the prudence check of submissions made by UPPTCL in this regard.

WEIGHTED AVERAGE RATE OF INTEREST ON LONG-TERM LOAN

A) Comment/Suggestion of the stakeholders

3.2.80 UPPCL submitted that UPPTCL has considered the weighted average rate of interest on long-term loan portfolio as 12.76%, as per annual accounts of FY 2016-17, which seems to be on higher side. Interest rate claimed by UPPTCL while computing Interest on Working Capital is 12.50%. It seems that UPPTCL has diverted short-term loans towards the long-term loans while computing the weighted average rate of interest on long term loan portfolio. It is very difficult to identify long-term loans in UPPTCL Audited Accounts. Therefore, the Commission is requested to direct UPPTCL to submit documentary evidences of interest rate for each of the loans considered for interest computation and prudently check the same. The Commission may direct UPPTCL to submit scheme-wise loan details.

3.2.81 UPPTCL has considered the weighted average rate of interest on long-term loan portfolio from FY 2017-18 to FY 2019-20 as 11.16%. It seems that UPPTCL has considered the short-term loans with long-term loans while computing the weighted average rate of interest on long-term loan portfolio for FY 2017-18. It is very difficult to identify long-term loans in UPPTCL provisional Accounts. Therefore, the Commission is requested to direct UPPTCL to submit documentary evidences of interest rate for each of the loans considered for interest computation and prudently check the same before allowing interest on Long-term loans.

B) Petitioner's Response:

3.2.82 UPPTCL submitted that the rate of interest considered for computation of interest on long-term loan is 12.76%. The same is computed as the weighted average rate of interest for the actual long-term loan portfolio of UPPTCL for FY 2016-17. The computation of the same is provided in Annexure 7 of the ARR and Tariff Petition dated March 18, 2019.

3.2.83 Further, UPPTCL submitted that the rate of interest considered for computation of interest on long term loan for FY 2017-18 to FY 2019-20 is 11.16%. The same is computed as per the weighted average rate of interest for the actual long-term loan portfolio of UPPTCL for FY 2017-18. The computation of the same is provided in Annexure 7 of the ARR and Tariff Petition dated 18th March 2019.

C) Commission's Views:

3.2.84 The Commission has noted the suggestion of UPPCL and comments of the Petitioner and considered the computation of the same. The Commission has gone through the details submitted by the Petitioner while approving the claimed amounts.

FINANCE CHARGES

A) Comment/Suggestion of the stakeholders

3.2.85 UPPCL submitted that UPPTCL in its Petition has submitted that it has considered the Finance Charges towards expenses such as Guarantee Fees and Bank Charges to the tune of Rs. 0.52 Crore in FY 2017-18. Further, the same have been computed for FY 2018-19 and FY 2019-20 by extrapolating the Guarantee Fees and Bank Charges derived for FY 2017-18 by using the Inflation Index of 3.91%.

3.2.86 Further, UPPCL submitted that the Finance Charges are a function of the quantum of debt taken and applicable Finance Charges levied by the lending Institutions / Bank. Generally, Finance Charges are not linked to the inflation. Therefore, it is requested that the Commission may consider Finance Charges for FY 2017-18 as conservative estimate for FY 2018-19 and FY 2019-20.

B) Petitioner's Response:

3.2.87 UPPTCL submitted that the Finance Charges for FY 2018-19 and FY 2019-20 are projected at an escalation index of 3.91% over the actual Finance Charges for FY 2017-18. Further, the Bank and Finance Charges for any financial year are considered on actual basis once the annual accounts are finalised. The Commission in its past Tariff Orders while approving the Bank and Finance Charges has considered the applicable escalation index.

C) Commission's Views:

3.2.88 The Commission has noted the suggestions of UPPCL and comments of the Petitioner on Finance Charges. The Commission has gone through the submissions of the Petitioner and accordingly allowed the Finance Charges for FY 2018-19 and FY 2019-20.

4. ESCALATION INDEX / INFLATION RATE

4.1 PROVISIONS OF TRANSMISSION TARIFF REGULATIONS, 2006

4.1.1 Regulation 4.2 of the Transmission Tariff Regulations, 2006, specifies the methodology for consideration of the O&M expenses, wherein such expenses are linked to the inflation index determined under these Regulations. The relevant provisions of the Transmission Tariff Regulations are reproduced below:

Quote

4.2 Operation and Maintenance Expenses

1. *The O&M expenses for the base year shall be calculated on the basis of historical/audited costs and past trend during the preceding five years. However, any abnormal variation during the preceding five years shall be excluded. O&M expenses so calculated for the base year shall then be escalated on the basis of prevailing rates of inflation for the year as notified by the Central Government and shall be considered as a weighted average of Wholesale Price Index and Consumer Price Index in the ratio of 60:40. Base year, for these regulations means, the first year of tariff determination under these regulations.*
2. *Where such data for the preceding five years is not available the Commission may fix O&M expenses for the base year as certain percentage of the capital cost.*
3. *Incremental O&M expenses for the ensuing financial year shall be 2.5% of capital addition during the current year. O&M charges for the ensuing financial year shall be sum of incremental O&M expenses so worked out and O&M charges of current year escalated on the basis of predetermined indices as indicated in regulation 4.2.1 above.*
4. *However, the Commission may direct the utilities to bring down the O & M expenses to an efficient level i.e., by fixing norms based on the circuit kilometers of transmission lines, transformation capacity at the sub-stations, number of bays in substation etc. of similarly placed efficient utilities, within such span of time, as may be determined by the Commission.*

5. *The Commission shall examine and if satisfied shall allow inclusion in revenue requirement in the next period additional O&M expenses on account of war, insurgency, and change in laws or like eventualities for a specified period.*

Unquote

4.1.2 The Commission approved the truing up of FY 2015-16 vide its Order dated January 08, 2019. The trued-up O&M expenses for FY 2015-16 have been extrapolated for FY 2016-17 at the yearly escalation index as specified under the Transmission Tariff Regulations, 2006.

4.1.3 The Commission, in accordance with the Transmission Tariff Regulations, 2006, has calculated the inflation index for the relevant year (nth year) based on the weighted average index of Wholesale Price Index (WPI) and Consumer Price Index (CPI) of the corresponding year. The WPI indices considered are as available on the website of the Office of the Economic Advisor to the Government of India, Ministry of Commerce and Industry (www.eaindustry.nic.in/) and CPI indices as available on the website of the Labour Bureau Government of India (www.labourbureau.gov.in).

4.1.4 The computation of inflation index is given in the Table below:

Table 9: CALCULATION OF ESCALATION / INFLATION INDEX

Month	Wholesale Price Index				Consumer Price Index				Consolidated Index			
	FY 14	FY 15	FY 16	FY 17	FY 14	FY 15	FY 16	FY 17	FY 14	FY 15	FY 16	FY 17
April	171	181	176	178	226	242	256	271	193	205	208	215
May	171	182	178	180	228	244	258	275	194	207	210	218
June	173	183	179	183	231	246	261	277	196	208	212	221
July	176	185	178	184	235	252	263	280	199	212	212	223
August	179	186	177	183	237	253	264	278	202	213	212	221
September	181	185	177	183	238	253	266	277	204	212	212	221
October	181	184	177	184	241	253	269	278	205	211	214	221
November	182	181	178	184	243	253	270	277	206	210	215	221
December	180	179	177	183	239	253	269	275	203	208	214	220
January	179	177	175	185	237	254	269	274	202	208	213	220
February	180	176	174	186	238	253	267	275	203	207	211	221
March	180	176	175	186	239	254	268	275	204	207	212	221
Average	178	181	177	183	236	251	265	276	201	209	212	220
									Calculation of Inflation Index (CPI-40%, WPI-60%)			
Weighted Average of Inflation									**7.6%**	**4.02%**	**1.41%**	**3.89%**

* FY 14, FY 15, FY 16 and FY 17 means FY 2013-14, FY 2014-15, FY 2015-16 and FY 2016-17, respectively.

4.1.5 As depicted in the Table above, the Commission has considered an escalation / inflation index of 3.89% for FY 2016-17. The Commission had considered the escalation / inflation index of 1.39% for FY 2016-17 in its Tariff Order dated August 01, 2016.

4.1.6 The same has also been submitted by the Petitioner.

5. TRUING UP OF AGGREGATE REVENUE REQUIREMENT FOR FY 2016-17

The Commission, in its Order dated January 08, 2019 in Suo-Moto Case No. 15SM of 2018 and Petition No. 1364 / 2018, approved the Annual Performance Review (APR) for FY 2016-17 and FY 2017-18 and Aggregate Revenue Requirement (ARR) for FY 2018-19 and True up of ARR and Tariff for FY 2015-16 for UPPTCL. In this Section, the Commission has analysed all the elements of actual revenue and expenses for FY 2016-17, and has undertaken the truing up of expenses and revenue after prudence check of the data made available by the Petitioner. The Commission has allowed the true up for FY 2016-17 considering the principles laid down in the Transmission Tariff Regulations, 2006.

5.1 O&M EXPENSES

Petitioner's Submissions

5.1.1 Operation and Maintenance (O&M) expenses comprise employee expenses, Administrative and General (A&G) expenses, and Repair and Maintenance (R&M) expenses.

5.1.2 The Petitioner submitted that the actual gross employee expenses were Rs. 517.45 Crore as against Rs. 522.80 Crore approved by the Commission in the Tariff Order for FY 2016-17. The employee expenses capitalised as per Audited Accounts are to the tune of Rs. 372.09 Crore as against Rs. 103.35 Crore approved in the Tariff Order. Thus, the net employee expenses as per Audited Accounts are Rs. 145.36 Crore as against Rs. 419.45 Crore approved in the Tariff Order.

5.1.3 The Petitioner submitted that the actual gross A&G expenses were Rs. 49.35 Crore as against Rs. 30.03 Crore approved by the Commission in the Tariff Order for FY 2016-17. The erstwhile policy for capitalisation of the A&G expenses has been discontinued with effect from FY 2016-17 based on the observations of the AG Audit, whereas, the A&G capitalization approved in the Tariff Order was Rs. 5.75 Crore. Thus, the net A&G expenses as per Audited Accounts are Rs. 49.35 Crore as against Rs. 24.27 Crore approved in the Tariff Order. The Petitioner submitted that the increase in the A&G expenses in FY 2016-17 are on account of payment of the transmission license fee during the year and no provision for A&G expense capitalisation.

5.1.4 The actual R&M expenses for FY 2016-17 were Rs. 330.04 Crore as against Rs. 183.90 Crore approved by the Commission in the Tariff Order for FY 2016-17.

5.1.5 The Petitioner submitted that it has inherited aged and complex network, which requires higher O&M cost. Also, the O&M expense norms are based on historical amounts incurred towards O&M and not with respect to the size of the transmission network being handled, i.e., length of transmission lines, number of bays, etc., and recent additions thereof.

5.1.6 The Petitioner submitted that the normative O&M expenses for FY 2016-17 have been computed by escalating the component-wise O&M expenses approved in true up for FY 2015-16 by the escalation index of 3.89%, which is the escalation index for FY 2016-17. In addition to the O&M expenses based on inflation indices, the Petitioner has claimed the incremental O&M expenses on asset addition during the year, in accordance with Transmission Tariff Regulations, 2006. The Petitioner requested the Commission to allow the normative O&M expenses in true up for FY 2016-17 in accordance with the Transmission Tariff Regulations, 2006.

5.1.7 The Petitioner has claimed Rs. 409.87 Crore towards net normative O&M expenses for FY 2016-17 as against Rs. 627.62 Crore approved by the Commission in the Tariff Order dated August 01, 2016 and the actual O&M expenses of Rs. 524.75 Crore as per the Audited Accounts.

5.1.8 The Petitioner has claimed Rs. 23.61 Crore in addition to normative A&G Expenses on account of payment of the Transmission License Fee. The Petitioner submitted that the applicable License Fee for UPPTCL as per the Uttar Pradesh Electricity Regulatory Commission (Fees and Fines) Regulations, 2010 is Rs. 35.68 Crore upto FY 2018-19. The total transmission license fee upto FY 2016-17 is Rs. 23.61 Crore out of which UPPTCL has already paid Rs. 20.15 crore towards the same. The details of the applicable Licensee Fee upto FY 2016-17 are provided below:

Table 10: Applicable Transmission Licensee Fee for UPPTCL upto FY 2016-17

Financial Year	Energy Handled (MU)	Applicable Licence Fee (Rs. Crore)
FY 2011-12*	70,371.05	2.35
FY 2012-13	73,667.40	3.68
FY 2013-14	77,586.12	3.88
FY 2014-15	82,413.86	4.12
FY 2015-16	89,869.91	4.49

Financial Year	Energy Handled (MU)	Applicable Licence Fee (Rs. Crore)
FY 2016-17	1,01,763.08	5.09
Total upto FY 2016-17		**23.61**

**For eight months only (Considering one month after grant of Licensee on 3rd August 2011.*

5.1.9 UPPTCL has considered actual Transmission License Fee of Rs. 23.61 Crore upto FY 2016-17 in the total A&G expenses claimed under this true-up as an exceptional item over and above the normative O&M expenses.

Commission's Ruling:

5.1.10 Regulation 4.2.1 of the Transmission Tariff Regulations, 2006 notified by the Commission specifies:

Quote

1. *The O&M expenses for the base year shall be calculated on the basis of historical / audited costs and past trend during the preceding five years. However, any abnormal variation during the preceding five years shall be excluded. O & M expenses so calculated for the base year shall then be escalated on the basis of prevailing rates of inflation for the year as notified by the Central Government and shall be considered as a weighted average of Wholesale Price Index and Consumer Price Index in the ratio of 60:40. Base year, for these regulations means, the first year of tariff determination under these regulations.*

Unquote

5.1.11 In its submissions, the Petitioner has claimed an amount of Rs. 23.61 Crore under A&G Expenses on account of payment of the Transmission License Fee upto FY 2016-17. Further, it is observed that the Petitioner has sought approval of this amount of Rs. 23.61 Crore considering this as an exceptional item over and above the normative O&M expenses.

5.1.12 In response to the Commission's e-mail dated May 03, 2019, to explain why the same should be allowed by the Commission and why a provision for the same was not made in the earlier Accounts / Balance Sheets, the Petitioner in its reply dated May 09, 2019 has submitted the following:

Quote

The Petitioner respectfully submits that the True-up petition for FY 2016-17 has been filed as per the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2006 (Transmission Tariff Regulations 2006). The normative A&G expenses are determined for the year by escalating the base year (i.e. FY 2007-08) expenses with inflation index as approved by the Hon'ble Commission for the year, and for this purpose the base year decided by the Hon'ble Commission is FY 2007-08. Since, UPPTCL was granted the transmission license in FY 2011-12, the base year expenses did not cover the transmission license fee applicable for the Petitioner. Moreover, the applicable license fee was defined in 2010 vide the Uttar Pradesh Electricity Regulatory Commission (Fees and Fines) Regulations 2010 (Fee & Fine Regulations). Hence, the Petitioner has claimed the license fee upto FY 2016-17 over and above the normative A&G expenses as mentioned above.

Further, it is submitted that the Hon'ble Commission vide its Letter dated 18th May 2015 directed the Petitioner to pay the licensee fee of Rs. 60 lakh for the period FY 2011-12 to FY 2014-15 computed as Rs. 15 lakh per year. However, later the Petitioner was directed by the Hon'ble Commission vide its Letter No. UPERC/Secy/D(L&L)/2018/1455 dated 29th November 2018 to submit the revised transmission licensee fee upto FY 2018-19 amounting to Rs. 38.42 Crore in line with the Fee & Fine Regulations. Hence, the provision for the revised transmission license fee was made for the first time only after the finalization of the applicable license fee through Hon'ble Commission vide letter dated 29th November 2018 in line with Fee & Fine Regulations. Thus, Petitioner was not able to make any provision in the past years for the revised transmission license fee.

The petitioner has already deposited total license fee in FY 2018-19 amounting to Rs. 35.68 Crore applicable upto FY 2018-19. Further, the Petitioner has claimed the license fee of Rs. 23.61 Core under the Administrative & General (A&G) Expenses applicable upto FY 2016-17. Thus, it is humbly submitted the actual license fee upto FY 2016-17 may be allowed over and above the normative A&G expenses being considered by the Hon'ble Commission on the basis of base year FY 2007-08.

Unquote

5.1.13 It is observed that the Petitioner in its submissions has stated that the Transmission license fee component was not covered under the base year expense for the Petitioner, since, the UPPTCL was granted the Transmission Licence in FY 2011-12.

5.1.14 In view of the above, the Commission approves the Licence Fee of Rs. 23.61 Crore upto FY 2016-17 by considering the same as an exceptional item over and above the normative O&M expenses.

5.1.15 Thus, the Commission has trued up the O&M expenses for FY 2016-17 in accordance with the Transmission Tariff Regulations, 2006. The Commission has determined the trued-up O&M expenses for the preceding year, FY 2015-16 in its Order dated January 08, 2019 in Suo-Moto Case No. 15SM of 2018 and Petition No. 1364 / 2018 as Rs. 428.02 Crore.

5.1.16 The allowable O&M expenses for FY 2016-17 have been approved by escalating the component-wise O&M expenses for FY 2015-16 by using the escalation index of 3.89% as computed in Section 4 above.

5.1.17 Further, in addition to the O&M cost based on inflationary indices based on escalation, the Transmission Tariff Regulations, 2006 provide for incremental O&M expenses on addition to assets during the year. Regulation 4.2.3 of the Transmission Tariff Regulations, 2006 notified by the Commission specifies:

Quote

3. Incremental O&M expenses for the ensuing financial year shall be 2.5% of capital addition during the current year. O&M charges for the ensuing financial year shall be sum of incremental O&M expenses so worked out and O&M charges of current year escalated on the basis of predetermined indices as indicated in regulation 4.2.1 above.

Unquote

5.1.18 In accordance with the Transmission Tariff Regulations, 2006 the Commission has approved the incremental O&M expenses for FY 2016-17 as shown in the Table below:

Table 11: APPROVED INCREMENTAL O&M EXPENSES FOR FY 2016-17 (RS. CRORE)

Particulars	Derivation	True up Petition	Approved upon truing up
Net Addition to GFA during preceding year, FY 2015-16	A	2,478.20	2,474.29
Incremental O&M expenses for preceding year, FY 2015-16	B	194.51	194.49

Particulars	Derivation	True up Petition	Approved upon truing up
Incremental O&M expenses @ 2.50% of Net GFA addition of preceding year, FY 2015-16	C=2.50% of A	61.95	61.86
Inflation Index	D	3.89%	3.89%
Incremental O&M expenses for preceding year, FY 2015-16, escalated with the Inflation Index	E =B x (1+D)	202.11	202.07
Incremental O&M expenses	F= C+E	264.07	263.93
Employee expenses		154.92	154.86
A&G expenses		17.82	17.80
R&M expenses		91.32	91.27

5.1.19 The same are allocated across the individual elements of the O&M expenses on the basis of the contribution of each element in the gross O&M expenses, as approved in the subsequent paragraphs.

5.1.20 The O&M expenses approved for FY 2016-17 are as shown in the Table given below:

Table 12: APPROVED O&M EXPENSES FOR FY 2016-17 (RS. CRORE)

Particulars	Tariff Order	True-up Petition	Approved upon truing up
Employee expenses			
Gross employee expenses and provisions	350.28	359.08	359.00
Incremental employee expenses @ 2.50% of GFA additions of preceding year	172.52	154.92	154.86
Total employee expenses	522.80	514.00	513.86
Employee expenses capitalised	103.35	372.09	372.09
Net employee expenses	**419.45**	**141.91**	**141.78**
A&G expenses			
Gross A&G expenses	20.58	44.71	44.70
Incremental A&G expenses @ 2.50% of GFA addition of preceding year	9.45	17.82	17.80
Total A&G expenses	30.03	62.53	62.51
A&G expenses capitalised	5.75	0.00	0.00
Net A&G expenses	**24.27**	**62.53**	**62.51**
R&M expenses			
R&M expenses	111.31	114.11	114.08
Incremental R&M expenses @ 2.50% of GFA addition of preceding year	72.58	91.32	91.27
Total R&M expenses	**183.90**	**205.43**	**205.35**

Particulars	Tariff Order	True-up Petition	Approved upon truing up
Total O&M expenses allowable as per Regulations	**627.62**	**409.87**	**409.63**

5.1.21 The summary of O&M expenses submitted by the Petitioner and as approved by the Commission is as shown in the Table below:

Table 13: ACTUAL VS. APPROVED O&M EXPENSES FOR FY 2016-17 (RS. CRORE)

Particulars	Tariff Order	Actual as per Audited Accounts	True up Petition	Approved upon truing up
Employee expenses	522.80	517.45	514.00	513.86
A&G expenses	30.03	49.35	62.53	62.51
R&M expenses	183.90	330.04	205.43	205.35
Gross O&M expenses	**736.73**	**896.84**	**781.95**	**781.72**
Less: Expenses capitalised				
Employee expenses capitalised	103.35	372.09	372.09	372.09
A&G expenses capitalised	5.75	0.00	0.00	0.00
Total expenses capitalised	**109.11**	**372.09**	**372.09**	**372.09**
Net O&M expenses	**627.62**	**524.75**	**409.87**	**409.63**

5.2 TARGET AVAILABILTY

5.2.1 The Transmission Tariff Regulations, 2006 specifies that:

Quote

1. The target availability for AC system shall be 98% for recovery of full fixed cost (Net ARR). Recovery of the Net ARR below the level of target availability shall be on pro-rata basis. At zero availability, no transmission/ wheeling charges shall be payable.
2. The target availability shall be calculated in accordance with procedure specified in Annexure B.

