



**THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION  
LUCKNOW**

**Petition Nos. 1025, 1026 of 2015**

**FILED BY**

**UP Rajya Vidyut Utpadan Nigam Limited (UPRVUNL)**

**IN THE MATTER OF:**

Determination of final true up for FY 2011-12 to FY 2013-14 and Determination of Multi Year Tariff and approval of Annual Revenue Requirement for thermal Powerstations of Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) for FY 2014-15 to FY 2018-19.

**Anpara 'A'**

**Anpara 'B'**

**Obra 'A'**

**Obra 'B'**

**Panki**

**Harduaganj**

**Parichha**

**Parichha Extension**

**Harduaganj Extension**

**Parichha Extension Stage-II**

**Provisional Tariff for Anpara 'D'**

**Lucknow**

**Dated: 29<sup>th</sup> April, 2016**



## **Table of Contents**

- 1. FOREWORD**
- 2. BACKGROUND**
  - (A) Regulatory Framework
  - (B) Earlier Tariff Orders
  - (C) Baseline data
- 3. METHODOLOGY FOR TRUING UP**
- 4. FINAL TRUE UP FY 2011-12, FY 2012-13 AND FY 2013-14**
- 5. MULTI YEAR TARIFF PETITION FOR FY 2014-15 to FY 2018-19**
- 6. TARIFF DESIGN**
- 7. COMMISSION'S APPROACH FOR DETERMINATION OF MYT**
- 8. APPROVED MULTI YEAR TARIFF AND ARR**
- 9. PROVISIONAL TARIFF FOR ANPARA-'D'**
- 10. OTHER PROVISIONS**
- 11. APPROVED TARIFF AND ARR – AT A GLANCE**
- 12. IMPLEMENTATION OF ORDER**



**Petition Nos. 1025 and 1026 of 2015**

**BEFORE  
THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION  
LUCKNOW**

**Date of Hearing: 09.02.2016**

**Date of Order: 29.04.2016**

**PRESENT:**

1. Hon'ble Shri Desh Deepak Verma , Chairman
2. Hon'ble Shri Indu Bhushan Pandey, Member
3. Hon'ble Shri Suresh Kumar Aggarwal, Member

**IN THE MATTER OF:**

**Multi Year Tariff Petition for Approval of Annual Revenue Requirement and determination of Tariff for FY 2014-15 to FY 2018-19 in respect of existing thermal power stations, Petition for determination of provisional tariff for Anpara 'D' and Determination of Final True Up for FY 2011-12, FY 2012-13 and FY 2013-14 of Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL), 14, Ashok Marg, Lucknow**

**BETWEEN**

UP Rajya Vidyut Utpadan Nigam Limited (UPRVUNL),  
Shakti Bhawan ,  
14, Ashok Marg, Lucknow

-----Petitioner

**AND**

1. The Chairman and Managing Director, U.P. Power Corporation Ltd., 7<sup>th</sup> Floor, Shakti Bhawan, 14, Ashok Marg, Lucknow
2. The Managing Director, Purvanchal Vidyut Vitran Nigam Ltd., 132KV Substation, Bhikharipur, Vidyut Nagar, Varanasi.
3. The Managing Director, Paschimanchal Vidyut Vitran Nigam Ltd., Victoria Park Meerut.
4. The Managing Director, Madhyanchal Vidyut Vitran Nigam Ltd., Gokhle Marg, Lucknow.



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

---

5. The Managing Director, Dakchinanchal Vidyut Vitran Nigam Ltd., Gailana Road, Agra.
6. The Managing Director, KESCO, Kesa House, Kanpur
7. The CEO, Noida Power Company Limited, H Block, Alpha II, Greater Noida.

-----Respondent(s)

**The following were present:**

1. Sri Subir Chakrvarti, GM (PPMM), UPRVUNL
2. Sri Shyam Narayan, CE (Commercial), UPRVUNL
3. Sri Hari Shyam, EE (Comm.), UPRVUNL
4. Sri B.S Tiwari Dir., UPRVUNL
5. Sri V.K Asthana, SE (PPA), UPPCL
6. Sri V.P Srivastava CE (PPA), UPPCL
7. Sri Ahmad Tair, EE(PPMM.),
8. Shri Rakesh Kumar, CGM( R)
9. Shri Murlidhar Bhaghadani Dir. (Tech)
10. Shri Awdhesh Kumar ,(Uttar Pradesh Vidyut Upbhogta Parishad)
11. Shri Rama Shankar Awasthi
12. Shri S.P Chaubey , CE (T.O)
13. Shri Manish Garg, Consultant
14. Sri Mohit Goyal, Consultant



## Order

### 1. FOREWORD :

- 1.1 The U. P. Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) filed petitions for determination of Multi Year Tariff (MYT) and approval of Annual Revenue Requirement (ARR) for Anpara 'A', Anpara 'B', Obra 'A', Obra 'B', Panki, Harduaganj, Parichha, Parichha Extension, Harduaganj Extension and Parichha Extension Stage-II Thermal Power Stations for F.Y. 2014-15 to 2018-19 and petition for determination of provisional tariff for Anpara D of U. P. Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) on 06.07.2015. UPRVUNL has also submitted the Petition for final True Up for FY 2011-12, FY 2012-13 and FY 2013-14 based on audited accounts for the existing stations. The petitions were admitted by the Commission vide order dated January 07<sup>th</sup>, 2016 with direction to the Petitioner to publish the application in abridged form in at least two newspapers within 3 days from the date of order giving 15days' time for submission of suggestions and objections from all concerned. The Petitioner got the details published in Hindustan Times (Hindi), Amar Ujala (Hindi) and Dainik Jagran (Hindi) on January 13, 2016 & January 14, 2016 and in Times of India (English) on January 14, 2016 & January 15, 2016 .The Petitioner was also directed to put the petitions along with the relevant documents on its website and to make available hard copies of the same for inspection by any person during office hours at its Registered Office.
- 1.2 In the matter a Public Notice was given to the stakeholders and interested parties to give opportunity to submit comments/ objections/ suggestions to petitions in writing directly to the Commission's Office with an advance copy to the Petitioner, personally or by post. The Public hearing in the matter was held in the office of the Commission on 09.02.16 at 11:30 hrs.
- 1.3 UPPCL filed comments on the petition on which the Petitioner filed a rejoinder on. Further a counter was filed by UPPCL on this rejoinder submitted by the Petitioner on 09.02.2016 on the date of hearing.
- 1.4 During the hearing, the representative of the Petitioner summarized the contents of the petitions, on which specific concerns against the petitions were raised by Respondents.
- 1.5 Based on the preliminary scrutiny of the petitions and the deliberations during the Public Hearing, the Commission provided an additional 15 days to UPRVUNL to submit the response on the counter submitted by the UPPCL, which was submitted by the Petitioner on February 12, 2016 and February 22, 2016.



- 1.6 The preliminary objections raised ,rejoinder filed by the petitioner along with the counter has been shown below:

**A. Delay in submission of Petition:**

UPPCL has raised a concern that the Petitioner has delayed in submitting the petition for true up and submitted the same on 28.04.2015. Thus, requested the Commission not to allow claim for interest under Reg 5(5) (v) of UPERC 2009 Tariff Regulations for the period of delay beyond regulatory directive in filing petition. Further, requested the Commission to kindly direct the Petitioner to submit an application for each of its generating station separately as per provisions of UPERC tariff Regulations. On this the Petitioner has filed a rejoinder stating that the petitioner has sought a true down which would reduce the ARR recovered in the previous years and would benefit the respondents in terms of reduction on Tariff and the Commission has allowed the Petitioner to file a consolidated petition in its hearing dated 22.12.2015.

**B. Calculation of Return on Equity:**

UPPCL has submitted that the Petitioner has submitted that the Capital Cost is as per Audited Accounts and requested the Commission to direct the Petitioner to furnish the audited accounts of generating station as required by UPERC Tariff Regulations along with the revised claim of ROE based on average equity deployed as against closing equity. On this the Petitioner has replied that he has submitted the audited accounts to the Commission on 18.11.2015, The UPPCL has raised a counter to the rejoinder filed by the Petitioner that the Petitioner has failed to furnish station wise audited financial statements to M/s UPPCL and requested the Commission to direct the Petitioner to furnish the copy of audited accounts of generating stations. UPPCL submitted that CERC has been consistently adopting average equity for determination of Return on equity and requested the Commission to direct the Petitioner to revise the claimed ROE based on average equity deployed as against closing equity for 2011-14 tariffs along with the revision of ROE claim for 2009-10 and 2010-11. On this, the Petitioner has filed a counter on the rejoinder filed by the UPPCL which states that the audited accounts have been submitted to Commission on 18.11.2015 and copy has already been provided to the respondent vide letter dated 09.02.2016. Further, the Petitioner has replied that change in methodology and treatment is generally not done in a true up exercise and it has been the consistent approach of the Commission to provide Return on equity on closing equity as manifested from the MYT order and earlier true up

---



orders. Thus in view of this, the Petitioner has computed the return on equity on closing equity.