Unquote

Petitioner's Submissions

5.2.2 The Petitioner has submitted that the actual transmission availability for UPPTCL network for FY 2016-17 was 99.03%.

Commission's Ruling

5.2.3 The Commission has gone through the details of transmission availability submitted by UPPTCL and approves the same as claimed by Petitioner.

5.3 INTEREST AND FINANCE CHARGES

5.3.1 Interest on Long-Term Loans

Petitioner's Submissions

5.3.1.1 The Petitioner has claimed gross interest expenses of Rs. 1105.65 Crore and net interest expenses of Rs. 648.71 Crore, as against net interest expense of Rs. 679.58 Crore approved in the Tariff Order for FY 2016-17.

5.3.1.2 The Petitioner submitted that interest cost is an uncontrollable cost as the interest regime is determined by various factors and the actual loans taken are consequential to the actual capital expenditure.

5.3.1.2.1 The Petitioner submitted that it had derived the actual capital investments in FY 2016-17 considering the Capital Work in Progress (CWIP) and Gross Fixed Assets (GFA) balances as per the Audited Accounts. The Petitioner submitted that the total capital expenditure after deduction of the capital expenditure financed through Consumer Contributions, capital subsidies and grants is considered to be financed through debt and equity in the ratio of 70:30.

Commission's Ruling

5.3.1.3 The Commission has considered the same approach for true-up of interest and finance charges for FY 2016-17 as followed in the true-up of FY 2015-16.

5.3.1.4 The Commission has derived the actual capital investments undertaken by the Petitioner in FY 2016-17 by considering the CWIP and GFA balances as per Audited Accounts. The details are provided in the Table below:

Table 14: APPROVED CAPITAL INVESTMENTS FOR FY 2016-17 (RS. CRORE)

Particulars	Derivation	Tariff Order	True up Petition	Approved upon truing up
Opening CWIP as on 1st April	A	8,136.88	7,425.73	7,425.73
Investments	B	4,270.00	3,942.81	3,942.81
Employee expenses capitalisation	C	103.35	372.09*	372.09*

Particulars	Derivation	Tariff Order	True up Petition	Approved upon truing up
A&G expenses capitalisation	D	5.75	0.00	0.00
Interest capitalisation for long term loans	E	536.56	456.94	456.94
Total Investments	F=A+B+C+D+E	**13,052.55**	**12,197.56**	**12,197.56**
Transferred to GFA (total capitalisation)	G	3,263.14	5,299.80	5,299.80
Closing CWIP	H=F-G	**9,789.41**	**6,897.76**	**6,897.76**

* The % of Employee expense capitalisation of gross Employee expense approved in Tariff Order of FY 2016-17 was 20% and the Commission is approving 72% against the 72% claimed in Trued Up of FY 2016-17. Also, The % of A&G expense capitalisation of gross A&G expense is 19% approved in Tariff Order of FY 2016-17.

5.3.1.5 The Commission has considered a normative approach with Debt : Equity ratio of 70 :30. Considering this approach, 70% of the capital expenditure undertaken in the year has been considered to be financed through loan and balance 30% has been considered to be financed through equity contribution. The portion of capital expenditure financed through Consumer Contributions, capital subsidies and grants has been separated, as the depreciation and interest thereon would not be charged to the consumers. The Commission has approved the amounts received as Consumer Contributions, capital subsidies and grants based on the Audited Accounts of the Petitioner, as summarised in the Table below:

Table 15: APPROVED CONSUMER CONTRIBUTIONS, CAPITAL GRANTS AND SUBSIDIES IN FY 2016-17 (RS. CRORE)

Particulars	True up Petition	Approved
Opening balance of Consumer Contributions, Grants and Subsidies towards cost of Capital Assets	574.33	574.33
Addition during the year	126.50	126.50
Less: Amortisation	43.50	43.50
Closing Balance	**657.33**	**657.33**

5.3.1.6 The approved financing of the Capital Investment is as shown in the Table given below:

Table 16: FINANCING OF CAPITAL INVESTMENTS IN FY 2016-17 (RS. CRORE)

Particulars	Derivation	True up Petition	Approved upon Truing up
Investment	A	3,942.81	3,942.81
Less:			
Consumer Contributions, Grants and Subsidies towards cost of Capital Assets	B	126.50	126.50
Investment funded by debt and equity	C=A-B	3,816.31	3,816.31
Debt funded	**70%**	**2,671.42**	**2,671.42**
Equity funded	**30%**	**1,144.89**	**1,144.89**

5.3.1.7 Thus, from the above Tables, it can be observed that UPPTCL has made investment of Rs. 3,942.81 Crore in FY 2016-17. The Consumer Contributions, capital subsidies and grants received during the corresponding period is Rs. 126.50 Crore. Thus, balance Rs. 3,816.31 Crore has been funded through debt and equity. Considering a debt equity ratio of 70:30, Rs. 2,671.42 Crore or 70% of the capital investment is approved to be funded through debt and balance 30% equivalent to Rs. 1,144.89 Crore through equity. Allowable depreciation for the year has been considered as normative loan repayment. The actual weighted average interest rate of 12.76% has been considered for computing the interest. The opening balance of long-term loan has been considered from the closing loan balance approved in the True up for FY 2015-16 in the Order dated January 30, 2019.

5.3.1.8 Considering the above, the gross interest on long-term loan is Rs. 1105.66 Crore. The interest capitalisation has been considered at the same rate as per the Audited Accounts. The interest on long-term loan approved for FY 2016-17 is as shown in the Table given below:

Table 17: APPROVED INTEREST ON LONG-TERM LOANS FOR FY 2016-17 (RS. CRORE)

Particulars	Tariff Order	True up Petition	Approved upon Truing up
Opening Loan balance	8,422.87	7,727.46	7,727.46
Loan Addition (70% of Investments)	2,940.00	2,671.42	2,671.42
Less: Repayments (Depreciation allowable for the year)	542.94	793.25	793.25
Closing Loan balance	10,819.93	9,605.63	9,605.62
Weighted average rate of interest	12.64%	12.76%	12.76%
Interest on Long-Term Loans	**1,216.15**	**1,105.65**	**1,105.65**

Particulars	Tariff Order	True up Petition	Approved upon Truing up
Interest Capitalisation Rate	44.12%	41.33%	41.33%
Less: Interest Capitalised	536.56	456.94	456.94
Net Interest Charged	**679.58**	**648.71**	**648.71**

5.3.1.9 The Commission vide Order dated October 31, 2018 in Petition No. 987 of 2014 in the matter of Denial/ Delay by UPPTCL in handling over the physical possession of the 220 kV R.C. Green Substation at Greater Noida to NPCL has stated that:

Quote

86. Keeping in view the overall efficiency, economical and integrated operations of state transmission sector, interest of consumers of Greater Noida area coupled with the obligation of GNIDA to provide free land and bear the cost of substation up to 220 kV, the Commission decides that

(i). NPCL petition for owning, operating and maintaining 220 kV sub-station as distribution licensee is dismissed.

(ii). NPCL shall claim refund of the amount deposited with Greater Noida Authority towards costs of land and construction of 220 KV sub-station at RC Green and associated 220 kV line to NPCL.

(iii). The investment allowed by this Commission to NPCL in the distribution tariff shall be trued up again after deducting this refund.

(iv). UPPTCL as STU and transmission licensee, shall own, operate and maintain 220 kV Sub-Station at RC Green.

Unquote

Also, the Commission in Order dated October 31, 2018 in Petition No. 1020 of 2015 in the matter of Denial / Delay by UPPTCL in granting connectivity to the 220 kV Gharbara Substation at NPCL at 400 kV Greater Noida (Pali) Substation of UPPTCL has stated that:

Quote

49. Keeping in view the overall efficiency, economical and integrated operations of state transmission sector, interest of consumers of Greater Noida area coupled with the obligation of GNIDA to provide free land and bear the cost of substation up to 220 kV, the Commission decides that

a. NPCL petition for direction to UPPTCL to grant connectivity of Gharbara Substation from 400 kV Greater Noida (Pali) sub-station is dismissed.

b. *NPCL shall claim refund of the amount deposited with Greater Noida Authority towards cost of land and construction of 220 kV Gharbara sub station and associated 220 kV line from GNIDA.*
c. *Since the Petitioner did not comply with the provisions of U.P. Electricity Regulatory Commission (Terms and Conditions for Determination of Distribution Tariff) Regulation-2006, before making investment in the 220 kV Gharabara sub-station, this expenditure cannot be allowed in distribution ARR. The Commission shall review this investment in the True-up of ARR filed by the Petitioner.*
d. *UPPTCL as STU and transmission licensee, shall own, operate and maintain 200 kV Sub-Station at village Gharbara.*
e. *UPPTCL shall arrange adequate transmission capacity for NPCL as per their power distribution plan without creating any obstacle.*
f. *NPCL shall be granted connectivity from Gharbara sub-station through 33 kV feeders.*

Unquote

5.3.1.10 In the previous year Tariff Order of FY 2018-19 dated January 08, 2019, the Commission had directed UPPTCL to submit the details of compliance with the above Orders. The extract of the same is as follows:

Quote:

In line with the above directions of the Commission in the aforementioned Orders, the Licensee is directed the following:

1) *To apprise the Commission about the compliance of the above Orders in the next ARR / Tariff and True-Up filing.*

Unquote

5.3.1.11 In continuation of the above, the Commission has sent the query to UPPTCL dated May 10, 2019 to apprise the Commission about compliance of the Order dated October 31, 2018 in Petition No. 987 of 2014 and Order dated October 31, 2018 in Petition No. 1020 of 2015 as directed in the 2018-19 Tariff Order dated January 08, 2019.

5.3.1.12 In response to the query of the Commission, the Licensee has submitted the following reply in the matter of the above-mentioned Orders:

(a) **Petition No. 987 of 2014:** NPCL has filed Appeal No. 336 of 2018 before the Hon'ble APTEL in this matter. The same is pending before the Hon'ble APTEL.

(b) **Petition No. 1020 of 2015:** NPCL has filed Appeal No. 40 of 2019 before the Hon'ble APTEL in this matter. The same is pending before the Hon'ble APTEL.

5.3.1.13 The Petitioner is directed to apprise the Commission about the matter during the True-up of FY 2017-18 since, the matter is sub-judice in Hon'ble APTEL.

5.3.2 Finance Charges

Petitioner's Submissions

5.3.2.1 The Petitioner has claimed Rs. 1.16 Crore towards finance charges for FY 2016-17, towards items such as bank charges and finance charges.

Commission's Ruling

5.3.2.2 The Commission approves the bank charges and finance charges as per the Audited Accounts to the extent of Rs. 1.16 Crore for FY 2016-17.

5.3.3 Interest on Working Capital

Petitioner's Submissions

5.3.3.1 The Petitioner has claimed Interest on Working Capital of Rs. 59.63 Crore for FY 2016-17 as against Rs. 57.97 Crore approved by the Commission in the Tariff Order for FY 2016-17. The Petitioner submitted that it has computed Interest on Working Capital in accordance with the Transmission Tariff Regulations, 2006.

Commission's Ruling

5.3.3.2 In the Tariff Order for FY 2016-17, the Commission had allowed Rs. 59.04 Crore towards Interest on Working Capital. The Transmission Tariff Regulations, 2006 provide for normative interest on working capital based on the methodology outlined in the Regulations. Accordingly, the Commission has approved Interest on Working Capital for FY 2016-17 as shown in the Table below:

Table 18: APPROVED INTEREST ON WORKING CAPITAL FOR FY 2016-17 (RS. CRORE)

Particulars	Tariff Order	True up Petition	Approved upon truing up
One month's O&M expenses	52.30	34.16	34.14
One-twelfth of the sum of the book value of materials in stores at the end of each month	84.72	113.17	113.17
Receivables equivalent to 60 days average billing on consumers	326.75	329.70	325.04
Total Working Capital	**463.77**	**477.02**	**472.35**
Rate of Interest on Working Capital	12.50%	12.50%	12.50%
Interest on Working Capital	**57.97**	**59.63**	**59.04**

5.3.3.3 The following Table summarises the interest and finance charges submitted by the Petitioner and that approved by the Commission for FY 2016-17:

Table 19: APPROVED INTEREST AND FINANCE CHARGES FOR FY 2016-17 (RS. CRORE)

Particulars	Tariff Order	Actual as per Audited Accounts	True up Petition	Approved upon truing up
A. Interest on Long Term Loans				
Gross Interest on Long Term Loan	1,216.15	1,115.16	1,105.65	1,105.65
Less: Interest Capitalisation	536.56	456.94	456.94	456.94
Net Interest on Long Term Loans	**679.59**	**658.22**	**648.71**	**648.71**
B. Finance and Other Charges				
Guarantee Charges		0.82	0.82	0.82
Bank Charges		0.34	0.34	0.34
Total Finance Charges	**1.78**	**1.16**	**1.16**	**1.16**
C. Interest on Working Capital	**57.97**	**0.00**	**59.63**	**59.04**
Total (A+B+C)	**739.34**	**659.39**	**709.50**	**708.92**

5.4 DEPRECIATION

Petitioner's Submissions

5.4.1 The actual depreciation expense charged in the Audited Accounts is Rs. 711.36 Crore.

5.4.2 The Petitioner submitted that it had computed the allowable depreciation for FY 2016-17 considering the depreciable GFA as per the Audited Accounts and the rate of depreciation as approved by the Commission in the Tariff Order for FY 2016-17. The Petitioner submitted that it has computed the depreciation only on the depreciable asset base and has excluded the non-depreciable assets such as land, land rights, etc., which comes to Rs. 793.25 Crore.

Commission's Ruling

5.4.3 The Commission has computed the allowable depreciation expense on the closing GFA of FY 2015-16, GFA as per the Audited Accounts for FY 2016-17 and at the rates approved by the Commission in the Tariff Order for FY 2016-17. The Commission has computed the depreciation only on the depreciable asset base and has excluded the non-depreciable assets such as land, land rights, etc. The Commission has approved the amounts as per Petitioner's submission.

5.4.4 Considering this philosophy, the gross entitlement towards depreciation is as shown in the Table below:

Table 20: GROSS ALLOWABLE DEPRECIATION FOR FY 2016-17 (RS. CRORE)

Sl. No.	Particulars	Opening GFA	Addition to GFA	Deduction in GFA	Closing GFA	Depreciation Rate	Allowable Gross Depreciation
1	Land & Land Rights						
	(i) Unclassified	42.94	32.67		75.60		
	(ii) Freehold Land	0.05	0.00		0.05		
2	Buildings	635.47	174.15	0.14	809.48		
3	Other Civil Works	70.95	11.14		82.09		
4	Plant & Machinery	7,093.34	3,041.82	219.89	9,915.27		
5	Lines, Cables, Network etc.	5,509.81	2,031.56	177.95	7,363.42		
6	Vehicles	3.40	0.00	0.01	3.38		
7	Furniture & Fixtures	4.24	1.94	0.06	6.12		
8	Office Equipment	6.11	1.03	0.00	7.14		
9	Other assets	87.75	5.50	0.01	93.24		
10	Intangible assets	1.96	-	-	1.96		
11	**Total Fixed Assets**	**13,456.01**	**5,299.80**	**398.06**	**18,357.75**		
12	Non-depreciable assets (Land & Land Rights)	42.99	32.67		75.66		
13	**Depreciable assets**	**13,413.02**	**5,267.13**	**398.06**	**18,282.09**	5.28%	836.75

5.4.5 The Commission has scrutinised the depreciation details submitted by the Petitioner and obtained the figures in respect of depreciation charged on the assets created out of Consumer Contributions, capital grants and subsidies. This equivalent depreciation amounting to Rs. 43.50 Crore has been reduced from the allowable depreciation for FY 2016-17.

5.4.6 While approving the Tariff Order for FY 2016-17, the Commission had withheld 30% of the allowable depreciation on account of non-submission of the Fixed Asset Register even after repeated directions to UPPTCL. Since, UPPTCL has submitted the Fixed Asset Register till FY 2016-17 before truing up of FY 2016-17, hence, the withheld depreciation of 30% for FY 2016-17 has been allowed as per the direction in Tariff Order for FY 2016-17.

5.4.7 Thus, the approved depreciation (Excluded Intangible assets) for FY 2016-17 is as shown in the Table given below:

Table 21: NET APPROVED DEPRECIATION FOR FY 2016-17 (RS. CRORE)

Sl. No.	Particulars	Tariff Order	Actual as per Audited Accounts	True up Petition	Approved upon truing up
1	Gross allowable Depreciation	784.35	754.86	836.75	836.75
2	Less: Equivalent amount of depreciation on assets acquired out of the Consumer Contribution	8.73	43.50	43.50	43.50
3	Net allowable Depreciation	**775.62**	**711.36**	**793.25**	**793.25**
4	Less: Depreciation withheld due to non-maintenance of Fixed Asset Registers	232.69	-	-	-
5	**Depreciation allowable for recovery in FY 2016-17**	**542.93**	**711.36**	**793.25**	**793.25**

5.5 PRIOR PERIOD EXPENSES

Petitioner's Submissions

5.5.1 The Petitioner has submitted that it has identified and accounted for certain prior period incomes and expenses in the Audited Accounts for FY 2016-17. In the financial statements for FY 2016-17, there has been recognition of net prior income of Rs. 8.70 Crore. However, the Petitioner has not claimed this amount under the Petition for True up of FY 2016-17.

Commission's Ruling

5.5.2 Prior period expenses and incomes are the outcomes of omissions / errors in recording the transactions in the accounting statements. The items booked under the prior period expenses are essentially ARR items like O&M expenses, interest and finance charges, etc. Each item of ARR has a distinct methodology of treatment in the ARR and true up determination.

5.5.3 The Commission has not approved the prior period expenses / income in True up for FY 2016-17 as the same has not been claimed by the Petitioner.

5.6 RETURN ON EQUITY

Petitioner's Submissions

5.6.1 The Petitioner has claimed Return on Equity of Rs. 110.97 Crore for FY 2016-17 as against Rs. 102.46 Crore approved by the Commission in the Tariff Order for FY 2016-17.

5.6.2 The Petitioner submitted that the Return on Equity for FY 2016-17 has been arrived at by considering the following:

- Opening equity as on 1st April, 2007 based on the equity balance, which devolved upon the Petitioner in the Transmission Transfer Scheme.
- Equity additions from FY 2007-08 to FY 2016-17 equivalent to normative 30% of the capitalised assets.
- A rate of 2% has been considered for computing return on eligible equity.

Commission's Ruling

5.6.3 Under the provisions of Transmission Tariff Regulations, 2006, the Petitioner is allowed a return @ 14% on equity base; for equity base calculation, debt equity ratio shall be 70:30. Where equity involved is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%. Equity amounting to more than 30% shall be considered as loan. In case of actual equity employed being less than 30%, actual debt and equity shall be considered for determination of Tariff.

5.6.4 In view of the huge gap in the recovery of cost of supply at the Discom level, the Petitioner has submitted that Return on Equity would only result in accumulation of receivables.

5.6.5 As such, the Petitioner has been claiming Return on Equity @ 2% since FY 2009-10 onwards. Return on Equity has been computed on the normative equity portion (30%) of capitalised assets.

5.6.6 The Commission, while truing up the Return on Equity, has adopted the following approach:

- Closing equity approved by the Commission for FY 2015-16 has been considered as the opening equity for FY 2016-17.
- Return on equity has been computed at the rate of 2% in line with the approach adopted by the Commission in the earlier Orders.

5.6.7 The approved Return on Equity for FY 2016-17 is as shown in the Table given below:

Table 22: APPROVED RETURN ON EQUITY FOR FY 2016-17 (RS. CRORE)

Particulars	Tariff Order	True up Petition	Approved upon truing up
Equity at the beginning of the year	4,633.35	4,753.45	4,753.35
Assets Capitalised	3,263.14	5,299.80	5,299.80
Addition to Equity	978.94	1,589.94	1,589.94
Closing Equity	5,612.30	6,343.39	6,343.29
Average Equity	5,122.82	5,548.42	5,548.32
Rate of Return	2.00%	2.00%	2.00%
Return on Equity	**102.46**	**110.97**	**110.97**

5.7 REVENUE SIDE TRUING UP

Petitioner's Submissions

5.7.1 Non-Tariff Income

5.7.1.1 The Petitioner has submitted that the actual Non-Tariff Income for FY 2016-17 is Rs. 45.42 Crore as against Rs. 51.87 Crore approved in the Tariff Order.

Commission's Ruling

5.7.1.2 The Commission observes that the submissions of the Petitioner are in order and accordingly approves the Non-Tariff Income as submitted by the Petitioner for FY 2016-17.