**C. Normative Parameters considered for tariff Computations:**

UPPCL has submitted that the Petitioner failed to furnish details of considered Normative parameters, thus requested the Commission to direct the Petitioner to furnish details as required under Form 3. On this the petitioner has responded that Form 3 titled Normative parameters considered for tariff computations have been prescribed to be filed for tariff determination purposes and not for truing up. Further counter by UPPCL has been filed stating that Regulation 5(5) (ii) of UPERC 2009-14 Regulations stipulates that "*the generating company shall make an application, as per Appendix 1 to these Regulations, for carrying out true up exercise in respect of the generating station.*" And thus submitted that the Petitioner is required to furnish all information as required under Appendix 1 and contention of the petitioner is contrary to provisions of the Regulations 5(5)(ii) of UPERC 2009-14 Regulations. On this the Petitioner has filed a counter on the rejoinder filed by UPPCL that no change /adjustment in normative parameters has been sought in the instant petition and Form 3 titled Normative parameters considered for tariff computations have been prescribed for tariff computations have been prescribed to be filed for tariff determination purposes and not for truing up as no variations in operating parameters are to be allowed in truing up.

**D. Admitted Capital Cost for the Existing Projects:**

UPPCL submitted that the petitioner has submitted that details required as per Form 5 are 'not applicable' and thus requested the Commission to direct Petitioner to furnish details as required under Form 5 and furnish details of assets not in use by the Petitioner. On this the petitioner has responded that admitted capital cost as on 31.03.2011 is as per order dated 14.11.2013 in petition No.877 of 2013 and further confirmed that all the assets are in use. Further a counter has been filed by the UPPCL reiterating its request that petition needs to be filed as per provisions of Regulation.(6)(ii) of UPERC 2009-14 Regulations. On this, the Petitioner has filed a counter on the rejoinder filed by the UPPCL and replies that the admitted cost as on 31.03.2011 was determined by the Commission adjudicating the final true up for 2009-10 and 2010-11 vide order dated 14.11.2013 in Petition No.877 of 2013.



**E. Additional Capitalization after COD:**

UPPCL submitted that the petitioner has claimed additional capitalization in the true up petition and thus requested the Commission to direct the Petitioner to submit item wise details as well as justification in respects of additional capitalization claimed. Further UPPCL has submitted that the Petitioner had claimed and was allowed Compensation Allowance by the Commission in its order dated 14.11.2013 and as per para 14.8 of instant petition, Compensation Allowance of Rs.4.10 Crores has been claimed. Further, Regulation 21(1)(iv)(e) stipulates that

*“In case of coal-based thermal generating station a separate compensation allowance unit-wise may be permitted to meet expenses in nature of capital expenditure on replacement of minor assets, in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life.....”.*

Thus, UPPCL submitted that Compensation Allowance is granted to meet expenditure on additional capital expenditure. It is in lieu of claim for additional capital expenditure under Regulation 18 of the UPERC 2009-14 Regulations. Since the Petitioner has claimed compensation Allowance under Regulation 21(1)(iv)( e) of the UPERC 2009-14 Regulations, the petitioner cannot claim for Additional Capital Expenditure under Regulation 18. Thus claim should be disallowed.

Further UPPCL has requested the Commission to direct Petitioner to furnish details of undischarged liability in respect of capital cost and additional capital expenditure to determine capital cost actually incurred. On this the petitioner has submitted its response stating that the additional capitalization towards major schemes has been approved by the Commission (Para 11) and rejected the contention of M/s UPPCL regarding the compensation allowance.

Further the petitioner has stated that issue of undischarged liability is extraneous to UPERC 2009 Regulations. On this counter has been filled by the UPPCL reiterating the request that petition needs to be filed as per provisions of Regulation 5(5)(ii) of UPERC 2009-14 Regulations. UPPCL restated that the amount allowed towards compensation allowance in UPERC 2009 Regulations is same as the amount allowed in CERC 2009 Regulations. UPPCL stated that there seemed to be some error in drafting of UPERC Regulations , as on one hand Regulation 18(3) of UPERC 2009 Regulations disallows ‘additional capital expenditure on minor assets ‘ and on another such huge amount is being given as compensation for ‘minor assets’.



UPPCL submitted that Regulation 18(2) (1) of UPERC 2009 Regulations permits payment of 'deferred liabilities beyond cut-off date' as additional capital expenditure and that the term 'Deferred Liability' has not been defined in UPERC Regulations nor in CERC regulations. The UPPCL also submitted that in SOR of 2009 'undischarged liability' has been substituted for 'deferred liability'. The UPPCL further submitted that the contention of Petitioner that 'undischarged liability is extraneous to UPERC 2009 Regulations is not consistent with the regulations.

**F. Calculation of Weighted Average Rate of Interest on Actual Loans:**

UPPCL submitted that the Petitioner has considered Rate of Interest on Loan of 10.91% and details of loan have not been furnished. UPPCL has raised a concern that the Petitioner has failed to provide details of loans as required by Form 13 and requested the Commission to direct the petitioner to provide component wise computation details on weighted average rate of interest. On this, the Petitioner has submitted that it has considered same weighted average rate of interest as was approved on long term loans by UPERC in Tariff Order dated 20.03.2012. Further a counter has been submitted by the UPPCL stating that Form 13 factors determination of weighted average rate of interest based on actual loan. The loan repayment schedule varies from loan to loan. Thus it is imperative that rate is determined on yearly basis.

**G. Calculation of Interest on Working Capital:**

UPPCL has submitted that the Petitioner has failed to furnish details of 'Interest on Working Capital' and stated that "*As the Regulations specify that the interest on working capital shall be considered on normative basis irrespective of the actual drawl of working capital loan by the company*". UPPCL has requested the Commission to direct Petitioner to furnish details as required under Form 15. On this the Petitioner has submitted that it has considered the same rate of interest as was approved vide Tariff Order dated 14.11.2013. Further counter was raised by UPPCL stating the Petitioner has failed to answer issue of 'quantum of working capital' and that Form 15 is necessary to determine quantum of working capital.

**H. Calculation of Operation and Maintenance Expenses:**

The Petitioner has submitted that O&M Expenses has been claimed as per actual of audited accounts. UPPCL has requested the Commission to allow O&M as per



provisions of Regulations and detailed station wise computation has been submitted by them in the reply filed with the Commission.

**I. Details/ Information to be submitted in respect of fuel for computation of energy charges and computation of Energy Charges:**

UPPCL submitted that Petitioner has failed to furnish details required as per Form 19 and 20 without any reason, thus UPPCL has requested the Commission to direct the Petitioner to furnish details required as per Form 19 and 20. On this the Petitioner has submitted that it has not filed Form 19 and 20 as no variation in energy charges and operating parameters has been claimed. Further counter was filed by the UPPCL reiterating its request that petition needs to be filed as per provisions of Regulation 5(5)(ii) of UPERC 2009 Regulations. On this, the Petitioner has filed a counter on the rejoinder filed by UPPCL and states that no variation in energy charges and operating parameters has been claimed by the Petitioner and submitted that filing form 19 and 20 is inconsequential and furnishing such details would be an unfruitful exercise for the purpose of Truing up.



## **2. BACKGROUND:**

### **(A) Regulatory Framework:**

The Uttar Pradesh Electricity Reforms Act, 1999 (UP Act No. 24 of 1999), herein after referred to as the Reforms Act) set off the reforms in the power sector of Uttar Pradesh. According to the provisions of sub-sections (1) and (2) of section 23 of the Reforms Act, vide notification No. 149/P-1/2000-24, Lucknow, January 14, 2000, Uttar Pradesh Electricity Reforms Transfer Scheme, 2000 (hereinafter referred to as the Transfer Scheme) was notified. This transfer scheme had reorganized Uttar Pradesh State Electricity Board (UPSEB) by unbundling it into three separate entities i.e. Uttar Pradesh Power Corporation Limited (UPPCL), Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) and Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL) w.e.f. 14.1.2000. UPPCL was vested with the responsibility of transmission and distribution of electricity, UPJVNL with the responsibility of hydro generation and UPRVUNL, a company which also existed prior to the date of reorganization of UPSEB, was vested with the responsibility of thermal generation.