5.7.2 Revenue from Transmission of Power

Petitioner's Submissions

5.7.2.1 The Petitioner submitted that the gross transmission charges in FY 2016-17 are to the tune of Rs. 1,759.51 Crore. In FY 2016-17, there is a true-up adjustment of Rs. 24.70 Crore, towards the revenue surplus as approved against true-up of FY 2015-16. Hence, the net transmission charges considered for revenue side trueing-up in FY 2016-17 is Rs. 1,784.21 Crore as per annual accounts. Further, as part of separate function of SLDC, it is maintaining separate accounts for SLDC. It has recovered SLDC charges to the tune of Rs. 2.96 Crore in FY 2016-17. The open access charges billed in FY 2016-17 are to the tune of Rs. 112.14 Crore as considered in audited accounts for FY 2016-17, which includes the short-term open access charges recovered in FY 2016-17 for approved inter-State and intra-State transactions by NRLDC and UPSLDC, respectively, and the share of UPPTCL in POC charges for utilization of its assets as inter-State transmission system as disbursed by PGCIL during FY 2016-17. Thus, the total revenue receipts of the Petitioner of FY 2016-17 are to the tune of Rs. 1,759.51 Crore.

5.7.2.2 Further, the Petitioner submitted that Commission while approving the true up for FY 2015-16 in its Order dated January 08, 2019 directed the Petitioner to refund the net surplus amount for Rs. 24.70 Crore to the Distribution Licensees. In this matter the Petitioner submits that the amount of Rs. 24.70 Crore has been refunded and considered in the audited accounts for FY 2016-17.

5.7.2.3 The net revenue pertaining to FY 2016-17 is provided in the Table below:

Table 23: REVENUE FROM OPERATIONS PERTAINING TO FY 2016-17

Particulars	Amount (Rs. Crore)
Transmission Charges for FY 2016-17	1,644.41
True up adjustment for FY 2015-16	(24.70)
Open Access Charges for FY 2016-17	112.14*
SLDC Charges for FY 2016-17	2.96
Net Revenue pertaining to FY 2016-17	**1,784.21**

* The total Open Access Charges for FY 2016-17 includes POC charges of Rs. 80.21 Crore & STOA charges of Rs. 31.93 Crore (including application fee for connectivity).

Commission's Ruling

5.7.2.4 The Commission observes that the submissions of the Petitioner are in order and accordingly approves the Revenue from Transmission of Power as submitted by the Petitioner for FY 2016-17.

5.8 AGGREGATE REVENUE REQUIREMENT FOR FY 2016-17 AFTER TRUING UP

5.8.1 The Aggregate Revenue Requirement for FY 2016-17 after final truing up is summarised in the table below:

Table 24: ARR FOR FY 2016-17 AFTER FINAL TRUING UP (RS. CRORE)

Particulars	Tariff Order	Actual as per Audited Accounts	True up Petition	Approved upon Truing up
Gross O&M Expenses	**736.73**	**896.84**	**781.95**	**781.72**
Employee expenses	522.80	517.45	514.00	513.86
A&G expenses	30.03	49.35	62.53	62.51
R&M expenses	183.90	330.04	205.43	205.35
Interest on Loan Capital	1216.15	1115.16	1105.65	1105.65
Interest on Working Capital	57.97	0.00	59.63	59.04
Finance Charges	1.78	1.16	1.16	1.16
Depreciation	542.93	711.36	793.25	793.25
Gross Expenditure	**2,555.56**	**2,724.52**	**2,741.64**	**2,740.83**
Less: Employee expenses capitalised	103.35	372.09	372.09	372.09
Less: A&G expenses capitalised	5.75	0.00	0.00	0.00
Less: Interest expenses capitalised	536.56	456.94	456.94	456.94
Net Expenditure	**1,909.89**	**1,895.50**	**1,912.62**	**1,911.80**
Bad Debts & Provisions	0.00	(40.68)	0.00	0.00
Prior Period expenses	0.00	(8.70)	0.00	0.00
Net Expenditure with provisions	**1,909.89**	**1,846.11**	**1,912.62**	**1,911.80**
Add: Return on Equity	102.46	0.00	110.97	110.97
Less: Non-Tariff Income	51.87	45.42	45.42	45.42
Aggregate Revenue Requirement	**1,960.48**	**1,800.70**	**1,978.17**	**1,977.35**
Revenue from Operations	1,960.48	1,784.21	1,784.21	1,784.21
Net Gap/(Surplus)	**0.00**	**16.49**	**193.96**	**193.14**

5.8.2 Thus, the net revenue gap for FY 2016-17 approved by the Commission is Rs. 193.14 Crore. The Commission allows UPPTCL to recover the net gap allowed on true up for FY 2016-17 in 4 monthly instalments from the date of this Order in the proportion of amount billed to the Distribution Licensees and other entities in FY 2016-17.

5.9 DERIVATION OF TRANSMISSION TARIFF FOR FY 2016-17

5.9.1 The standalone trued up ARR for FY 2016-17 is Rs. 1,977.35 Crore as against Rs. 1,978.17 Crore claimed by the Petitioner.

5.9.2 The Transmission Tariff for FY 2016-17 is computed as shown in the Table below:

Table 25: TRUED UP TRANSMISSION TARIFF FOR FY 2016-17 (RS. CRORE)

Particulars	Legend	Tariff Order	Actual as per Audited Accounts	True up Petition	Approved upon Truing up
Standalone ARR for FY 2016-17	E	1,960.48	1,800.70	1,978.17	1,977.35
Energy Handled (MU)	G	1,20,813.12	1,01,763.07	1,01,763.07	1,01,763.07
Transmission Tariff (Rs./kWh)	**H=E*10/G**	**0.1623**	**0.1769**	**0.1944**	**0.1943**

6. ANNUAL PERFORMANCE REVIEW (APR) FOR FY 2017-18 AND FY 2018-19 FOR UPPTCL

6.1 ANNUAL PERFORMANCE REVIEW (APR)

6.1.1 Regulation 8.1 of the Transmission MYT Regulations, 2014 specifies that under the MYT framework, the performance of the Transmission Licensee shall be subject to Annual Performance Review (APR) as under:

Quote

Where the aggregate revenue requirement and expected revenue from tariff and charges of a Transmission Licensee are covered under a Multi-Year Tariff framework, such Transmission Licensee shall be subject to an annual review of performance and True Up during the Control Period in accordance with these regulations.

Provided that in case of an excruciating and extra-ordinary circumstance, at any time notwithstanding the Annual Review, the Transmission Licensee may file appropriate application before the Commission.

Unquote

6.1.2 Also, Regulation 8 of the UPERC Multi Year Transmission Tariff Regulations, 2014 provides that the Transmission Licensee shall be subject to an annual review of performance and true up during the Control Period in accordance with the Regulations.

1) Further, Regulation 12.2 & 12.3 of the UPERC Multi Year Distribution Tariff Regulations, 2014 provides that an application for determination of tariff shall be made by November 1. The relevant extract of the same has been quoted below:

Quote

12.2 An application for determination of tariff shall be made by November 1 for the control period, in such form and in such manner as specified in this regulation and the UPERC Conduct of Business, Regulations, 2004 and its subsequent amendments / addendums & the new regulations made after repeal of the same, for whatever not covered under these regulations and accompanied by such fee payable, as specified in the UPERC (Fees and Fines) Regulations, 2010 and its *subsequent amendments / addendums &the new regulations made after repeal of the same.*

....

12.3 The petition for determination of tariff shall be accompanied by information for the previous years, current year and the ensuing year for each year of the transition period / the entire control period capturing the expected revenues from the tariff and charges including miscellaneous charges along with detailed assumptions, parameters required in annual true-up exercise, etc.

Provided that the application shall be accompanied where relevant, by a detailed tariff revision proposal showing how such revision would meet the gap, if any, in Aggregate Revenue Requirement for each year of the transition / control period.

Provided further that the information for the previous year shall be based on audited accounts and in case audited accounts for previous year are not available, audited accounts for the immediately preceding previous year should be filed along with un-audited accounts for the previous year.

Unquote

Also, Regulation 12.2 & 12.3 of the UPERC Multi Year Transmission Tariff Regulations, 2014 provides that an application for determination of Tariff shall be made by November 1.

It can be observed from above that UPERC Multi Year Tariff Regulations, 2014 (for both Discoms and Transco) provides that Licensees are required to file the following by November 1, 2018:

a) True- Up for FY 2017-18 (for NPCL) & True – up for FY 2017-18 (for State Discoms - DVVNL, MVVNL, PVVNL, PuVVNL & KESCO) & True – up for FY 2016-17 State Transmission Licensee (UPPTCL).

b) APR for FY 2018-19 (in case of NPCL) and for State Discoms and State Transmission Licensee APR for FY 2017-18 & FY 2018-19 would be done, whose True-up is lagging by one year.

c) Tariff for FY 2019-20

Reasoning for above inference:

Let's take the case of NPCL and State Discoms, it will be getting its True – Up for FY 2017-18 and Tariff determination for FY 2019-20, so logically APR will be for FY 2018-19. This practice is being followed in other Regulatory Commission's too.

Similarly, for State Transmission Licensee (UPPTCL), the True up will be done for FY 2016-17. Hence, in their case APR data will comprise of FY 2017-18 & FY 2018-19.

It must be noted that in APR, audited data is not necessarily required.

Quote

....

II. Scope of APR

In accordance with the provisions of UPERC MYT Regulations (both for DISCOMs and Transco), the scope of APR can be as follows:

The scope of Annual Performance Review shall be a comparison of the actual performance of the Applicant with the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges and shall comprise of the following: -

a) A comparison of the audited performance of the applicant for the previous financial year with the approved forecast for such previous financial year and truing up of expenses and revenue subject to prudence check including pass through of impact of uncontrollable factors;

b) Categorisation of variations in performance with reference to approved forecast into factors within the control of the applicant (controllable factors) and those caused by factors beyond the control of the applicant (un-controllable factors) in accordance with the provisions of Regulations 9 of UPERC MYT Regulations;

c) Revision of estimates for the ensuing financial year, if required, based on audited financial results for the previous financial year;

d) Computation of sharing of gains and losses on account of controllable factors for the previous year in accordance with the provisions of Regulations 10 of UPERC MYT Regulations;

e) Parameters / targets monitoring by Commission (for example UDAY Scheme and Power for all 24x7, etc.).

Unquote

6.1.3 The Commission under the provisions of Scope of APR has revised the ARR for FY 2017-18 and FY 2018-19 based on the approved capitalisation for FY 2016-17 and revised estimated capitalisation for FY 2017-18 and FY 2018-19. The Commission has computed certain expenses for FY 2017-18 and FY 2018-19 based on the revised GFA for FY 2016-17, FY 2017-18 and FY 2018-19, only to facilitate the computations for FY 2019-20. However, the Commission has not revised any capitalisation for FY 2017-18 and FY 2018-19.

6.1.4 The Commission in this Order has not carried out the detailed analysis of various components of ARR for FY 2017-18 and FY 2018-19. The Commission has carried out comparison of each component of APR as claimed by the Petitioner with that approved vide Tariff Order dated November 30, 2017 for FY 2017-18 and FY 2018-19. The Commission will carry out the detailed prudence check of various components of ARR for FY 2017-18 and FY 2018-19 while carrying out the truing up for FY 2017-18 and FY 2018-19, respectively.

6.2 Operation & Maintenance expenses

6.2.1 Regulation 21 of the Transmission MYT Regulations, 2014 specifies as follows:

Quote

(a) The Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz., employee cost, repairs and maintenance (R&M) expenses and Administrative & General Expense (A&G) expense. Provided that such norms may be specified for a specific Transmission Licensee or a class of Transmission Licensees.

(b) Norms shall be defined in terms of combination of number personal per ckt / km (for different categories of transmission lines for e.g. HVDC, 765 KV, 400 KV, > 66 KV & 400 KV, etc bays) along with annual expenses per personnel for employee expenses; combination of A&G expense per personnel and A&G expense per ckt/km and bay for A&G expenses and R&M expense as percentage of gross fixed assets for estimation of R&M expenses.

(c) One-time expenses such as expenses due to change in accounting policy, arrears paid due to pay commissions etc. shall be executed from the norms in the trajectory.

(d) The expenses beyond the control of the Transmission Licensee such as dearness allowance, terminal benefits etc. in Employee cost etc., shall be executed from the norms in the trajectory.

(e) *The One-time expenses and the expenses beyond the control of the Transmission Licensee shall be allowed by the Commission over and above normative Operation & Maintenance Expenses after prudence check.*

(f) *The norms in the trajectory shall be specified over the control period with due consideration to productivity improvement.*

(g) *The norms shall be determined at constant prices of base year and escalation on account of inflation shall be over and above the baseline.*

(h) *The Transmission Licensee specific trajectory of norms shall be identified by the Commission on the basis of simple average of previous years audited figures, duly normalized for any abnormal variation."*

Unquote

6.2.2 The O&M expenses include Employee expenses, R&M expenses and A&G expenses. In accordance with Regulation 21 of the Transmission MYT Regulations, 2014, the O&M expenses for the first year of the Control Period shall be determined by the Commission taking into account the actual O&M expenses of the previous years and any other factors considered appropriate by the Commission. The submissions of the Petitioner and the Commission's analysis on the O&M expenses for FY 2017-18 and FY 2018-19 are detailed below.

6.3 Employee Expenses

Petitioner's Submissions

6.3.1 The Petitioner has submitted the Employee expenses for FY 2017-18 and FY 2018-19 as per Regulation 25.1 of the Transmission MYT Regulations, 2014 as below: -

Quote

"Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Licensee and one-time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears, Interim Relief etc., governed by the following formula:

*EMPn= (EMPb * CPI inflation) + Provision*

Where:

EMPn: Employee expense for the year n. EMPb: Employee expense as per the norm CPI inflation: is the average increase in the Consumer Price Index (CPI) for immediately preceding three financial years. Provision: Provision for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above."

Unquote

6.3.2 The Commission has already approved employee expense norms for transmission lines and bays for the MYT period in the Tariff Order dated November 30, 2017 for computation of normative employee expenses.

6.3.3 The employee expenses capitalised for FY 2017-18 has been considered as per provisional accounts of FY 2017-18, whereas for FY 2018-19 the same rate has been considered as per the audited annual accounts of FY 2016-17. The Petitioner, in its Petition, has proposed the employee expenses for FY 2017-18 & FY 2018-19 as Rs. 879.12 Crore and Rs. 956.14 Crore respectively as per the Transmission MYT Regulations, 2014.

6.3.4 The Petitioner submitted that UPPTCL has considered the 7th Pay Commission arrears towards the pay revision impact of 15 %, and the Petitioner reserves the right to claim any deviation in the employee expenses on account of any "recovery/adjustment of terminal benefits, implications of pay commission, arrears, Interim Relief etc." at the stage of truing up.

Commission's Ruling

6.3.5 The Commission had approved the gross employee expenses of Rs. 919.94 Crore for FY 2017-18 and Rs. 782.09 Crore for FY 2018-19 respectively in the Tariff Order.

Table 26: EMPLOYEE EXPENSE OF FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Norms per ckt km (Rs. Crore)	0.0048	0.0048	0.0053	0.0048
Line Length (ckt km)	44,618.41	36,213.94	38,887.28	40,936.80
Employee Expenses (ckt km) (Rs. Crore)	215.77	175.13	204.60	197.97
Norms per Bay (Rs. Crore)	0.1667	0.1667	0.1814	0.1667
Number of Bays (nos.)	3,955	4,039	4,032	4,364
Employee Expenses (Bays) (Rs. Crore)	659.43	673.44	731.43	727.62
Add: Arrears (Rs. Crore)	44.74	30.55	41.59	30.55

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Total Employee Expense (Rs. Crore)	919.94	879.12	977.61	956.14
Less: 20% Disallowance	-	-	195.52	-
Employee Expense after Disallowance	-	-	782.09	956.14
Less: Employee Expense Capitalization (Rs. Crore)	230.03	314.30	327.63	687.54
Net Employee Expense (Rs. Crore)	**689.91**	**564.81**	**454.46**	**268.60**

6.3.6 The Commission observes that for FY2017-18, the decrease in the employee cost of Petitioner as compared to employee expenses approved in the Tariff Order is because of the reduced line length (ckt kms) claimed in the Petition.

6.3.7 For FY 2018-19, the Petitioner has claimed the lower value of the Norms for per ckt km (Rs. Crore) and Norms for per Bay (Crore) as compared to the Norms approved in the Tariff Order. The claimed gross employee expense is on higher side because of the 20% disallowance of the employee expense in Tariff Order of FY 2018-19 dated January 08, 2019. The Commission also observes that the Petitioner has increased the employee expense capitalization in both the years as compared to approved employee expense capitalization in the respective year Tariff Orders.

6.4 Administrative and General Expenses

Petitioner's Submissions

6.4.1 The Petitioner has submitted the A&G expenses of Rs. 32.43 Crore for FY 2017-18 and Rs. 34.85 Crore for FY 2018-19 as per the Regulation 21.3 of the Transmission MYT Regulations, 2014 as below: -

Quote

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI) and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Transmission Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

*A&Gn= (A&Gb * WPI inflation) + Provision*

Where:

A&Gn: A&G expense for the year n A&Gb: A&G expense as per the norm WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three financial years Provision: Cost for initiatives or other one-time expenses as proposed by the Transmission Licensee and validated by the Commission."

Unquote

6.4.2 The Petitioner submitted that A&G expenses have been claimed for the FY 2017-18 and FY 2018-19 in the Petition based on the same norms as approved by the Commission for FY 2017-18 and FY 2018-19 in the Tariff Order dated November 30, 2018 and January 08, 2019, respectively.

Commission's Ruling

6.4.3 The Commission approved A&G expense norms for transmission lines and bays in the said Tariff Order for computation of normative A&G expenses. The approved figures of A&G expenses in MYT Order and claimed by Petitioner are as follows:

Table 27: ADMINISTRATIVE & GENERAL EXPENSES OF FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Norms per ckt km (Rs. Crore)	0.0002	0.0002	0.0002	0.0002
Line Length (ckt km)	44,618.41	36,213.94	38,887.28	40,936.80
A&G Expenses for Transmission Lines (Rs. Crore)	9.30	7.55	8.47	8.53
Norms per Bay (Rs. Crore)	0.0048	0.0048	0.0050	0.0048
Number of Bays (nos.)	3,955.00	4,039.00	4,032.00	4,364.00
A&G Expenses for Bays (Rs. Crore)	18.91	19.31	20.14	20.87
Norms per Employee (Rs. Crore)	0.0009	0.0009	0.0009	0.0009
Number of Employees (nos.)	6,411	6,372	6,718	6,236
A&G Expenses for Employees (Rs. Crore)	5.60	5.57	6.13	5.45
Total A&G Expense (Crore)	33.81	32.43	34.73	34.85
Less 20% Disallowance	-	-	6.95	-
A&G Expenses after Disallowance (Rs. Crore)	-	-	27.79	34.85
Less A&G Expense Capitalized (Crore)	6.85	-	-	-
Net A&G Expense (Crore)	**26.96**	**32.43**	**27.79**	**34.85**

6.4.4 The Commission analysed that for FY 2017-18, the Petitioner has not claimed the A&G expense capitalization, which is the main cause for the increase in Net A&G Expenses. However, there is reduction in the claimed Line Length (ckt kms) as compared to value approved in the Tariff Order. Further, in FY 2018-19 the net claimed A&G expense is more as compared to net A&G expense approved in Tariff Order because of the disallowance of 20% of A&G expense by the Commission in Tariff Order dated January 08, 2019.

6.5 R&M Expenses

Petitioner's Submissions

6.5.1 The Petitioner submitted the R&M expenses for FY 2017-18 and FY 2018-19 as per the Regulation 21.2 of the Transmission MYT Regulations, 2014 as below: -

Quote

Repairs and Maintenance expense shall be calculated as percentage (as per the norm defined) of Average Gross Fixed Assets for the year governed by following formula:

*R&Mn = Kb * GFAn*

Where:

R&Mn: Repairs & Maintenance expense for nth year GFAn: Average Gross Fixed Assets for nth year Kb: Percentage point as per the norm.

Unquote

6.5.2 As per the Transmission MYT Regulations, 2014, the R&M expenses for any year of the MYT period are a percentage or fraction of the average GFA base of that year. The 'K_b' factor has already been approved by the Commission for FY 2017-18 as 1.68% and for FY 2018-19 as 1.75% in the Tariff Orders dated November 31, 2017 and January 08, 2019, respectively.

Table 28: REPAIR & MAINTENANCE EXPENSES OF FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Average GFA (Rs. Crore)	18475.35	20,208.19	20616.74	23,541.41
K_b - Factor (%)	1.68%	1.68%	1.75%	1.68%
R&M Expense (Crore)	**310.12**	**339.21**	**361.49**	**395.16**
Less: 20% Disallowance	-	-	72.30	-
R&M Expenses after Deduction (Rs. Crore)	-	-	**289.19**	**395.16**

Commission's Ruling

6.5.3 The Commission observes that there is increase in claimed amount of average GFA, resulting in increase in R&M Expenses. Further, in FY 2018-19 there was a disallowance of 20% in R&M expense as approved in Tariff Order dated January 08,2019.

6.6 Operation and Maintenance Expenses for FY 2017-18 & FY 2018-19

Petitioner's Submissions

6.6.1 The O&M expenses for FY 2017-18 and FY 2018-19 as submitted by Petitioner and approved in Tariff Order are depicted in the Table below:

Table 29: O&M EXPENSES FOR FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Gross Employee Expenses	919.94	879.12	782.09	956.14
Employee Expenses capitalized	230.03	314.30	327.63	687.54
Net Employee Expenses	689.91	564.81	454.46	268.60
Gross A&G Expenses	33.81	32.43	27.79	34.85
A&G Expenses capitalized	6.85	0.00	0.00	0.00
Net A&G Expenses	26.96	32.43	27.79	34.85
R&M Expenses	310.12	339.21	289.19	395.16
Total O&M Expenses	**1,026.99**	**936.44**	**771.44**	**698.61**

Commission's Ruling

6.6.2 The overall O&M expenses claimed by the Petitioner have decreased as compared to the O&M expenses approved in Tariff Order dated November 30, 2017 for the FY 2017-18 & approved in Tariff Order dated January 08, 2019 for FY 2018-19. Each element of O&M expense has already been discussed previously.

6.7 Gross Fixed Assets Balances and Capital Formation

Petitioner's Submissions

6.7.1 The Petitioner has made the following assumptions for projecting GFA and CWIP:

- Considering the CWIP and GFA balances as per provisional accounts for FY 2017-18, the Petitioner has derived the capital investments undertaken by it in FY 2017-18.
- The capital investment for FY 2017-18 and FY 2018-19 has been estimated as per the Table below:

Table 30: CAPITAL INVESTMENT FOR FY 2017-18 and FY 2018-19 (RS. CRORE)

Financing	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Grant or Consumer Contribution	100.00	205.43	205.43	289.94
Debt	4,209.10	2,254.49	2,000.70	2090.60
Equity	1,803.90	966.21	857.44	895.97
Total Investment	**6,113.00**	**3,426.13**	**3,063.57**	**3,276.50**

- The Petitioner has made Investment through "deposit work" and the same has been taken for capital formation. The total Consumer Contribution considered towards the capital formation in FY 2017-18 is as per provisional accounts, i.e., Rs. 205.43 Crore, whereas in FY 2018-19 it has been considered as Rs. 289.94 Crore.
- The procedure prescribed by the Transmission MYT Regulations, 2014 towards claiming the capital investment plan has been strictly complied with in the current Petition.
- The capital investment plan (net of deposit works) has been projected to be funded in the ratio of 70 : 30 (debt to equity).

6.7.2 The projected capital formation and capital work in progress for FY 2017-18 and FY 2018-19 are presented below:

Table 31: CLAIMED and TARIFF ORDER FIGURES OF CAPITALISATION and CWIP DURING FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	Derivation	FY 2017-18		FY 2018-19	
		Tariff Order	Claimed	Tariff Order	Claimed
Opening CWIP as on 1st April	A	9,703.83	6,897.76	8,617.37	7,139.59
Investments	B	6,113.00	3,561.20	3,063.57	3,276.50
Employee Expenses Capitalisation*	C	230.03	314.30	409.53	687.54

Particulars	Derivation	FY 2017-18		FY 2018-19	
		Tariff Order	Claimed	Tariff Order	Claimed
A&G Expenses Capitalisation	D	6.85	0.00	0.00	0.00
Interest Capitalisation on Interest on long term loans	E	863.32	295.08	631.65	758.64
Total Investments	F= A+B+C+D+E	**16,917.03**	**11,068.34**	**12,722.12**	**11,862.26**
Transferred to GFA (Total Capitalisation)	G	4,449.23	3,928.76	3,180.53	2,965.57
Closing CWIP	H= F-G	**12,467.80**	**7,139.59**	**9,541.59**	**8,896.70**

* The % of Employee expense capitalisation of gross Employee expense is 25% approved in Tariff Order; 36% claimed in APR of FY 2017-18; 42% approved in Tariff Order; and 72% claimed in APR of FY 2018-19. Also, the % of A&G expense capitalisation of gross A&G expense is 20% approved in Tariff Order of FY 2017-18.

Commission's Ruling

6.7.3 The Commission observed that the Petitioner has considered the normative closing GFA for FY 2016-17 as the opening GFA for FY 2017-18 and closing GFA for FY 2017-18 as the opening GFA balance for FY 2018-19, which is the main reason for the difference in the claimed figure of the Petitioner against the numbers approved in last year's Tariff Order.

6.8 Depreciation

Petitioner's Submissions

6.8.1 Regulation 22 of the Transmission MYT Regulations, 2014 specifies as follows:

Quote

22 Treatment of Depreciation:

a) Depreciation shall be calculated for each year of the control period on the written down value of the fixed assets of the corresponding year.

b) Depreciation shall not be allowed on assets funded by consumer contributions or subsidies / grants.

c) Depreciation shall be calculated annually on the basis of rates as detailed in Annexure-C or as maybe notified by the Commission vide a separate order.

d) The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset. Provided the

Land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.

e) Depreciation shall be charged from the first year of operation of the asset. Provided that in case of operation of the asset is for the part of the year, depreciation shall be charged on proportionate basis.

f) Provision of replacement of assets shall be made in capital investment plan.

Unquote

6.8.2 The Petitioner has considered the same approach while claiming the allowable depreciation for FY 2017-18 and FY 2018-19, which Commission has already approved in the MYT Tariff Order. Further, the Petitioner has considered the normative closing GFA for FY 2016-17 as the opening GFA balance for FY 2017-18 and normative closing GFA for FY 2017-18 as the opening GFA balance for FY 2018-19 while computing the allowable depreciation. The detailed computation is provided below:

Table 32: GROSS ALLOWABLE DEPRECIATION CLAIMED FOR FY 2017-18 (RS. CRORE)

Depreciable Assets	Opening GFA as on 1.4.2017 (Depreciable Assets)	Cumulative Depreciation up-to 31.3.2017	Written Down Opening	Net Addition (Depreciable Assets)	Closing GFA as on 31.3.2018 (Depreciable Assets)	Rate of Depreciation (%)	Allowable Depreciation
Buildings	809.48	185.71	623.76	84.35	893.83	3.02%	20.11
Other Civil Works	82.09	18.83	63.26	2.48	84.57	3.02%	1.95
Plant & Machinery	9,915.27	2,274.81	7,640.76	1,374.19	11,289.46	7.81%	650.38
Lines, Cables, Network etc.	7,363.42	1,689.35	5,674.07	2,233.57	9,596.98	5.27%	357.88
Vehicles	3.38	0.78	2.61	-0.01	3.38	12.77%	0.33
Furniture & Fixtures	6.12	1.40	4.71	0.58	6.69	12.77%	0.64
Office Equipment	7.14	1.64	5.50	0.64	7.78	12.77%	0.74
Intangible Assets	1.96	0.45	1.51	2.31	4.27	15.00%	0.40
Other assets	93.24	21.39	71.85	1.68	94.92	12.77%	9.28
Total	**18,282.09**	**4,194.36**	**14,087.73**	**3,699.78**	**21,981.88**	**6.54%**	**1,041.72**

Table 33: GROSS ALLOWABLE DEPRECIATION CLAIMED FOR FY 2018-19 (RS. CRORE)

Depreciable Assets	Opening GFA as on 1.4.2018 (Depreciable Assets)	Cumulative Depreciation up-to 31.3.2017	Written Down Opening	Net Addition (Depreciable Assets)	Closing GFA as on 31.3.2018 (Depreciable Assets)	Rate of Depreciation (%)	Allowable Depreciation
Buildings	893.83	210.86	682.96	120.17	1,013.99	3.02%	22.44
Other Civil Works	84.57	19.95	64.62	11.37	95.94	3.02%	2.12
Plant & Machinery	11,289.46	2,663.30	8,626.15	1,517.76	12,807.21	7.81%	732.97
Lines, Cables, Network etc.	9,596.98	2,264.03	7,332.95	1,290.22	10,887.20	5.27%	420.44
Vehicles	3.38	0.80	2.58	0.45	3.83	12.77%	0.36
Furniture & Fixtures	6.69	1.58	5.11	0.90	7.59	12.77%	0.71
Office Equipment	7.78	1.84	5.94	1.05	8.83	12.77%	0.83
Intangible Assets	4.27	1.01	3.26	0.00	4.27	15.00%	0.49
Other assets	94.92	22.39	72.53	13.33	108.25	12.77%	10.11
Total	**21,981.88**	**5,185.76**	**16,796.12**	**2,955.25**	**24,937.12**	**6.51%**	**1,190.48**

6.8.3 The Petitioner further submitted that due to change in the UPPTCL's accounting policy from FY 2016-17 onwards, the amount of depreciation charged on assets created out of Consumer Contributions, capital grants and subsidies is booked under the Other Income, hence, the same is considered as a part of the Other Income for FY 2017-18 and FY 2018-19 also. However, the Petitioner submitted that as per Commission Order Dated January 08, 2019 the net depreciation has been claimed after deducting the equivalent amount of depreciation on assets acquired out of the consumer contribution, i.e., by deducting Rs. 50.32 Crore in FY 2017-18 and Rs. 61.07 crore in FY 2018-19. The Petitioner has claimed the net allowable depreciation amount of Rs. 991.40 Crore for FY 2017-18 and Rs. 1,129.40 Crore for FY 2018-19.

Commission's Ruling

6.8.4 The Commission has carried out comparison of each component of APR as claimed by the Petitioner with that approved vide Tariff Order dated November

30, 2017 for FY 2017-18 and January 08, 2019 for FY 2018-19. The Commission will carry out the detailed prudence check of various components of ARR for FY 2017-18 and FY 2018-19 while carrying out the truing up for FY 2017-18 & FY 2018-19. However, the licensee is required to make submission strictly as per Regulations & MYT Tariff Order to maintain the sanctity of Regulatory accounting.

6.8.5 The GFA projected for FY 2017-18 and FY 2018-19 are as shown under:

Table 34: PROJECTIONS & COMMISSION APPROVED FIGURES OF GROSS FIXED ASSETS FOR FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	Derivation	FY 2017-18		FY 2018-19	
		Tariff Order	Claimed	Tariff Order	Claimed
Opening GFA	A	16,250.73	18,357.75	19,047.08	22,058.63
Net Addition to GFA during the year	B	4,449.23	3,700.88	3,139.32	2,965.57
Closing GFA	**D=A+B-C**	**20,699.97**	**22,058.63**	**22,186.40**	**25,024.19**

6.8.6 The Commission has approved the following Depreciation on the assets listed below:

Table 35: CLAIMED & APPROVED IN TARIFF ORDER GROSS BLOCK & GFA FOR FY 2017-18 (RS. CRORE)

Particulars	Tariff Order		Claimed	
	Opening GFA as on 31.3.2017	Net Additions GFA	Opening GFA as on 1.4.2017	Net Additions GFA
Land & Land Rights				
(i) Unclassified	50.31	13.77	-	-
(ii) Freehold Land	0.07	0.02	-	-
Buildings	769.30	210.63	809.48	84.35
Other Civil Works	86.40	23.66	82.09	2.48
Plant & Machinery	8,607.11	2,356.51	9,915.27	1,374.19
Lines, Cables, Network etc.	6,603.36	1,807.91	7,363.42	2,233.57
Vehicles	4.33	1.19	3.38	-0.01
Furniture & Fixtures	5.30	1.45	6.12	0.58
Office Equipment's	9.51	2.60	7.14	0.64
Other assets	112.65	30.84	93.24	1.68
intangible assets	2.39	0.65	1.96	2.31

Particulars	Tariff Order		Claimed	
	Opening GFA as on 31.3.2017	Net Additions GFA	Opening GFA as on 1.4.2017	Net Additions GFA
Total Fixed Assets	**16,250.73**	**4,449.23**	**18,282.09**	**3,699.78**
Non-depreciable assets (Land & Land Rights)	50.38	13.79	-	-
Total Depreciable assets	**16,200.35**	**4,435.44**	**18,282.09**	**3,699.78**

Table 36: CLAIMED & APPROVED IN TARIFF ORDER GROSS BLOCK & GFA FOR FY 2018-19 (RS. CRORE)

Particulars	Tariff Order		Claimed	
	Opening GFA as on 31.3.2018	Net Additions GFA	Opening GFA as on 1.4.2018	Net Additions GFA
Land & Land Rights				
(i) Unclassified	60.78	10.91	-	-
(ii) Freehold Land	0.08		-	-
Buildings	899.65	127.21	893.83	120.17
Other Civil Works	100.44	12.04	84.57	11.37
Plant & Machinery	10,042.13	1,606.69	11,289.46	1,517.76
Lines, Cables, Network etc.	7,800.31	1,365.81	9,596.98	1,290.22
Vehicles	4.81	0.48	3.38	0.45
Furniture & Fixtures	6.00	0.95	6.69	0.90
Office Equipment's	8.65	1.11	7.78	1.05
Other assets	124.22	14.12	94.92	13.33
intangible assets	0.00	0.00	4.27	0.00
Total Fixed Assets	**19,047.08**	**3,139.32**	**21,981.88**	**2,955.25**
Non-depreciable assets (Land & Land Rights)	60.86	10.91	-	-
Total Depreciable assets	**18,986.22**	**3,128.41**	**21,981.88**	**2,955.25**

Table 37: GROSS AND NET ALLOWABLE DEPRECIATION APPROVED IN TARIFF ORDER WITH CLAIMED FIGURES FOR FY 2017-18 and FY 2018-19 (RS CRORE)

Depreciation MYT Period (WDV)	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Buildings	20.65	20.11	22.75	22.44
Other Civil Works	2.32	1.95	2.51	2.12
Plant & Machinery	597.44	650.38	637.17	732.97

Depreciation MYT Period (WDV)	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Lines, Cables, Network etc.	309.29	357.88	344.51	420.44
Vehicles	0.49	0.33	0.46	0.36
Furniture & Fixtures	0.60	0.64	0.59	0.71
Office Equipment	1.08	0.74	0.84	0.83
Other assets	12.78	9.28	11.96	10.11
intangible assets	0.32	0.40	0.00	0.49
Gross Allowable Depreciation	**944.97**	**1,041.72**	**1,020.79**	**1,190.48**
Less: Consumer Contribution	35.26	50.32	52.29	61.07
Net Depreciation	**909.71**	**991.40**	**968.50**	**1,129.40**

6.8.7 There is difference in the Gross Allowable Depreciation in the Petitioner's claim of Rs. 1,041.72 Crore as compared to Rs. 944.97 Crore approved in the Tariff Order of FY 2017-18 dated November 30, 2018 and Rs. 1,190.48 Crore as compared to Rs. 1,020.79 Crore approved in the Tariff Order of FY 2018-19 dated January 08, 2019. This difference is because of the net addition in the GFA in FY 2016-17. The same has already been discussed in the previous Section.

6.9 Financing of Capital Investment

Petitioner's Submissions

6.9.1 The total Consumer Contribution considered towards the capital formation in FY 2017-18 is as per provisional accounts, i.e., Rs. 205.43 Crore. The total Consumer Contribution considered towards the capital formation in FY 2018-19 is projected as Rs. 289.94 Crore. The Petitioner has considered the same normative approach, which Commission has discussed in the Tariff Order of FY 2017-18 and FY 2018-19 in which 70% of the capital expenditure undertaken in any year has been considered to be financed through loan, and balance 30% has been considered to be financed through equity contributions. The portion of capital expenditure financed through Consumer Contribution, capital subsidies and grants has been separated as the depreciation and interest thereon would not be charged to the beneficiaries.

6.9.2 The Table below summarises the amounts considered towards Consumer Contributions, capital grants and subsidies for FY 2017-18 and FY 2018-19 by the Petitioner and considered by the Commission in the Tariff Order:

Table 38: CONSUMER CONTRIBUTION, CAPITAL GRANTS and SUBSIDIES CONSIDERED (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Opening Balance of Consumer Contributions, Grants and Subsidies towards Cost of Capital Assets	666.33	657.33	697.34	812.44
Additions during the year	100.00	205.43	205.43	289.94
Less: Deductions	38.58	50.32	52.29	61.53
Closing Balance	**727.75**	**812.44**	**850.48**	**1,040.85**

Thus, the financing of the capital investment is depicted in the Table below:

Table 39: FINANCING OF THE CAPITAL INVESTMENT FOR FY 2017-18 and FY 2018-19 (RS. CRORE)

Particulars	Derivation	FY 2017-18		FY 2018-19	
		Tariff Order	Claimed	Tariff Order	Claimed
Investment	A	6,113.00	3,561.20	3,063.57	2,293.54
Less:					
Consumer Contribution	B	100.00	205.43	205.43	202.96
Investment funded by debt and equity	C=A-B	6,013.00	3,355.77	2,858.14	2,090.59
Debt Funded	70%	4,209.10	2,349.04	2,000.70	1,463.41
Equity Funded	30%	1,803.90	1,006.73	857.44	627.18

6.9.3 The Petitioner submitted that out of the capital investment of Rs. 3,561.20 Crore in FY 2017-18 and Rs. 2,293.54 Crore in FY 2018-19, the Capital investment through deposit works has been considered as Rs. 205.43 Crore in FY 2017-18 and Rs. 202.96 Crore in FY 2018-19. The balance amount of investments is considered to be funded through debt and equity. The debt equity ratio considered for the period is 70 : 30. The Petitioner submitted that the capital expenditure in FY 2017-18 and FY 2018-19 is towards new and ongoing works of sub-stations and transmission lines, augmentation schemes and power evacuation schemes.

Commission's Ruling

6.9.4 The Commission had approved the Consumer Contributions, capital subsidies and grants to the tune of Rs. 100.00 Crore for FY 2017-18 in MYT Order dated

November 30, 2017 and Rs. 205.43 Crore for FY 2018-19 in Tariff Order dated January 08, 2019. The balance amount has been considered to be funded through debt and equity considering a debt equity ratio of 70 : 30.

6.10 Prior period Expenses

Petitioner's Submissions

6.10.1 The Petitioner has submitted that it has identified and accounted for certain prior period expense of FY 2017-18. There has been recognition of net prior period expenses of Rs. 1.38 Crore. However, Petitioner has not claimed any prior period expense for FY 2018-19.

Commission's Ruling

6.10.2 Prior period expenses and incomes are the outcomes / errors in the recording the transactions in the accounting statements. The items booked under the prior period expenses are essentially ARR items like O&M expenses, interest and finance charges, etc. However, the Commission also observed that there was no amount had been approved under the head of prior period expenses in the last year MYT Order dated November 30, 2017 and Tariff Order of FY 2018-19 dated January 08, 2019.

6.11 Interest on Long-Term Loans

Petitioner's Submissions

6.11.1 The Petitioner has considered allowable depreciation for the year as normative loan repayment. The weighted average rate of interest of overall long-term loan portfolio for FY 2017-18 and FY 2018-19 has been considered. The interest capitalisation has been considered for FY 2017-18 as per the provisional accounts and for FY 2018-19 it has been considered at a rate of 59.40%. The computation of interest on long-term loan by the Petitioner for APR of FY 2017-18 and FY 2018-19 and that considered by Commission in the Tariff Order are depicted below:

Table 40: INTEREST ON LONG-TERM LOANS FOR FY 2017-18 & FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Opening Loan	9,977.52	9,605.63	9701.14	10963.27
Loan Additions (70% of Investments)	4,209.10	2,349.04	2000.70	2090.59
Less: Repayments (Depreciation allowable for the year)	909.71	991.40	968.50	1129.40

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Closing Loan Balance	13,276.91	10,963.27	10733.33	11924.46
Weighted Average Rate of Interest (%)	12.50%	11.16%	11.16%	11.16%
Interest on long term loan	**1,453.40**	**1,147.85**	**1140.35**	**1277.25**
Interest Capitalisation Rate (%)	59.40%	25.71%	48.12%	59.40%
Less: Interest Capitalized	863.32	295.08	631.65	758.63
Net Interest Charged	**590.08**	**852.77**	**508.70**	**518.62**

Commission's Ruling

6.11.2 The Commission has considered the normative approach with debt: equity ratio of 70 : 30 specified in the Transmission MYT Regulations, 2014. The portion of capital expenditure financed through Consumer Contributions and grants has been separated as the depreciation thereon would not be charged to the consumers. Further, the allowable depreciation for the year has been considered for normative loan repayment.

6.12 Finance Charges

Petitioner's Submissions

6.12.1 The Petitioner has claimed the finance charges towards expenses such as guarantee fees and bank charges to the tune of Rs. 0.52 Crore in FY 2017-18 as per the provisional accounts for FY 2017-18. Further, the same have been computed as Rs. 0.54 crore for FY 2018-19 by extrapolating the guarantee fees and bank charges derived for FY 2017-18 with an Inflation Index of 3.91%.

Commission's Ruling

6.12.2 The Commission has allowed finance charges to the tune of Rs. 1.35 Crore for FY 2017-18 in the Tariff Order. The same has been computed by extrapolating the finance charges incurred in FY 2015-16 as per the audited accounts and using the inflation indices approved for the further years. In Tariff Order of FY 2018-19 dated January 08, 2019, the Commission has approved the finance charges to the tune of Rs. 0.54 Crore.

6.13 Interest on Working Capital

Petitioner's Submissions

6.13.1 The Transmission MYT Regulations, 2014 provides for normative interest on working Capital based on the methodology outlined in the Regulations. The interest on working capital has been computed based on the methodology specified in Regulation 24 as provided below:

Quote

The Transmission Licensee shall be allowed interest on estimated level of working capital for the financial year, computed as follows:

a) O&M expenses for one month.

b) Two months equivalent of expected revenue.

c) Maintenance spares @ 40% of R&M expenses for two month.

Less:

Security deposits from consumers, if any-

Provided that the interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission:

Unquote

6.13.2 In accordance with the Transmission MYT Regulations, 2014, the interest on the working capital requirement is considered at the current State Bank Advance Rate, i.e., 14.05%. The Petitioner submitted the interest on working capital, claimed in accordance with the Transmission MYT Regulations, 2014, as follows:

Table 41: INTEREST ON WORKING CAPITAL FOR FY 2017-18 & FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
One Month of O&M Expenses	85.58	78.04	80.36	58.22
Maintenance spares @ 40% of R&M expenses for two months	20.67	22.61	27.62	26.34
Receivable equivalent to 60 days average billing of consumers	446.35	489.03	397.64	418.91
Less: Security deposits from consumers	-	-		

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Total Working Capital Requirement	**552.60**	**589.68**	**505.62**	**503.47**
Interest rate (%)	14.05%	14.05%	14.05%	14.05%
Interest on working capital	**77.64**	**82.85**	**71.04**	**70.74**

Commission's Ruling

6.13.3 The Commission directed in the Tariff Order that in accordance with the Transmission MYT Regulations, 2014, the interest on working capital requirement shall be computed on normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which Petition for determination of Tariff is accepted by the Commission via Admittance Order dated September 2017 for FY 2017-18 and dated November 13, 2018 for FY 2018-19. Accordingly, the Commission has considered the interest rate on working capital requirement at 14.05%.

6.14 Other Income

6.14.1 Other Income includes only Non-Tariff Income, which comprises interest on loans and advances to employees, income from fixed rate investment deposits and interest on loans and advances to staff.

6.14.2 The Commission had approved the Non-Tariff Income of Rs. 52.73 Crore for FY 2017-18 in the Tariff Order of FY 2017-18 dated November 30, 2017 and Rs. 72.55 Crore for FY 2018-19 in the Tariff Order of FY 2018-19 dated January 08, 2019.

The Petitioner has submitted that the actual Non-Tariff income as per the annual accounts of FY 2017-18 is Rs. 120.15 Crore, which includes the income from Consumer Contribution to the tune of Rs. 50.32 Crore. Thus, the Non-Tariff income claimed for FY 2017-18 is Rs. 69.83 Crore as the amount of income from Consumer Contribution is already deducted from the gross deprecation. Similarly, the Non-Tariff Income for FY 2018-19 is claimed as Rs. 63.77 Crore. The same has been projected after deducting the equivalent amount of income from Consumer Contribution from the total Non-Tariff income.

6.15 Return on Equity

Petitioner's Submissions

6.15.1 Under provisions of the Transmission MYT Regulations, the Petitioner is eligible to a return of @ 15.5% on equity base; for equity base calculation Debt : Equity ratio shall be 70 : 30. Where equity involved is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%. Equity amounting to more than 30% shall be considered as loan. In case of actual equity employed being less than 30%, actual debt and equity shall be considered for determination of tariff.

6.15.2 In the Petition, the Petitioner submitted that the return on equity has been computed as per methodology adopted by Commission in the previous Tariff Orders.

6.15.3 In view of the huge gap in the recovery of cost of supply at the Discom's level, the Petitioner is of the view that return on equity would only result in increase in arrears and accumulation of receivables. As such, the Petitioner has been claiming the return on equity @ 2% since FY 2009-10 onwards. Return on equity has been computed on the normative equity portion (30%) of capitalised assets.

6.15.4 The Petitioner has claimed the eligible return on equity by considering the opening level of equity for FY 2015-16 based on the closing regulatory equity as per UPERC's Tariff Order dated January 08, 2019 and the closing equity balance provided in the True-up petition of FY 2016-17. Subsequently, it has considered the yearly normative equity based on the capital additions for FY 2017-18 depicted in aforementioned sections. Thus, the claimed return on equity for FY 2017-18 is Rs. 138.65 Crore and for FY 2018-19 is Rs. 159.34 Crore as shown in the Table below:

Table 42: RETURN ON EQUITY FOR FY 2017-18 & FY 2018-19 (RS. CRORE)

Particulars	Derivation	FY 2017-18		FY 2018-19	
		Tariff Order	Claimed	Tariff Order	Claimed
Equity at the beginning of the year	A	5,584.77	6,343.40	6,431.26	7,522.02
Assets Capitalised	B	4,449.23	3,928.76	3,180.53	2,965.56
Addition to Equity	C = 30% of B	1,334.77	1,178.63	954.16	889.67
Closing Equity	D = A + C	6,919.54	7,522.03	7,385.42	8,411.69
Average Equity	E = Average of A & D	6,252.16	6,932.72	6,908.34	7,966.85
Rate of Return (%)	F	2.00%	2.00%	2.00%	2.00%

Particulars	Derivation	FY 2017-18		FY 2018-19	
		Tariff Order	Claimed	Tariff Order	Claimed
Return on Equity	G = E x F	125.04	138.65	138.17	159.34

Commission's Ruling

6.15.5 The Commission analysed that the increase in claimed amount of the Return on Equity by the Petitioner is because of the increase in the equity at the beginning of the year and the addition in the equity.

6.16 Service Tax / GST

6.16.1 Regulation 27 of the Transmission MYT Regulations, 2014 provides as under:

Quote

27. Income Tax-

Income Tax if any on the Licensed business of the Transmission Licensee shall be treated as expense and shall be recoverable from consumers through tariff. However, tax on any income other than its licensed business shall not be a pass through, and it shall be payable by the Transmission Licensee itself.

The income tax actually payable or paid shall be included in the ARR. The actual assessment of income tax should take into account benefits or tax holiday, and the credit for carry forward losses applicable as per the provisions of the Income Tax Act, 1961 shall be passed on to the consumers.

Unquote

Petitioner's Submissions

6.16.2 The Petitioner has submitted that Service Tax / GST liability is imposed on the service provider, which would be UPPTCL in this case. Service Tax / GST would be chargeable on actual energy wheeled during a financial year and at the rates notified and amended by the Govt. from time to time. The Petitioner sought allowance of such statutory liability on the service provider UPPTCL as pass through in Tariff. Also, such liability may be imposed on UPPTCL retrospectively like it was done in the case of PGCIL. In such an event, the Petitioner would approach the Commission for allowance of such liability in its APR accordingly.

Commission's Ruling

6.16.3 The Commission has not approved any figures in the Tariff Order for FY 2017-18 and FY 2018-19 related to Service Tax / GST and stated that the Petitioner has not proposed any expenses on this account in the ARR for the MYT Period. Hence, the same has not been considered in the Tariff Order. The Commission shall take an appropriate view based on the merits of the specific submissions of the Petitioner in this regard in terms of Transmission MYT Regulations, 2014.

6.16.4 The revised ARR for FY 2017-18 and FY 2018-19 under the Annual Performance Review with the approved figures of ARR in the respective Tariff Orders are summarized in the Table below:

Table 43: ANNUAL REVENUE REQUIREMENT FOR FY 2017-18 & FY 2018-19 (RS. CRORE)

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Gross O&M expenses	**1,263.87**	**1,250.75**	**1,099.06**	**1,386.14**
Employee cost	919.94	879.12	782.09	956.14
A&G expenses	33.81	32.43	27.79	34.85
R&M expenses	310.12	339.21	289.19	395.16
Interest on Loan Capital	1,453.40	1,147.85	1,140.35	1,277.25
Interest on Working Capital	77.64	82.85	71.04	70.74
Finance Charges	1.35	0.52	0.54	0.54
Depreciation	909.71	991.40	968.50	1,129.40
Gross Expenditure	**3,705.97**	**3,473.36**	**3,279.49**	**3,864.07**
Less: Employee cost capitalized	230.03	314.30	327.63	687.54
Less: A&G Capitalisation	6.85	0.00	-	-
Less: Interest Capitalisation	863.32	295.08	631.65	758.63
Net Expenditure	**2,605.77**	**2,863.98**	**2,320.21**	**2,417.90**
Provision for Bad & Doubtful debts	0.00	0.00	0.00	0.00
Prior Period Items, Debits, write-offs & other expenses	0.00	1.38	0.00	0.00
Net Expenditure with provisions	2,605.77	2,865.35	**2,320.21**	**2,417.90**
Add: Return on Equity	125.04	138.65	138.17	159.34
Less: Non-Tariff Income	52.73	69.83	72.55	63.77

Particulars	FY 2017-18		FY 2018-19	
	Tariff Order	Claimed	Tariff Order	Claimed
Aggregate Revenue Requirement (ARR)	**2,678.08**	**2,934.18**	**2,385.83**	**2,513.47**
Revenue from Operations (Actual/Anticipated)	**2,678.08**	**2,069.38**	**2,385.83**	**2,513.47**
Net Gap / (Surplus) (Anticipated)	**0.00**	**864.79**	**0.00**	**0.00**

6.16.5 The revised ARR for FY 2017-18 as estimated by the Petitioner is Rs. 2,934.18 Crore as against Rs. 2,678.08 Crore approved in the Tariff Order dated November 30, 2017. The revised ARR for FY 2018-19 as estimated by the Petitioner is Rs. 2,513.47 Crore as against Rs. 2,385.83 Crore approved in the Tariff Order dated January 08, 2019. After considering the revenue as per the provisional accounts for FY 2017-18, i.e., Rs. 2,069.38 Crore, the Petitioner has claimed the Revenue Gap to the tune of Rs. 846.05 Crore. Further, for FY 2018-19 the Petitioner has estimated the revenue of Rs. 2,513.47 Crore equal to the value of ARR thus, has not claimed any Revenue Gap for FY 2018-19.

6.16.6 As discussed earlier, the Commission shall determine Revenue Gap/Surplus for FY 2017-18 and FY 2018-19 during the truing up exercise.

7. AGGREGATE REVENUE REQUIREMNT FOR FY 2019-20

7.1 INTRODUCTION

7.1.1 The Commission has analysed all the components of the Aggregate Revenue Requirement (ARR) submitted by the Petitioner to arrive at suitable values. As per the Transmission MYT Regulations, 2014, the ARR includes the following components:

a) Operation and Maintenance Expenses
- Employee Expenses
- Administration & General Expenses
- Repairs and Maintenance Expenses

b) Interest Expenses
- Interest on Loan Capital
- Interest on Working Capital

c) Depreciation Expenses

d) Return on Equity

e) Other Income (Non-tariff income)

f) Tax on Income

g) Any other relevant expenditure

7.1.2 The detailed analysis of each and every element identified above is presented in the subsequent sections.

7.2 TRANSMISSION LOSSES

Petitioner's Submissions

7.2.1 In the Tariff Order dated November 30, 2017, the Commission had approved intra-State transmission losses of 3.79% for FY 2019-20.

7.2.2 The Petitioner has claimed the intra-State transmission losses of 3.56% for FY 2019-20.

Commission's Ruling

7.2.3 The Commission approves the Petitioner's submission of intra-State transmission losses of 3.56% for FY 2019-20 as the same are lower than that approved by the Commission in MYT Tariff Order for FY 2019-20 dated November 30, 2017. However, the Petitioner must put in sincere efforts to ensure and bring down the losses further. Also, the approved intra-State losses shall be trued up at the time of True up.

7.3 TRANSMISSION AVAILABILITY

Petitioner's Submissions

7.3.1 The Transmission Availability as submitted by the Petitioner is around 99.03% (FY 2016-17), with UPPTCL handling net injected energy (inter-State at CTU-STU periphery and intra-State at G-T periphery) to deliver it to its customers (including Distribution Licensees).

Commission's Ruling

7.3.2 The Petitioner has not submitted any projections for Transmission Availability for FY 2019-20. However, the Petitioner has submitted that the Transmission Availability for FY 2016-17 was 99.03% and hence, the same has been considered for FY 2019-20.

7.4 OPERATION & MAINTENANCE EXPENSES

Petitioner's Submissions

7.4.1 The Petitioner submitted that the Transmission MYT Regulations, 2014 mandates the Commission to stipulate a separate trajectory of norms for each of the components of O&M expenses, viz., Employee expenses, Repairs and maintenance (R&M) expenses, and Administrative and General Expense (A&G) expenses.

Employee Expenses

7.4.2 The Petitioner has submitted the Employee expenses for FY 2019-20 as per the Regulation 25.1 of the Transmission MYT Regulations, 2014 as below:

Quote

Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears, Interim Relief etc., governed by the following formula:

*EMPn= (EMPb * CPI inflation) + Provision*

Where:

EMPn: Employee expense for the year n. EMPb: Employee expense as per the norm CPI inflation: is the average increase in the Consumer Price Index (CPI) for immediately preceding three financial years. Provision: Provision for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above.

Unquote

7.4.3 Further, the Petitioner submitted that it has considered the approach adopted by the Commission while approving the MYT ARR for the 1st Control Period (FY 2017-18 to FY 2019-20) in its Order dated November 30, 2017. The Petitioner has considered the same norms for employee expenses for FY 2019-20 as derived by the Commission for FY 2017-18, while claiming the normative Employee Expenses for FY 2019-20. However, at the time of true-up of ARR for the MYT period, i.e., FY 2017-18 to FY 2019-20, the Petitioner may claim the Employee Expenses based on the norms for the MYT period with actual inflation rate (i.e., CPI and WPI). The Petitioner has also considered provision for the 7th Pay Commission arrears for FY 2015-16 and FY 2016-17 to be payable during the MYT period. The total 7th Pay Commission arrears for FY 2015-16 and FY 2016-17 is estimated to be Rs. 91.66 Crore, and the same is to be released in equal tranches of Rs. 30.55 Crore in each year of the MYT period.

7.4.4 The Petitioner submitted that the employee expenses capitalised for FY 2019-20 has been considered at the same rate as per the annual accounts of FY 2016-17.

7.4.5 The Petitioner also mentioned that they have considered the 7th Pay Commission arrears towards the pay revision impact of 15%. However, the Petitioner reserves the right to claim any deviation in the employee expenses on account of any recovery/adjustment of terminal benefits, implications of Pay Commission, arrears, Interim Relief, etc., at the stage of truing up.

Commission's Ruling

7.4.6 Considering the methodology provided in Transmission MYT Regulations, 2014, the detailed calculation of Employee Expense has been done. However, the Petitioner has claimed different norms for FY 2019-20, i.e., different from the norms derived in the MYT Tariff Order dated November 30, 2017. The Petitioner has claimed the norms of FY 2017-18 in FY 2019-20. The Commission has considered the same norms for the computation of Normative Employee

Expenses of FY 2019-20 as approved in the MYT Order dated November 30, 2017.

7.4.7 In response to the Commission's e-mail dated May 03, 2019 regarding the submission of valid reason as per the Regulations for the claim of Arrears of Rs. 30.55 Crore under the head of Employee Expenses in each MYT year, i.e., in each year from FY 2017-18 to FY 2019-20, the Petitioner vide e-mail dated May 09, 2019 has submitted the following:

Quote

The Petitioner respectfully submits that amount of Rs. 91.66 crore (i.e. Rs. 30.55 crore each year) claimed for the 1st control period is towards the arrear on account of the 7th Pay Commission applicable from January 2016. The arrear amount is computed for the period prior to the 1st control period i.e. from January 2016 to March 2017. The computation of the same is provided in the Annexure 5 of the UPPTCL's Petition dated 18th March 2019. The Petitioner had claimed the arrear as per the provisions of the Uttar Pradesh Electricity Regulatory Commission (Multi Year Transmission Tariff) Regulations 2014 (MYT Transmission Regulations). The Regulation 21.1 of the MYT Transmission Regulations, provides:

> *"Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears, Interim Relief etc., governed by the following formula:*
> *EMPn= (EMPb * CPI inflation) + Provision*
> *Where:*
> *EMPn: Employee expense for the year n. EMPb: Employee expense as per the norm CPI inflation: is the average increase in the Consumer Price Index (CPI) for immediately preceding three financial years. Provision: Provision for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above."*

Further, Hon'ble Commission in its Order dated 30th November 2017 had allowed the arrears towards the 7th Pay Commission under the employee expenses. The relevant extract of the order is produced below:

> *"7.6.16 Further, UPPTCL has considered the impact of the 7th pay revision while computing the norms for the employee expenses by 15% and has*

accordingly claimed the onetime arrears of FY 2015-16 and FY 2016-17 payable due to the 7th pay revision of Rs. 44.74 Crore each in FY 2017-18 and FY 2018-19 respectively. Accordingly, the arrears of 7th Pay Commission the same is allowed under Regulation 21.1 of the Transmission MYT Regulations, 2014 as "provision" i.e. provision for expenses beyond the control of the Transmission Licensee as one-time expenses."

Later, the Hon'ble Commission in its Order dated 8th January 2019 had also computed the arrears for the MYT period under the employee expenses. Thus, it is humbly requested that the Hon'ble Commission may allow the arrears of Rs. 91.66 Crore towards the 7th Pay Commission.

Unquote

7.4.8 The Commission is only approving 70% of the Capital investment. Hence, the Commission allows only 70% of the Employee Expense. Further, the same may be considered during true up for FY 2019-20 on submission of the requisite details by the Licensee. The same is as depicted in the Table below:

Table 44: EMPLOYEE EXPENSES FOR FY 2019-20

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Norms per ckt km (Rs. Crore)	0.0057	0.0048	0.0057
Line Length (ckt km)	52,937.41	47,270.25	47,270.25
Employee Expenses (ckt km) (Rs. Crore)	303.04	228.59	270.60
Norms per Bay (Rs. Crore)	0.1974	0.1667	0.1667
Number of Bays (nos)	4,663	4,576	4,576
Employee Expenses (Bays) (Rs. Crore)	920.35	762.97	762.97
Add: Arrears (Rs. Crore)	0.00	30.55	30.55
Total Employee Expenses (Rs. Crore)	**1,223.39**	**1,022.12**	**1,064.13**
Less: 30% Disallowance	-	-	319.24
Employee Expense after Disallowance	-	-	**744.89**

A&G Expenses

Petitioner's Submissions

7.4.9 The Petitioner has submitted the A&G expenses for FY 2019-20 as per Regulation 21.3 of the Transmission MYT Regulations, 2014 as below: -

Quote

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI) and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Transmission Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

*A&Gn= (A&Gb * WPI inflation) + Provision*

Where:

A&Gn: A&G expense for the year n A&Gb: A&G expense as per the norm WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three financial years Provision: Cost for initiatives or other one-time expenses as proposed by the Transmission Licensee and validated by the Commission.

Unquote

7.4.10 Further, the Petitioner has claimed the normative A&G expenses as per the approach adopted by the Commission while approving the MYT ARR for the 1st Control Period (FY 2017-18 to FY 2019-20) in its Order dated November 30, 2017. The Commission approved A&G expense norms for transmission lines and the norms for bays in the said MYT Order for computation of normative A&G expenses.

Commission's Ruling

7.4.11 Considering the methodology provided in Transmission MYT Regulations, 2014, the detailed computation of the A&G expenses has been done.

7.4.12 The Commission is only approving 70% of the Capital investment. Hence, the Commission allows only 70% of the A&G expense. Further, the same may be considered during true up for FY 2019-20 on submission of the requisite details by the Licensee. The same is as depicted in the Table below:

Table 45: A&G EXPENSES FOR FY 2019-20

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Norms per ckt km (Rs. Crore)	0.0002	0.0002	0.0002
Line Length (ckt km)	52,937.41	47,270.25	47,270.25

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
A&G Expenses for Transmission Lines (Rs. Crore)	12.04	9.85	9.85
Norms per Bay (Rs. Crore)	0.0052	0.0048	0.0048
Number of Bays (nos.)	4,663.00	4,576.00	4,576.00
A&G Expenses for Bays (Rs. Crore)	24.33	21.88	21.88
Norms per Employee (Rs. Crore)	0.0010	0.0009	0.0009
Number of Employees (nos.)	7,231.00	6,300.00	6,300.00
A&G Expenses for Employees (Rs. Crore)	6.90	5.50	5.50
Total A&G Expenses (Rs. Crore)	**43.26**	**37.23**	**37.23**
Less: 30% Disallowance	-	-	11.17
A&G Expense after Disallowance	-	-	**26.06**

R&M Expenses

Petitioner's Submissions

7.4.13 The Petitioner has computed the R&M expenses for FY 2019-20 as per Regulation 21.2 of the Transmission MYT Regulations, 2014 as below: -

Quote

Repairs and Maintenance expense shall be calculated as percentage (as per the norm defined) of Average Gross Fixed Assets for the year governed by following formula:

*R&Mn = Kb * GFAn*

Where:

R&Mn: Repairs & Maintenance expense for nth year GFAn: Average Gross Fixed Assets for nth year Kb: Percentage point as per the norm.

Unquote

7.4.14 The Petitioner submitted that they have calculated the R&M expenses as per the Transmission MYT Regulations, 2014, wherein the R&M expenses for FY 2019-20 is a percentage or fraction of the average GFA base of that year. The 'K_b' factor approved by the Commission for FY 2019-20 is 1.83%. Further, the 'K_b' factor derived by the Commission for FY 2017-18 have been considered for FY 2019-20 while claiming the normative R&M Expenses for FY 2019-20. However, at the time of true-up of ARR for the MYT period, i.e., FY 2017-18 to FY 2019-20, the Petitioner may claim the R&M based on the norms of 'K_b' factor for the MYT period with actual inflation rate (i.e., CPI & WPI).

Commission's Ruling

7.4.15 The Commission has computed the normative R&M Expenses of UPPTCL as per the provisions of Transmission MYT Regulations, 2014. However, the Petitioner has claimed the different K_b' factor for FY 2019-20, i.e., different from the K_b' factor derived in the MYT Tariff Order dated November 30, 2017. The Petitioner has claimed the K_b' factor of FY 2017-18 in FY 2019-20. The Commission has considered the same K_b' factor for the computation of Normative R&M Expenses of FY 2019-20 as approved in the MYT Order dated November 30, 2017.

7.4.16 For computing the average GFA for FY 2019-20, the Petitioner has considered the opening GFA of FY 2019-20 as the closing GFA of FY 2018-19 (opening GFA of FY 2018-19 as on April 01, 2018 is Rs. 20,947.34 Crore) which is based on its closing GFA of FY 2017-18 and as per the actual accounts of FY 2016-17. However, the Commission has computed the average GFA for FY 2019-20 by considering the capitalisation as stated in para of "GFA balances and capital formation assumptions".

7.4.17 The Commission approves the "K_b" factor for the Petitioner for FY 2019-20 as claimed by the Petitioner, i.e., 1.69%.

7.4.18 The Commission is approving only 70% of the Capital investment. Hence, the Commission allows only 70% of the R&M expenses. Further, the same may be considered during true up for FY 2019-20 on submission of the requisite details by the Licensee.The same is depicted in the Table below:

Table 46: R&M EXPENSES FOR FY 2019-20

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Average GFA (Rs. Crore)	29,211.51	27,237.48	25,922.92
K_b - Factor (%)	1.83%	1.68%	1.83%
R&M Expense (Rs. Crore)	**535.02**	**457.20**	**474.79**
Less: Deductions (30% Disallowance)	-	-	142.44
R&M Expense after Deduction	-	-	**332.35**

7.4.19 The Commission allows Rs. 734.98 Crore of the Employee Expense Capitalisation as claimed by the Petitioner. The summary of O&M Expenses approved by the Commission for UPPTCL is as shown under:

Table 47: APPROVED O&M EXPENSES FOR FY 2019-20

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Employee Expenses			
Gross Employee Costs (Rs in Crore)	1,223.39	1,022.12	1,064.13
Gross Employee Costs after 30% Disallowance (Rs in Crore)	-	-	744.89
Employee expenses capitalised (Rs in Crore)	305.91	734.98	734.98
Net Employee Expenses (Rs in Crore)	**917.49**	**287.14**	**9.91**
A&G Expenses			
Gross A&G Expenses (Rs in Crore)	43.26	37.23	37.23
Gross A&G Expenses after 30% Disallowance (Rs in Crore)	-	-	26.06
A&G expenses capitalised (Rs in Crore)	8.77	0.00	0.00
Net A&G Expenses (Rs in Crore)	**34.49**	**37.23**	**26.06**
R&M Expenses			
Repair & Maintenance Expenditure (Rs in Crore)	535.02	457.20	474.79
Repair & Maintenance Expenditure after 30% Disallowance (Rs in Crore)	-	-	332.35
Total O&M Expenses Allowable as per Regulations (Rs in Crore)	**1,487.00**	**781.57**	**368.32**

7.5 GFA BALANCES AND CAPITAL FORMATION ASSUMPTIONS

Petitioner's Submissions

7.5.1 The Petitioner has submitted the assumptions used for projecting GFA and CWIP for FY 2019-20 are as follows:

- Considering the CWIP) and Gross Fixed Asset (GFA) balances as per provisional accounts for FY 2017-18, the Petitioner has derived the capital investments undertaken by it in FY 2019-20.
- Investment through "deposit work" has been taken for capital formation. The total Consumer Contribution considered towards the capital formation in FY 2017-18 is as per provisional accounts, i.e., Rs. 205.43 Crore, whereas in FY 2019-20 it has been considered as Rs. 398.70 Crore.
- The procedure prescribed by the Transmission MYT Regulations, 2014 towards claiming the capital investment plan has been strictly complied with in the current Petition. The details of the assets completed during FY 2017-18 and revised capital investment plan for FY 2019-20 is also submitted to the Commission.
- 25% of the opening CWIP and 25% of investment made during the year, expenses capitalised & interest capitalised (25% of total investment) has been assumed to be capitalised during FY 2019-20.
- The capital investment plan (net of deposit works) has been projected to be funded in the ratio of 70:30 (debt to equity).

Commission's Ruling

7.5.2 The Commission analysed that the Petitioner is not adhering to the UPERC (Multi Year Transmission Tariff) Regulation 19 A, according to which Licensee should seek project wise prior approval of the Commission for capital expenditure greater than Rs. 10 Crore. Further, the UPPTCL has submitted that they had submitted the project wise details in the Business Plan which was approved by the Commission vide its Tariff Order dated November 30, 2017. However, in the Business Plan too the Regulation 19 A was not followed. **Further, the Commission directs the Licensee to strictly comply to the Regulation 19 A, otherwise strict action will be taken by the Commission.**

7.5.3 The UPPTCL has submitted a more detailed Capital Investment Plan which is yet to be vetted by the Commission. The deficiencies and queries are being finalized & being sent to UPPTCL, meanwhile the Commission is allowing only 70% of the claimed Capital Investment. Therefore, in line with the above the Commission has considered the following assumptions to arrive at the allowed GFA and CWIP:

- The Commission considers 70% of the claimed capital investments for FY 2017-18, FY 2018-19 and FY 2019-20.

- Taking 25% of total investments where total investments includes opening CWIP, Employee capitalisation, A&G capitalisation, Interest capitalisation and investments during the year.

7.5.4 Further, the Commission approves Consumer Contribution, capital subsidies and grants to the tune of Rs. 398.70 Crore for FY 2019-20 and the balance amount has been considered to be funded through debt and equity considering a debt equity ratio of 70 : 30. Accordingly approved the expenses as presented below in the Table:

Table 48: CAPITALISATION & CWIP DURING FY 2019-20 (RS. CRORE)

Particulars	Derivation	FY 2019-20		
		Tariff Order	Claimed	Approved
Opening WIP as on 1st April	A	15,224.13	8,896.69	8,280.99
Investments	B	**7,200.00**	**7,169.94**	**5,018.96**
Employee Expenses Capitalisation	C	305.91	734.98	734.98
A&G Expenses Capitalisation	D	8.77	0.00	0.00
Interest Capitalisation on Interest on long term loans	E	1,374.87	904.73	904.73
Total Investments	**F= A+B+C+D+E**	**24,113.67**	**17,706.34**	**14,939.66**
Transferred to GFA (Total Capitalisation)	G	6,265.17	4,426.58	4,426.58
Closing WIP	**H= F-G**	**17,848.50**	**13,279.75**	**10,513.08**

* The % of Employee expense capitalisation of gross Employee expense is 25% approved in MYT Tariff Order and the Commission is approving 99% against 72% claimed in ARR of FY 2019-20. Also, The % of A&G expense capitalisation of gross A&G expense is 20% approved in MYT Tariff Order for FY 2019-20.

7.6 FINANCING OF CAPITAL INVESTMENT

Petitioner's Submissions

7.6.1 The Petitioner has considered a normative gearing of 70 : 30. Considering this approach, 70% of the capital expenditure undertaken in any year has been considered to be financed through loan and balance 30% has been considered to be financed through equity contributions. The portion of capital expenditure financed through Consumer Contribution, capital subsidies and grants has been separated as the depreciation and interest thereon would not be charged to the beneficiaries.

7.6.2 The Petitioner submitted that the total consumer contribution considered towards the capital formation in FY 2017-18 is as per provisional accounts, i.e., Rs. 205.43 crore. Further, for FY 2019-20 the consumer contribution and grants has been considered as Rs. 398.70 Crore, which includes the grant of 40% towards the Green Energy Corridor II (Solar Power).

7.6.3 The Petitioner submitted that out of the capital investment of Rs. 7,169.94 Crore in FY 2019-20, the capital investment through deposit works has been considered as Rs. 398.70 crore for FY 2019-20. The balance amount is considered to be funded through debt and equity. The debt equity ratio considered for FY 2019-20 period is 70:30. The Petitioner is planning large capital expenditure in FY 2019-20 towards new and ongoing works of sub-stations and transmission lines, augmentation schemes and power evacuation schemes.

Commission's Ruling

7.6.4 The Commission has considered a normative approach with a Debt : Equity ratio of 70 : 30. Considering this approach, 70% of the capital expenditure undertaken in the year has been considered to be financed through loan, and balance 30% has been considered to be financed through equity contributions. The portion of capital expenditure financed through Consumer Contribution, capital subsidies and grants have been separated as the depreciation and interest thereon would not be charged to the consumers.

7.6.5 The Table below summarises the amounts considered towards Consumer Contributions, capital grants and subsidies for FY 2019-:

Table 49: CONSUMER CONTRIBUTION, CAPITAL GRANTS & SUBSIDIES CONSIDERED (RS. CRORE)

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Opening Balance of Consumer Contributions, Grants and Subsidies towards Cost of Capital Assets	785.55	1,040.84	900.91
Additions during the year	100.00	398.70	398.70
Less: Deductions	45.60	78.83	63.46
Closing Balance	**839.95**	**1,360.71**	**1,236.15**

7.6.6 Thus, the financing of the capital investment is depicted in the Table below:

Table 50: FINANCING OF CAPITAL INVESTMENT FOR FY 2019-20 (RS. CRORE)

Particulars	Derivation	FY 2019-20		
		Tariff Order	Claimed	Approved
Investment	A	7,200.00	7,169.94	5,018.96
Less:				
Consumer Contribution	B	100.00	398.70	398.70
Investment funded by debt and equity	C=A-B	7,100.00	6,771.24	4,620.26
Debt Funded	70%	4,970.00	4,739.87	3,234.18
Equity Funded	30%	2,130.00	2,031.37	1,386.08

7.7 DEPRECIATION

Petitioner's Submissions

7.7.1 Regulation 22 of the Transmission MYT Regulations, 2014 provides for the basis of charging depreciation. The relevant excerpt is reproduced below:

Quote

22 Treatment of Depreciation:

a) Depreciation shall be calculated for each year of the control period on the written down value of the fixed assets of the corresponding year.

b) Depreciation shall not be allowed on assets funded by consumer contributions or subsidies / grants.

……………

d) The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset.

e) Depreciation shall be charged from the first year of operation of the asset.

……………

Unquote

7.7.2 The Transmission MYT Regulations, 2014 provides for calculating depreciation based on the Written Down Value of the fixed assets of the corresponding year, whereas the previous Transmission Tariff Regulations, 2006 provides for calculation of depreciation on Straight Line Method basis. The Commission has revised the rate of deprecation for respective asset category.

7.7.3 The Petitioner submitted that it has considered the same approach which the Commission has approved in its last Tariff Order for claiming the allowable depreciation for FY 2019-20. Further, the Petitioner has considered the normative closing GFA for FY 2016-17 as the opening GFA balance for FY 2017-18 and subsequently for FY 2018-19 and FY 2019-20 while computing the allowable depreciation.

7.7.4 The Petitioner further submitted that due to change in the UPPTCL's accounting policy from FY 2016-17 onwards, the amount of depreciation charged on assets created out of Consumer Contributions, capital grants and subsidies is booked under the Other Income. However, the Commission in its Order dated January 08, 2019 while approving the revised ARR for FY 2018-19 has allowed the net depreciation after deducting the equivalent amount of depreciation on assets acquired out of the consumer contribution. The Petitioner has considered the same approach while claiming the net deprecation amount for FY 2019-20. The Income from Consumer Contribution recognized as revenue (or equivalent depreciation amount) in FY 2017-18 has been considered as per the annual accounts, whereas in FY 2019-20, the same has been projected as the percentage of the Non-Tariff Income (in the same ratio as in the annual accounts of FY 2016-17). Thus, the Petitioner requested the Commission to consider the net depreciation amount of Rs. 1,293.38 Crore for FY 2019-20. The detailed computation is provided below:

Table 51: GROSS DEPRECIATION CLAIMED FOR FY 2019-20 (RS. CRORE)

Depreciable Assets	Opening GFA as on 1.4.2019 (Depreciable Assets)	Cumulative Depreciation up-to 31.3.2019	Opening Written Down Value	Net Addition (Depreciable Assets)	Closing GFA as on 31.03.2020 (Depreciable Assets)	Rate of Depreciation (%)	Allowable Depreciation
Buildings	1,013.99	256.79	757.21	179.37	1,193.36	3.02%	25.58
Other Civil Works	95.94	24.30	71.64	16.97	112.91	3.02%	2.42
Plant & Machinery	12,807.21	3,243.34	9,563.87	2,265.50	15,072.71	7.81%	835.41
Lines, Cables,	10,887.20	2,757.11	8,130.09	1,925.86	12,813.07	5.27%	479.20

Depreciable Assets	Opening GFA as on 1.4.2019 (Depreciable Assets)	Cumulative Depreciation up-to 31.3.2019	Opening Written Down Value	Net Addition (Depreciable Assets)	Closing GFA as on 31.03. 2020 (Depreciable Assets)	Rate of Depreciation (%)	Allowable Depreciation
Network etc.							
Vehicles	3.83	0.97	2.86	0.68	4.51	12.77%	0.41
Furniture & Fixtures	7.59	1.92	5.67	1.34	8.94	12.77%	0.81
Office Equipment	8.83	2.23	6.59	1.56	10.39	12.77%	0.94
Intangible Assets	4.27	1.08	3.19	0.00	4.27	15.00%	0.48
Other assets	108.25	27.41	80.84	19.90	128.16	12.77%	11.59
Total	**24,937.12**	**6,315.16**	**18,621.96**	**4,411.18**	**29,348.31**	**6.51%**	**1,356.84**

Commission's Ruling

7.7.1 The Commission has computed the depreciation in line with Regulation 22 of the Transmission MYT Regulations, 2014. The detailed methodology adopted is as shown under:

7.7.2 The GFA projected for FY 2019-20 is as shown under:

Table 52: GFA PROJECTED FOR FY 2019-20 (RS. CRORE)

Particulars	FY 2019-20			
	Derivation	Tariff Order	Claimed	As Computed by Commission
Opening GFA	A	26,078.92	25,024.19	23,709.63
Net Additions to GFA during the year	B	6,265.17	4,426.59	4,426.58
Closing GFA	D	32,344.09	29,450.78	28,136.21
Average GFA	**E=((A+D)/2)**	**29,211.51**	**27,273.48**	**25,922.92**

7.7.3 The gross block of various assets has been considered and the additions during the year are as shown under:

Table 53: GROSS BLOCK AND GFA CONSIDERED FOR FY 2019-20 (RS. CRORE)

Particulars	Opening GFA	Addition GFA	Deduction GFA	Closing GFA
Land & Land Rights				
(i) Unclassified	97.64	15.40	0.00	113.04
(ii) Freehold Land	0.07		0.00	0.07
Buildings	1,045.47	179.37	0.00	1,224.84
Other Civil Works	106.02	16.97	0.00	123.00
Plant & Machinery	12,805.89	2,265.50	0.00	15,071.39
Lines, Cables, Network etc.	9,510.09	1,925.86	0.00	11,435.95
Vehicles	4.37	0.68	0.00	5.05
Furniture & Fixtures	7.90	1.34	0.00	9.24
Office Equipment	9.22	1.56	0.00	10.78
Other assets	120.42	19.90	0.00	140.33
intangible assets	2.53	0.00	0.00	2.53
Total Fixed Assets	**23,709.63**	**4,426.58**	**0.00**	**28,136.21**
Non-depreciable assets (Land & Land Rights)	97.71	15.40	0.00	113.11
Total Depreciable assets	**23,611.91**	**4,411.18**	**0.00**	**28,023.10**

7.7.4 The gross allowable depreciation for each component is sum totalled and the equivalent depreciation on assets created out of Consumer Contributions, capital grants and subsidies are deducted as shown under:

Table 54: GROSS ALLOWABLE DEPRECIATION FOR FY 2019-20 (RS. CRORE)

Depreciable Assets	Opening GFA	Cumulative Depreciation	Opening Written Down Value	Additions to GFA	Closing GFA	Rate of Depreciation (%)	Gross Allowable Depreciation
Buildings	1,045.47	233.76	811.71	179.37	991.08	3.02%	27.22
Other Civil Works	106.02	23.71	82.32	16.97	99.29	3.02%	2.74
Plant & Machinery	12,805.89	3,683.60	9,122.29	2,265.50	11,387.79	7.81%	800.92
Lines, Cables, Networks etc.	9,510.09	2,416.06	7,094.03	1,925.86	9,019.89	5.27%	424.60
Vehicles	4.37	1.53	2.84	0.68	3.52	12.77%	0.41

Depreciable Assets	Opening GFA	Cumulative Depreciation	Opening Written Down Value	Additions to GFA	Closing GFA	Rate of Depreciation (%)	Gross Allowable Depreciation
Furnitures & Fixture	7.90	2.77	5.13	1.34	6.47	12.77%	0.74
Office Equipment's	9.22	3.23	5.98	1.56	7.54	12.77%	0.86
Intangible assets	2.53	0.96	1.57	0.00	1.57	15.00%	0.24
Other Assets	120.42	42.25	78.17	19.90	98.08	12.77%	11.25
Total	**23,611.91**	**6,407.87**	**17,204.04**	**4,411.18**	**21,615.22**		**1,268.98**

Table 55: NET APPROVED DEPRECIATION FOR FY 2019-20 (RS. CRORE)

Particulars	Tariff Order	Claimed	Allowable
Gross allowable Depreciation	1,498.65	1,356.84	1,268.76
Less: Equivalent amount of depreciation on assets acquired out of the Consumer Contribution	42.19	63.46	63.46
Net allowable Depreciation	**1,456.46**	**1,293.38**	**1,205.52**

7.8 INTEREST AND FINANCE CHARGES

Interest on Long Term Loans

Petitioner's Submissions

7.8.1 The Petitioner submitted that a normative ratio of 70 : 30 has been considered for debt and equity. The portion of capital expenditure financed through Consumer Contribution, capital subsidies and grants has been separated as the depreciation and interest thereon would not be charged to the beneficiaries.

7.8.1.1 Allowable depreciation for the year has been considered as normative loan repayment. The weighted average rate of interest of overall long-term loan portfolio for FY 2017-18 has been considered for FY 2017-18 to FY 2019-20, as it seems to be fair and equitable. The interest capitalisation has been considered at a rate of 59.40% for FY 2019-20 as approved by the Commission in MYT Order dated November 30, 2017. Whereas, for FY 2017-18, the same has been considered as per the provisional accounts of FY 2017-18.

Commission's Ruling

7.8.2 The Annual Performance Review of FY 2017-18 is limited to the revision of audited financial results for FY 2016-17 only. The estimates for FY 2017-18 and FY 2018-19 like capital expenditure, GFA, etc. are not revised and considered same as that approved by the Commission vide Tariff Order dated November 30, 2017. The closing gross normative loan of FY 2017-18 is considered as the opening value of gross normative loan for FY 2018-19. The Commission shall carry out the detailed prudence check of various components while carrying out the truing up for FY 2017-18 in the next APR exercise.

7.8.3 The Commission has considered a normative approach with a gearing of 70:30 in line the Transmission MYT Regulations, 2014. In this approach, 70% of the capital expenditure undertaken in the year has been considered to be financed through loan and balance 30% has been considered to be funded through equity contributions. The portion of capital expenditure financed through Consumer Contributions and grants has been separated as the depreciation thereon would not be charged to the consumers. Further, the allowable depreciation for the year has been considered for normative loan repayment.

7.8.4 The weighted average interest rate of 11.16% as per the provisional accounts for FY 2015-16 is considered for computing the interest expenses for the MYT Period. The capitalization of interest expenses has been considered at the rate of 59.40% as proposed by the Petitioner.

7.8.5 The interest on long-term loans approved by the Commission for FY 2019-20 is as shown in the Table below:

Table 56: ALLOWABLE INTEREST ON LONG-TERM LOANS FOR FY 2019-20 (RS. CRORE)

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Opening Loan	16,760.05	11,924.46	10,698.55
Loan Additions (70% of Investments)	4,970.00	4,739.87	3,234.18
Less: Repayments (Depreciation allowable for the year)	1,456.45	1,293.38	1,205.52
Closing Loan balance	20,273.61	15,370.96	12,727.21

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Weighted Average Rate of Interest (%)	12.50%	11.16%	11.16%
Interest on long term loan	**2,314.60**	**1,523.23**	**1,307.28**
Interest Capitalisation Rate (%)	59.40%	59.40%	59.40%
Less: Interest Capitalized	1,374.87	904.73	904.73
Net Interest Charged	**939.73**	**618.50**	**402.55**

7.8.6 Further, the Petitioner submitted the finance charges towards expenses such as guarantee fees and bank charges to the tune of Rs. 0.52 Crore in FY 2017-18 as per the provisional accounts for FY 2017-18. Further, the same have been computed as Rs. 0.56 Crore for FY 2019-20 by extrapolating the guarantee fees and bank charges for FY 2017-18 with an Inflation Index of 3.91%.

7.8.7 The Commission has gone through the submissions of the Petitioner and accordingly allowed finance charges to the tune of Rs. 0.56 Crore for FY 2019-20.

7.9 INTEREST ON WORKING CAPITAL

Petitioner's Submissions

7.9.1 The Petitioner submitted that Transmission MYT Regulations, 2014 provides for normative interest on working Capital based on the methodology outlined in the Regulations. The interest on working capital has been computed based on the methodology specified in the Regulation 24 as provided below:

Quote

The Transmission Licensee shall be allowed interest on estimated level of working capital for the financial year, computed as follows:

a) O&M expenses for one month.

b) Two months equivalent of expected revenue.

c) Maintenance spares @ 40% of R&M expenses for two months.

Less:

Security deposits from consumers, if any-

Provided that the interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which petition for determination of tariff is accepted by the Commission:

Unquote

7.9.2 In accordance with the Transmission MYT Regulations, 2014, the interest on the working capital requirement is considered at the current State Bank Advance Rate, i.e., 14.05%.

Commission's Ruling

7.9.3 The Transmission MYT Regulations, 2014 provides for normative interest on working capital based on the methodology specified in the Regulations. The Petitioner is eligible for interest on working capital worked out in accordance with the methodology specified in the Regulations.

7.9.4 In accordance with the Transmission MYT Regulations, 2014, the interest on the working capital requirement shall be computed in the normative basis and rate of interest shall be equal to the State Bank Advance Rate (SBAR) as of the date on which Petition for determination of tariff is accepted by the Commission. Accordingly, the Commission for this Order has considered the interest rate on working capital requirement at 13.80%. The link for the same is: https://www.sbi.co.in/portal/web/interest-rates/benchmark-prime-lending-rate-historical-data

7.9.5 The Commission in accordance with the Transmission MYT Regulations, 2014, has considered the interest on working capital as shown in the Table given below:

Table 57: INTEREST ON WORKING CAPITAL FOR FY 2019-20 (RS. CRORE)

Interest on Working Capital	FY 2019-20		
	Tariff Order	Claimed	Approved
One month's O&M expenses	123.92	65.13	30.69
Maintenance spares @ 40% of R&M expense for 2 months	35.67	30.48	30.48
Receivable equivalent to 60 days average billing of consumers	689.44	481.73	337.28
Total Working Capital	**849.02**	**577.34**	**398.46**

Interest on Working Capital	FY 2019-20		
	Tariff Order	Claimed	Approved
Rate of Interest on Working Capital	14.05%	14.05%	13.80%
Interest on Working Capital	**119.29**	**81.12**	**54.99**

7.10 OTHER INCOME

Petitioner's Submissions

7.10.1 The Petitioner submitted that the Other Income includes only Non-Tariff Income, which comprises interest on loans and advances to employees, income from fixed rate investment deposits and interest on loans and advances to Licensees. Further, the amount of depreciation charged on assets created out of Consumer Contributions, capital grants and subsidies are also booked under the Other Income from FY 2016-17 onwards. The Other Income for FY 2017-18 has been considered as per the provisional accounts for FY 2017-18, which is to the tune of Rs. 120.15 Crore, which includes the income from Consumer Contribution to the tune of Rs. 50.32 Crore. Thus, the non-tariff income claimed for FY 2017-18 is Rs. 69.83 Crore as the amount of income from Consumer Contribution is already deducted from the gross deprecation as discussed earlier. Further, the Non-Tariff income for FY 2019-20 is claimed as Rs. 66.26 Crore. The same has been projected after deducting the equivalent amount of income from Consumer Contribution from the total Non-Tariff income.

Commission's Ruling

7.10.2 Other Income includes Non-Tariff Income, which comprises items such as interest on loans and advances to employees, income from fixed rate investment deposits and interest on loans and advance to staff. The Commission approves the Non-Tariff Income of Rs. Rs. 66.26 Crore for FY 2019-20 as proposed by the Petitioner.

7.11 RETURN ON EQUITY

Petitioner's Submissions

7.11.1 The Petitioner submitted that under the provisions of Transmission MYT Regulations, 2014, the Petitioner is eligible to a return @ 15.5% on equity base; for equity base calculation debt equity ratio shall be 70:30. Where equity involved is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%. Equity amounting to more than 30% shall be considered as loan. In case of actual equity employed being less than 30%, actual debt and equity shall be considered for determination of tariff. The return on equity has been computed as per methodology adopted by the Commission in the previous Tariff Orders.

7.11.2 In view of the huge gap in the recovery of cost of supply at the Discom's level, Petitioner is of the view that return on equity would only result in increase in arrears and accumulation of receivables. As such, the Petitioner has been claiming the return on equity @ 2% since FY 2009-10 onwards. Return on equity has been computed on the normative equity portion (30%) of capitalised assets.

7.11.3 The Petitioner has computed the eligible return on equity by considering the opening level of equity for FY 2015-16 based on the closing regulatory equity as per the Commission Order dated January 08, 2019 and the closing equity provided in the section 3 dealing with the true up for FY 2016-17. Subsequently, it has considered the yearly normative equity based on the capital additions for the MYT period depicted in aforementioned sections. Thus, the return on equity for FY 2018-19 has been computed to be Rs. 181.51 Crore.

Commission's Ruling

7.11.4 Annual performance review of FY 2017-18 is limited to the revision of estimates based on the audited financial results for FY 2016-17 only. The estimates for FY 2017-18 like capital expenditure, sales, etc., are not revised and considered same as that approved by the Commission vide Tariff Order dated November 30, 2017. The Commission shall carry out the detailed prudence check of various components while carrying out the truing up for FY 2017-18 in the next APR exercise.

7.11.5 The Commission while undertaking analysis for allowance of return on equity has considered opening level of equity for FY 2017-18 based on the closing regulatory equity approved in the section dealing with the true up for FY 2016-17. The opening level of equity considered for FY 2018-19 is Rs. 7,120.76 Crore. Subsequently, it has considered the yearly normative equity based on the capital additions for FY 2017-18, FY 2018-19 and FY 2019-20.

7.11.6 The Return on Equity computed by the Commission for FY 2019-20 comes out to be Rs. 176.26 Crore, however as UPPTCL has not followed the UPERC (Multi Year Transmission Tariff) Regulation 19 A and the Commission showing its displeasure has allowed only 70% of Capital Investment & 70% of O&M expenses and further the Commission allows only 50% of the Return on Equity claimed by the Petitioner i.e. 1% which comes out to be as Rs. 86.13 Crore as shown in the Table below:

Table 58: ALLOWABLE RETURN ON EQUITY FOR FY 2019-20 (RS. CRORE)

Return on Equity (Rs. Crore)	Derivation	FY 2019-20		
		Tariff Order	Claimed	Approved
Equity at the beginning of the year	A	8,533.23	8,411.69	7,948.86
Assets Capitalized	B	6,265.17	4,426.58	4,426.58
Addition to Equity	C = 30% of B	1,879.55	1,327.98	1,327.98
Closing Equity	D = A + C	10412.78	9,739.66	9,276.83
Average Equity	E = Average of A & D	9473.01	9,075.67	8,612.84
Rate of Return	F	2.00%	2.00%	2.00%
Return on Equity	**G = E x F**	**189.46**	**181.51**	**172.26**
Disallowance (50%)	**H**			**86.13**
Allowable Return on Equity (ROE)	**I=G-H**	**189.46**	**181.51**	**86.13**

7.12 SERVICE TAX / GST

Petitioner's Submissions

7.12.1 The Petitioner submitted that Service Tax / GST liability is imposed on the service provider and is chargeable on actual energy transmitted during a financial year at the rates notified by the Government. The Petitioner submitted that such liability may be imposed on UPPTCL, retrospectively, as it was done in the case of PGCIL. The Petitioner submitted that in such an event, it would approach the Commission for allowance of such liability in the ARR in accordance with the provisions of Regulation 27 of the Transmission MYT Regulations, 2014.

Commission's Ruling

7.12.2 The Petitioner has not proposed any expenses on this account in the ARR for the MYT Period. Hence, the same has not been considered in this Order. The Commission shall take an appropriate view based on the merits of the specific submissions of the Petitioner in this regard in terms of Transmission MYT Regulations, 2014 at the time of truing up.

7.13 SUMMARY OF AGGREGATE REVENUE REQUIREMENT FOR FY 2019-20

7.13.1 The summary of the expenses under different heads as approved by the Commission for FY 2019-20 is as shown in the Table given below:

Table 59: APPROVED ARR FOR THE MYT PERIOD (RS. CRORE)

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Gross O&M expenses	**1,801.67**	**1,516.55**	**1,103.30**
Employee expenses	1,223.39	1,022.12	744.89
A&G expenses	43.26	37.23	26.06
R&M expenses	535.02	457.20	332.35
Interest on Loan Capital	2,314.60	1,523.23	1,307.28
Interest on Working Capital	119.29	81.12	54.99
Finance Charges	1.45	0.56	0.56
Depreciation	1,456.46	1,293.38	1,205.52
Gross Expenditure	**5,693.47**	**4,414.82**	**3,671.65**
Less: Employee expenses capitalized	305.91	734.98	734.98
Less: A&G expenses capitalized	8.77	0.00	0.00
Less: Interest expenses capitalized	1,374.87	904.73	904.73
Net Expenditure	**4,003.92**	**2,775.11**	**2,031.94**
Bad Debts & Provisions	-	-	-
Prior Period expenses	-	-	-
Net Expenditure with provisions	**4,003.92**	**2,775.11**	**2,031.94**
Add: Return on Equity	189.46	181.51	86.13
Less: Non-Tariff Income	56.75	66.26	66.26
Aggregate Revenue Requirement	**4,136.63**	**2,890.37**	**2,051.81**

7.13.2 Thus, the approved ARR for FY 2019-20 is Rs. 2,051.81 Crore as against Rs 2,890.37 Crore proposed by the Petitioner.

7.14 TRANSMISSION TARIFF

The Transmission MYT Regulations, 2014 provide for capacity (MW) based transmission charges. However, there are still numerous issues in the determination of MW based Transmission Tariff, like allocation of transmission capacity to the existing long-term transmission system users, allocation of existing PPAs, etc.

7.14.1 Presently, the State Discoms have not been allotted transmission capacity as such; hence, the Transmission Tariff has been calculated by the Commission on the basis of the number of units wheeled by the Transmission Licensee for the Distribution Licensees. Further, the Petitioner has projected 1,18,464.12 MU to be delivered to Distribution Licensees and other Long-Term Open Access Consumers who are also Discom's consumers during FY 2019-20.

7.14.2 The Commission in its e-mail dated May 03, 2019 directed the Petitioner to submit the basis for projection of Energy Handled (MU) by UPPTCL for FY 2019-20. UPPTCL submitted the following break up of consumer-wise Energy Handled:

Table 60: Projection of Energy Handled (MU) by Petitioner

Customers	Energy Handled (MU) (Projected)
State Discoms	1,15,014.12
NPCL	2,100.00
Open Access Consumers	650.00
Railways (NR-UP)	700.00
Total	**1,18,464.12**

7.14.3 UPPTCL was asked to provide the reason for the difference in projection by UPPTCL and NPCL, since, NPCL has projected the demand of 2,307.27 MU for FY 2019-20.

7.14.4 In regard to the Commission's query, the Petitioner submitted the following reply by e-mail dated May 09, 2019:

Quote

The Petitioner had considered the energy to be delivered to the State Discoms based on the projections of the respective Discoms in their APR Petition for FY 2019-20. Further, considering the actual energy delivered for the period from 1st April 2018 to 31st December 2018, UPPTCL had projected the energy to be delivered to NPCL in FY 2019-20. UPPTCL had projected the energy handled for NPCL for FY 2019-20 as 2,100 MU at the time of filing the tariff petition for FY 2019-20. Since, NPCL has projected the energy demand of 2,307.27 MU in their petition the same may be considered for FY 2019-20 by the Hon'ble Commission. Further, the actual energy delivered to various customers in FY 2018-19 is as follows:

Customers	Energy Handled (MU) in FY 2018-19 (Actual)
MVVNL	21,287.18
DVVNL	24,067.50
PuVVNL	26,153.55
PVVNL	33,336.73
KESCO.	3,474.95
NPCL	2,010.90
Railways (NR-UP)	735.40
Open Access Consumers	669.83
Total	**1,11,736.05**

Unquote

7.14.5 The Commission has approved the Transmission Tariff for FY 2019-20 considering the approved ARR for FY 2019-20 and considering the Energy Handled / Energy Wheeled as input at the periphery of Distribution licensees, NPCL, Open Access Consumers and Railways (NR-UP).

7.14.6 The above approach is in line with the previous Tariff Order dated November 30, 2017. The relevant paras have been quoted below:

Quote

7.17.10 In view of the above, NPCL has to initiate a competitive bidding process immediately and then can file a fresh petition for consideration of the Commission. Till then, NPCL can arrange power through short term sources. However, for the purpose of computation of Transmission Tariff in this order, the short-term power of NPCL has not been considered as no confirmation on the same has been submitted by the transmission licensee. Further, the Commission has considered the power purchase quantum as proposed by NPCL (from the Long-term sources) for computation of Transmission Tariff and the same will be subject to Annual Performance Review and True-Up. In future, if NPCL avails long term / short term power, the same will be dealt at the time of Annual Performance Review (APR) / True-up of NPCL, UPPTCL and State owned Discoms, as the change in the Transmission Tariff will also have impact on them.

Unquote

7.14.7 The Energy handled at Discom periphery is 1,07,356.70 MU and that for NPCL is 2,307.27 MU. Accordingly, the Transmission Tariff submitted by Petitioner and approved by the Commission for FY 2019-20 is shown in the Table below:

Table 61: APPROVED TRANSMISSION TARIFF FOR FY 2019-20

Particulars	FY 2019-20		
	Tariff Order	Claimed	Approved
Net ARR (Rs. Crore)	4,136.63	2,890.37	2,051.81
Energy Handled (MU)	1,66,939.85	1,18,464.12	1,11,013.97
Transmission Tariff (Rs./kWh)	**0.2478**	**0.2440**	**0.1848**

7.14.8 The Commission thus approves the Transmission Tariff of Rs. 0.1848 / kWh for FY 2019-20. The Transmission Tariff as determined by the Commission above is payable by all the Distribution Licensees.

7.15 OPEN ACCESS: TRANSMISSION TARIFF

Petitioner's Submissions

7.15.1 The Petitioner has submitted the projection of 1,18,464.12 MU to be delivered to Distribution Licensees and other Long-Term Open Access Consumers who are also Discom's consumers during FY 2019-20. Further, if any Discom's consumer avails Short-Term Open Access then there will be decrease in the estimated energy of the Discoms; as the Discom's estimate their demands on the basis of connected load along with prospective growth of its existing consumers as well as new consumers.

7.15.2 The Petitioner proposed the Short-Term and Long-Term Open Access Transmission Charges as Rs. 0.2440/ kWh for FY 2019-20.

7.15.3 The Petitioner has proposed the uniform Transmission Tariff for customers connected at 132 kV Voltage level and customers connected above 132 kV Voltage level. The Petitioner submitted that the energy handled by the Petitioner is not voltage dependent. The Petitioner submitted that the same is consistent with the existing practices adopted by CERC in which uniform rate for all voltage levels is adopted.

7.15.4 In addition to the above charges, the Petitioner also submitted that the open access customer would also be liable to bear the projected transmission losses to the tune of 3.56% irrespective of the voltage levels at which the consumers are connected with the grid.

7.15.5 The Transmission Tariff proposed by the Petitioner for Open Access for FY 2019-20 is as shown in the Table below:

Table 62: REVISED OPEN ACCESS CHARGES PROPOSED BY THE PETITIONER FOR FY 2019-20

Particulars	Unit	FY 2019-20
Short Term Open Access Transmission Charges	Rs./kWh	0.2440
Long Term Open Access Transmission Charges	Rs./kWh	0.2440

Commission's Ruling

7.15.6 The Commission has computed the Transmission Tariff for FY 2019-20 in the preceding Section for use of the UPPTCL network for transmission of electricity. The Intra State Open Access transmission charges are determined as under.

Table 63: APPROVED INTRA STATE OPEN ACCESS TRANSMISSION CHARGES FOR FY 2019-20 PERIOD

Particulars	Unit	FY 2019-20	
		Long-Term	Short-Term
Intra State Open Access Transmission Charges	Rs./kWh	0.1848	0.1848

7.15.7 In addition to the above charges, the open access consumer would also be liable to bear the transmission losses in kind. In the absence of authenticated voltage level loss data, the Commission has ruled that the transmission losses for FY 2019-20 would be 3.56% irrespective of the voltage levels at which the consumers are connected with the grid.

8. DIRECTIVES

8.1 DIRECTIVES ISSUED IN THIS ORDER

8.1.1 The Commission directs UPPTCL to expedite the process to separate the SLDC from UPPTCL in order to make SLDC as an independent Organisation.

8.1.2 The Commission directs that the Licensee must make all filings timely, strictly as per the various UPERC Regulations.

8.1.3 The Commission directs UPPTCL to comply to the Regulation 19 A relating to obtaining project wise prior approval of the Commission before incurring capital expenditure of an amount exceeding 10 Crore. Failing to do so may result into punitive measures.

8.2 COMPLIANCE WITH DIRECTIVES ISSUED IN THE ORDER DATED JANUARY 08, 2019

8.2.1 The Commission had issued certain directives to the Petitioner in the Order dated January 08, 2019. The status of compliance submitted by the Petitioner with the same is as shown in the Table given below:

Table 64: STATUS OF COMPLIANCE TO THE DIRECTIVES ISSUED BY THE COMMISSION IN THE ORDER DATED JANUARY 08, 2019

Ref S. No.	Directive	Status of Compliance / Petitioner's Reply
1	The Commission directs UPPTCL to immediately submit the tentative timelines for completion of load flow studies along with the assessment of various options with regards to transmission pricing, their relative advantages and disadvantages and suitability for adoption in Uttar Pradesh and submit the report after completion of the same.	The Petitioner has already submitted the loss estimation study based on the load flow studies vide letter dated March 15, 2019. Further, the Petitioner is in process of assessing various options with regards to transmission pricing and their relative advantages or disadvantages for suitable adoption by the Commission. The detailed report will be submitted shortly after assessing the same. The Executive summary of the study report is attached herewith as **"Annexure- III"**.
2	The Commission directs UPPTCL to conduct proper loss estimate studies under its supervision and submit the report to the Commission.	
3	The Commission directs UPPTCL to initiate the process of signing of BPTA	The Petitioner submits that initially the matter was pursued with the State Discoms

Ref S. No.	Directive	Status of Compliance / Petitioner's Reply
	with Distribution Licensees who are the existing long-term customers and submit the status on execution of BPTA of the same.	for regularization of the connectivity as per the UPERC Connectivity Regulations and subsequently signing of the BPTA with the state Discoms after the finalization of the allocation of the capacity, which is being pursued with the UPPCL. However, due to delay in finalization of the allocation of the capacity, the Commission in this matter has initiated the suo-moto proceedings for allocation of PPA among the Distribution Licensees in Uttar Pradesh.
4	The Commission directs UPPTCL to pursue and formalize the capacity of transmission system in use by long term open access customers (Distribution Licensees or generating companies) in accordance with the principle laid down under Tariff Regulations and based on existing PPAs / MoU's signed by them for purchase or sale of electricity.	
5	The Commission directs the Petitioner to expedite the process of installation of ABT complaint meters at all T&D interface points mentioned in the section 3.2.20 in public hearing process.	The detailed status report regarding installation of ABT meters is attached herewith as **"Annexure- IV".**
6	The Commission directs the Licensee to submit the actual details of investment and capitalisation showing the scheme wise details including the funding of individual projects taken in investment and capitalisation for last 3 years (year wise) during the next Tariff proceedings.	The Petitioner had submitted the updated capital investment plan for FY 2018-19 to FY 2021-22 vide Letter No. 228 dated February 27, 2019. The updated plan covers the actual or projected cost of the ongoing projects or schemes along with their financing mechanism. A copy of the same is enclosed along with Petition. Further, details of the of the transmission assets (lines and sub- stations) completed upto FY 2017-18 are also enclosed along with Petition. The Executive Summary of the capital investment plan for FY 2018-19 to FY 2021-22 is attached herewith as **"Annexure-V".**

9. APPLICABILITY OF THE ORDER

UPPTCL, in accordance with Regulation 13.3 of the Transmission MYT Regulations, 2014, shall publish the Tariff approved by the Commission in at least two (2) English and two (2) Hindi daily newspapers having wide circulation in the area of supply and shall put up the approved Tariff on its internet website and make available for sale, a booklet both in English and Hindi containing such approved Tariff, to any person upon payment of reasonable reproduction charges.

The Tariff so published shall be in force from after seven days from the date of such publication of the Tariffs and shall, unless amended or revised, continue to be in force for such period as may be stipulated therein. The Commission may issue clarification / corrigendum / addendum to this Order as it deems fit from time to time with the reasons to be recorded in writing.

(Kaushal Kishore Sharma)

Member

(Raj Pratap Singh)

Chairman

Place: Lucknow

Date: August 27, 2019

10. ANNEXURE- I: LIST OF PERSONS WHO ATTENDED PUBLIC HEARINGS

ANNEXURE: LIST OF PERSONS WHO HAVE ATTENDED PUBLIC HEARING AT LUCKNOW IN THE MATTER OF TARIFF PETITION NO. 1453/2019 OF UPPTCL FOR DETERMINATION OF APR FOR FY 2017-18 & FY 2018-19, ARR FOR FY 2019-20 & TRUE UP OF ARR FOR FY 2016-17

LIST OF PERSONS WHO HAVE ATTENDED PUBLIC HEARING AT LUCKNOW

List of Persons who attended Public Hearing at Lucknow on December 14, 2018		
Sl. No.	Name	Organization
1	Shri Avadhesh Kumar Verma	UPRVUP
2	Shri A. K. Gupta	E.D. (Finance), UPPTCL
3	Shri Shudhanshu Dwevedi	Director (Finance), UPPTCL
4	Shri Ram Swarth	Director, SLDC
5	Shri Suman Guchh	Director (C&P), UPPTCL
6	Shri Chandra Mohan	Director (O), UPPTCL
7	Shri Ravi Prakash Dubey	Director (W&P), UPPTCL
8	Shri A.K. Arora	Noida Power Co. Ltd., GR. Noida
9	Shri Amit Bhargava	Director (Tariff), UPERC
10	Shri Vikas Chandra Agarwal	Director (D, L&L), UPERC
11	Shri Atul Chaturvedi	DD(Admin), UPERC
12	Shri Madhusudan Raizada	Consultant, UPERC
13	Shri Hemant Tiwari	UPERC
14	Shri D.K. Singh	E.E., UPPTCL
15	Shri Aditya kumar Maurya	A.E., UPPTCL
16	Shri R. Prakash	E.E., UPPTCL
17	Shri Rajeev Sachan	C.E. (Civil), UPPTCL
18	Shri V.K. Ojha	E.E., WPTCL
19	Shri D.P. Singh	S.E., UPPCL
20	Shri Amit Kumar	S.D., UPPTCL
21	Shri Raghu Nath	E.E., UPPTCL
22	Shri Vivek Dikshit	S.E., SLDC
23	Shri C.K. Shukla	C.E. (PSO), SLDC
24	Shri P. Shukla	S.E., SLDC
25	Shri M.K. Gupta	E.E., SLDC
26	Shri A.K. Prabhakar	A.E.(ETDC), UPPTCL
27	Shri Satyendra Kumar	E.E., UPPTCL
28	Shri S.K. Chahi	E.E., UPPTCL
29	Shri S.K. Chaurasia	E.E., UPPTCL

List of Persons who attended Public Hearing at Lucknow on December 14, 2018		
Sl. No.	Name	Organization
30	Shri A.K. Shukla	E.E., UPPTCL
31	Shri Amiy Chaturvedi	Consultant, UPPTCL
32	Shri Deepak Raizada	S.E., UPPTCL
33	Shri Abhishek Dixit	Consultant, UPPCL
34	Shri Manish Kashyap	Consultant, UPPCL
35	Shri P.N. Upadhyaya	C.E. (TC), UPPTCL
36	Shri Neeraj Swaroop	S.E. (PPP), UPPTCL
37	Shri Vinay Kr. Tripathi	E.E. (Trans.), UPPTCL
38	Shri Sanjeev Bhasker	E.E., UPPTCL
39	Shri Kapil Deo	S.E. (A), UPPTCL
40	Shri R.K. Bajpai	UP Jankalyan Samiti
41	Shri B.L. Awasthi	UP Jankalyan Samiti
42	Shri Sanjay Srivastava	S.E., UPPTCL
43	Shri Vinit Bohra	A.O., UPPTCL
44	Shri Sarafraj Ahmad	UPPTCL
45	Shri Sharven	UPPTCL
46	Shri M.L. Voiyartu	UPPTCL
47	Shri P.K. Gupta	A.O., UPPTCL
48	Shri S.I.C. Chaturvedi	A.O., UPPTCL
49	Shri Vinod Krishna	A.O., UPPTCL
50	Shri B.V.S. Tomar	C.E., UPPTCL
51	Shri Aashuman Gadia	Consultant
52	Shri Ashok Kumar	E.E., UPPTCL
53	Shri Alok Kumar	S.D.O. UPPTCL
54	Shri Gaurav Anand	Rimjhim Ispat
55	Shri P.K. Saxena	S.E., UPPTCL
56	Shri S.C. Gupta	E.E., SLDC
57	Shri Ram Krishna	E.E. (PPP Cell), UPPTCL
58	Shri Ashutosh Kumar	E.D. (PMC), UPPCL
59	Shri Sarabjeet Singh	DD (TE), UPERC
60	Shri Neeraj Agarwal	DD (A & FA), UPERC
61	Kumari Suchismita Mohapatra	Consultant, UPERC
62	Ranjeet Upadhyay	Consultant, UPERC
63	Vineet Parashar	Consultant, UPERC
64	Inian Sri Malan Dhanasu	Consultant, UPERC
65	Shri Chandras Pal	UPERC

U.P. ELECTRICITY REGULATORY COMMISSION

ANNEXURE- II

UttarPradesh Electricity Regulatory Commission

Vidyut Niyamak Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow-226010 Phone 2720426 Fax 2720423 E-mail secretary@uperc.org

Sanjay Kumar Singh
Secretary

Ref: UPER C/Secy/D(T)/2019-176
Dated: 30 May, 2019

To,

1. **The Chairman**, U. P. Power Corporation Ltd., 7th Floor, Shakti Bhawan, 14, Ashok Marg, Lucknow – 226001
2. **The Managing Director,** U.P. Power Transmission Corporation Ltd. Shakti Bhawan, 14, Ashok Marg, Lucknow-226001
3. **The Director, (Commercial),** U.P. Power Transmission Corporation Ltd. Shakti Bhawan, 14, Ashok Marg, Lucknow-226001

Sub: **In the matter of True-Up Petition for FY 2016-17, Annual Performance Review Petition for FY 2017-18 & FY 2018-19 and Revised ARR & Tariff Petition for FY 2019-20.**

Sir,

Kindly find enclosed herewith a copy of the Commission's Order dated 30th May, 2019 in petition No 1453 of 2019 regarding above cited matter.

Yours sincerely

Sanjay 30/5/19
(Sanjay Kumar Singh)
Secretary

O/C

<u>Encl: As above.</u>

BEFORE

THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION, LUCKNOW

Petition No. 1453 / 2019

IN THE MATTER OF:

Application for Determination of Annual Revenue Requirement for the Financial Year 2019-20, Annual Performance Review (APR) for Financial Year 2017-18 & 2018-19 and True-up for the Financial Year 2016-17 of Uttar Pradesh Power Transmission Corporation Ltd., Lucknow (UPPTCL) – (Petition No. - 1453 / 2019)

ORDER

As per provisions of Section 64 of the Electricity Act, 2003, it is incumbent upon the Licensee to make an application to the State Electricity Regulatory Commission for determination of Tariff in such manner as may be determined by Regulations framed by the Commission.

The UPERC framed the (Terms and Conditions of Transmission Tariff) Regulations, 2006 (henceforth referred as Transmission Tariff Regulations) on October 6, 2006. These Regulations were applicable for the purposes of ARR filing and Tariff determination of all the Transmission Licensees within the State of Uttar Pradesh from FY 2007-08 onwards.

Further, the Uttar Pradesh Electricity Regulatory Commission (Multi Year Transmission Tariff) Regulations, 2014 were notified on May 12, 2014. These Regulations shall be applicable for determination of Tariff in all cases covered under these Regulations from April 1, 2015 to March 31, 2020, unless extended by an Order of the Commission. Embarking upon the MYT framework, the Commission has divided the period of five years (i.e. April 1, 2015 to March 31, 2020) into two periods namely –

a. Transition period (April 1, 2015 to March 31, 2017)
b. Control period (April 1, 2017 to March 31, 2020)

The transition period being of two years and the first control period of the Multi Year framework being of three years.

As per the provisions stipulated in Uttar Pradesh Electricity Regulatory Commission (Multi Year Transmission Tariff) Regulations, 2014, the Licensees under Regulation 12.1 were required to file before this Commission a Petition for approval of Business Plan for the first control period i.e. FY 2017-18 to FY 2019-20 complete in all respect on or before June 1, 2016. Further, as per the provisions stipulated in Regulation 12.2 the Licensees were required to file before this Commission a Petition for approval of Aggregate Revenue Requirement (ARR) and Multi Year Tariff for the first control period i.e. Financial Year 2017-

18 to Financial Year 2019-20 and for Annual Performance Review and Truing Up, complete in all respect on or before November 1, 2018.

The Transmission Licensee namely Uttar Pradesh Power Transmission Corporation Limited (hereinafter referred to as "UPPTCL"), filed Petitions before the Commission on March 19, 2019 for determination of Annual Revenue Requirement of Financial Year 2019-20, Annual Performance Review of Financial Year 2017-18 & 2018-19 and True-up for the Financial Year 2016-17.

A preliminary analysis of the Petitions of Transmission Licensee i.e. UPPTCL was conducted by the Commission wherein certain deficiencies were observed in the Annual Revenue Requirement and Annual Performance Review (APR) and True up Petition submitted by the Licensee. To sort out the deficiencies, the Commission with UPPTCL on May 03, 2019 conducted a technical validation session and vide e-mails raised queries & directed UPPTCL to submit the replies.

It has been observed that UPPTCL had submitted replies to all the deficiencies to the satisfaction of the Commission.

UPPTCL made a presentation on May 29, 2019 in matter of Petition filed by UPPTCL, wherein the officials from UPPTCL along with the officers of UPERC were present. UPPTCL informed that they had submitted replies to all the deficiencies to the satisfaction of the Commission.

Further, since the determination of ARR / Tariffs has already been delayed much, keeping all the above into consideration, the Commission admits the Petitions for further processing. The Licensees shall furnish further information / clarifications, if any as deemed necessary by the Commission during the processing of the Petitions and provide the same to the satisfaction of the Commission within the time frame as stipulated by the Commission failing which the Commission may proceed to dispose of the matter as it deems fit based on the information available with it.

The Commission would also be taking up the following matters along with the proceedings of determination of ARR / Tariff for FY 2019-20:

a. Finalization of True Up for FY 2016-17 for Transmission Licensee (UPPTCL).

The Commission also finds the information / data submitted by UPPTCL to be generally in order and accordingly admits the Petition submitted by UPPTCL for further processing.

The Commission directs UPPTCL to publish the Public Notice consisting the summary & highlights of the proposed Annual Revenue Requirement & Tariffs for Financial Year 2019-20, Annual Performance Review of FY 2017-18 & FY 2018-19 and True up for FY 2016-17 along with its website address in at least two (2) English and two (2) Hindi language daily

Newspapers widely circulated in the area to which the Petition pertains, inviting suggestions and objections within 15 days from the date of publication of the Public Notice(s) from all stakeholders and the public at large. The Public Notice should also contain the details of the Transmission Loss and Transmission Tariff for FY 2019-20.

Further, the Public Notice(s) should inform the stakeholders and public at large to regularly check the websites of UPPTCL for further submissions made in respect to these proceedings. The Commission further directs the Petitioner to put all details on its internet website, in PDF format, showing detailed computations, the Petition submitted to the Commission along with all regulatory filings, information, particulars and documents, clarification and additional information on inadequacies / deficiencies, benchmarking studies report, etc. and all subsequent events and material placed on record if any, made from time to time before the issuance of final Tariff Order. The Licensee will also inform the Commission of the same by providing the internet links. The Petitioner may not provide or put up any such information, particulars or documents, which are confidential in nature, without the prior approval of the Commission.

The Commission reserves the right to seek any further information / clarifications as deemed necessary during the processing of this Petition.

(Kaushal Kishore Sharma)	**(S. K. Agarwal)**	**(Raj Pratap Singh)**
Member	**Member**	**Chairman**

Place: Lucknow
Date: 30/5/, 2019

ANNEXURE-III

Executive Summary for Report on Load Flow Studies, Loss Estimation and Study of POC Charges Applicable to Uttar Pradesh Power Transmission Corporation Limited

i. This report presents the loss estimation study results of the Uttar Pradesh transmission network for the financial years: FY 2014-15, FY 2015-16, FY 2016-17, FY 2017-18, FY 2018-19 and FY 2019-20.

ii. For all the years of study, the loss estimation has been conducted by running load flow on the average demand scenario of the respective years to calculate actual transmission losses on the basis of load flow in static condition. Additionally, for the financial years FY 2014-15, FY 2015-16 and FY 2016-17, the loss estimation has been done for identified scenarios of different load points considering day peak & night peak, off peak load along for all seasons namely, winter, summer & monsoon.

iii. The loss estimation has been determined for each voltage level of the UPPTCL network and ICTs (Inter-connecting transformers) as per the format P1 prescribed in UPERC (Multi Year Transmission Tariff) Regulations, 2014.

iv. The Uttar Pradesh transmission networks for all the years have been modelled in the PSS®E software. The PSS®E transmission network model for Uttar Pradesh has been designed using the network data obtained from UPSLDC and integrating it with the POSOCO PSS®E all India model.

v. Transmission network load flow has been conducted using the Newton Raphson load flow method. Newton-Raphson technique for load flow has been adopted because of its quadratic convergence property and ability to handle large power networks which are of paramount importance in solving nonlinear equations of power flow problems.

vi. POSOCO PSS®E model has been taken as the base model for developing the transmission network. This model is updated as per the latest grid map of Uttar Pradesh to create the comprehensive transmission system model of Uttar Pradesh. In particular, key features of the updated model include:

   - The PSS®E model has been extended upto the 33 kV level by incorporating all the 132/33 kV transformers of Uttar Pradesh in the system. For this purpose, 33 kV buses were added to the model along with the corresponding transformers for all the years of study.
   - In the updated model, the load has been considered at 33 kV side for the Discoms feeders and 132/220 kV side for the industrial feeders.

- A number of 66 kV buses were also created in the transmission network model along with the corresponding transformers.
- Additionally, solar generators and Co-gen plants which were observed to be not present in the POSOCO PSS®E model have been incorporated in the updated model along with their corresponding installed capacities and connections.

vii. The transmission networks for the completed financial years of the study, namely FY 2014-15, FY 2015-16 and FY 2016-17 have been prepared by analyzing the POSOCO PSS®E models for the corresponding years and the commissioning dates of the system elements of UPPTCL.

viii. The PSS®E transmission system models of the future years, namely FY 2017-18, FY 2018-19 and FY 2019-20 have been modeled according to the planned and under construction data obtained from UPPTCL (for network owned by UPPTCL) and CEA (for network owned by CTU/other ISTS licensees).

ix. In order to fulfil the objectives of format P1 prescribed by UPERC, the loss estimation studies have been conducted on the average demand snapshots for all the years of study. The demand scenarios for different years have been created by considering the sources such as: data received from UPSLDC, yearly Load Generation Balance Report (LGBR) published by CEA, UPERC tariff orders for UPPTCL of the corresponding years and the Electric Power Survey (EPS) published by CEA.

x. In order to analyze the season/quarter-wise transmission losses for the financial years FY 2014-15, FY 2015-16 and FY 2016-17, scenario-wise loss estimation studies were conducted for the aforementioned years and the results tabulated as per format P1 prescribed by UPERC.

xi. The Table below summarizes the total losses in the transmission system of Uttar Pradesh for all the years of study for the average demands of the respective years (i.e. calculated actual transmission losses on the basis of load flow in static condition).

Period	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Total Losses in Transmission System (%)	3.54%	3.64%	3.48%	3.46%	3.36%	3.14%

xii. Further, the actual transmission losses calculated on the basis of injected or drawal quantum of energy may differ from the losses shown in Table above, due to following reasons as below:
- In real time, power system has a dynamic characteristic in respect of load generation balance which results in variable flow in transmission line.
- Accuracy and metering error of energy meter/instrument transformer may have impact on the calculated actual transmission losses on the basis of load flow in static condition.

xiii. Considering the aforementioned reasons with 0.2 class accuracy energy meter at interface points at Generation – Transmission (G-T) periphery and Transmission –Distribution (T-D) periphery, there may be variation of ±0.4% in transmission losses shown in the above Table. Accordingly, the range of actual transmission losses calculated on the basis of injected or drawal quantum of energy is shown below:

Period	Total Losses in Transmission System on the basis of load flow studies (%)	Range of Total Losses in Transmission System on the basis of quantum of energy (%)
FY 2014-15	3.54%	3.14 - 3.94%
FY 2015-16	3.64%	3.24 - 4.04%
FY 2016-17	3.48%	3.08 - 3.88%
FY 2017-18	3.46%	3.06 - 3.86%
FY 2018-19	3.36%	2.96 - 3.76%
FY 2019-20	3.14%	2.74 - 3.54%

UPPPTCL shall further endeavour to reduce the transmission losses, on the basis of existing network till FY 2019-20 and load generation balance scenario, through Reactive power management, up-gradation of conductors and substations and other system strengthening to eliminate overloading of lines & transformers (if any).

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U. P. ELECTRICITY REGULATORY COMMISSION

Status of ABT compliant meter at T-D interface points.

Total T-D interface Points	T-D interface points having ABT compliant meters	T-D interface point ABT compliant meter to be installed
2532	2371	161

Presently at 161 T-D interface points meters are yet to be replaced with ABT compliant meters and installation of same is under process.

अधीक्षण अभियन्ता
कार्यालय निदेशक (वाणिज्य)
उ०प्र० पावर ट्रान्समिशन कार्पोरेशन लि०

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ANNEXURE-V

Executive Summary for Revised Capital Investment Plan of UPPTCL for FY 2018-19 to FY 2021-22

The UPPTCL deals with the transmission of electricity for catering to the power requirements of four distribution companies viz. Madhayanchal VidyutVitran Nigam Limited, Dakshinanchal Vidyut Vitran Nigam Limited, Paschimanchal Vidyut Vitran Nigam Limited and Poorvanchal Vidyut Vitran Nigam Limited in addition to two other distribution companies serving Kanpur Electricity Supply Company Limited (herein after referred to as the 'KESCO'), Kanpur and Noida Power Company Limited ('NPCL'), Noida. Further, UPPTCL is also serving the Indian Railways since FY 2017-18 which is a deemed distribution licensee. In FY 2018-19 UPPTCL handled a peak demand of 20,062 MW. The peak demand met in the past years& peak demand projected upto FY 2021-22 is provided below:

Table 1: Year-wise Demand Handled

Year	Maximum Demand Met (MW)
FY 2014-15	13,003
FY 2015-16	14,503
FY 2016-17	16,110
FY 2017-18	18,061
FY 2018-19	20,062

Table 2: Demand Projections

Year	Projected Demand (MW)
FY 2019-20	22,500
FY 2020-21	24,500
FY 2021-22	27,000

In view of the projections of peak demand, Uttar Pradesh Power Transmission Corporation Limited (UPPTCL) has revised capital investment plan for the period from FY 2018-19 to FY 2021-22. UPPTCL has submitted the same before Hon'ble UPERC on 27th February 2019.

UPPTCL submits that the transmission works under the Capital Investment Plan are envisaged with the objectives to create the evacuation system on the upstream side for conventional and renewable energy sources anticipated to come up during the Plan period and beyond, apart from the anticipated growth in load and demand of power/energy in the downstream networks feeding the ultimate consumers of the distribution companies, as per the constraints of transmission planning criteria prescribed by C.E.A., mandatory codes & regulations, applicable standards apart from technical feasibility, RoW/space constraints and conditions in the field.

The total outlay for the period from FY 2018-19 to FY 2021-22 is Rs. 23,507 Crore. This includes capital expenditure to be made on new/ongoing projects or schemes, projects under the Green Energy Corridor II (Solar Power), power evacuation systems, augmentation works, System Strengthening works & addition of Capacitor/Reactors. The year-wise projected capital expenditure under various heads is provided in the Table below:

Table 3: Capital Expenditure for FY 2018-19 to FY 2021-22

Capital Expenditure (Rs. Crore)				
Schemes/Projects	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
New/Ongoing Projects	2,438	5,760	5,032	4,187
Green Energy Corridor II (Solar Power)	211	483	1,228	1,691
Augmentation	418	326	215	225
System Strengthening	84	475	189	175
Addition of Capacitor/Reactor	126	126	60	60
Total	**3,276**	**7,170**	**6,724**	**6,337**

As per the new capital investment plan UPPTCL will increase the total line length to 61,196Ckt. Kms by FY 2021-22. Whereas, the total transformation capacity at different voltage levels is expected to be 1,74,928 MVA for FY 2021-22. The year-wise planned network is provided in the Table below:

Table 4: Planned Network for FY 2018-19 to FY 2021-22

Line Length (Ckm)	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
132 kV	21,260	24,939	27,819	30,769
220 kV	12,292	14,526	17,251	19,206
400 kV	6,112	6,502	8,763	9,514
765 kV	1,272	1,302	1,302	1,707
Total	**40,937**	**47,270**	**55,135**	**61,196**

Transformation (MVA)	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
132 kV	46,628	50,192	55,298	61,018
220 kV	39,090	43,790	55,510	64,270
400 kV	16,480	19,880	26,510	34,640
765 kV	6,000	6,000	6,000	15,000
Total	**1,08,198**	**1,19,862**	**1,43,318**	**1,74,928**

The above capital expenditure & capacity additions planned by UPPTCL are in line with the load projections as provided in the Table 2. UPPTCL shall ensure timely completion of the projects or schemes against the targeted completion dates, so that UPPTCL gets due benefits in terms of reduction of losses and also in capacity building, system strengthening, voltage improvement, and for improving the reliability of services. UPPTCL gives top priority on the timely completion of the projects in the best possible manner within the approved financial resources, so that the beneficiaries should also get timely benefits from these projects.

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