The Electricity Act, 2003 (hereinafter referred to as EA, 03) came into effect from 10<sup>th</sup> June, 2003 and repealed all the erstwhile electricity Acts in the country viz. Indian Electricity Act, 1910 (9 of 1910), The Electricity (Supply) Act, 1948 (54 of 1948) and the Electricity Regulatory Commissions Act, 1998 (14 of 1998). Since the enforcement of this act, the power sector in India has undergone major organisational and functional changes. EA, 03 has specified in sub-section (3) of section 185 read with the schedule of enactments that the provisions of Uttar Pradesh Electricity Reforms Act, 1999, as far as not inconsistent with EA, 2003, shall apply. Under section 61 of EA, 03, the State Electricity Regulatory Commissions require to notify terms and conditions for determination of tariff of generation, transmission & distribution. Section 86 of the Act mandates the Electricity Regulatory Commission to determine tariff in respect of Generating Companies and Licensees.

In exercise of powers conferred under section 181 read with the provisions of the Section 61 of EA, 03, UPERC notified the UPERC (Terms and Conditions of Generation Tariff) Regulations, 2004 effective from 18.6.05, the date of notification. The Commission had notified the UPERC (Terms and Conditions of Generation Tariff) Regulations, 2009 (hereinafter referred to as Generation Regulations, 09) w.e.f. 1.4.09 which remained effective till 31.3.2014 unless reviewed earlier or extended by the Commission.



The Commission has notified the UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014 (hereinafter referred to as Generation Regulations, 14) effective from 1.4.14

For the regulation of generation of electricity from Captive and Non-Conventional Energy sources in the State, UPERC has separate Regulations recognized as CNCE/CRE Regulations.

**(B) Earlier Tariff Orders:**

- (i) Determination of tariff and approval of ARR for year 2005-06, 2006-07 & 2007-08, vide order dt. 26.3.2007:

The tariff order was issued for three financial years under Generation Regulations, 2004. The salient features of the order were as given below:

- (a) The tariff was determined for eight generating stations of UPRVUNL namely Anpara A, Anpara B, Harduaganj, Obra A, Obra B, Panki and Parichha and Parichha Extension with total derated capacity of 4297 MW as against installed capacity of 4430 MW. The tariff determined for the Parichha Extension was provisional with the condition that on Commissioning of unit no. 2, the Petitioner would bill the beneficiaries for the electricity supplied at the same rate as determined for unit-1 subject to retrospective revision.
- (b) The Commission had accepted the Gross Fixed Assets (GFA) submitted on 15.02.2007 i.e. ₹ 6271.46 Cr as on 14.1.2000 (opening balance under transfer scheme) and ₹ 6706.49 Cr as on 31.3.2005, total for all the power stations of UPRVUNL as these were found to be more consistent with the total GFA reflected in audited books of accounts of the Petitioner. **It was decided that this data would be used as base data for all future considerations and would not be subject to review.**
- (c) In the Tariff order of FY 2004-05, the Commission approved the depreciation for the power stations of UPRVUNL on the basis of Power Purchase Agreements (PPA) signed with UPPCL. However, the basis of tariff determination for FY 2005-06 to FY 2007-08 was taken as per the principles and guidelines outlined in Generation Regulations, 2004. It was decided that the weighted average rate of depreciation would be considered for tariff determination provided that the depreciation on capital spares, in case of plants which had lived up their useful life of 25 years, would not be allowed. In view of this, the Commission decided



that for Obra A, Obra B, Panki & Harduaganj, where the vintage was more than 25 years, the weighted average rate of depreciation would be 3.54% and in case of Anpara A, Anpara B, Parichha & Parichha Extension 3.56% (computed by applying approved depreciation rates on the GFA as on 1.4.2005 with break-up of land, plant & machinery etc. taken from audited balance sheet of the Petitioner). **It was also decided that the truing up of depreciation would not be allowed.** Since UPRVUNL had not claimed any amount as Advance Against Depreciation (AAD) in its tariff petition, the Commission considered zero AAD.

- (d) The Commission **accepted total equity of UPRVUNL as ₹1798.55 Cr as on 31st March 2005 which was also consistent with the values of equity approved by the Commission** for UPRVUNL in its previous tariff orders. In this order, the Commission had once again rejected the sum of ₹ 334.35 Cr, an amount provided by the GoUP for liquidation of coal dues of UPRVUNL, from the computation of equity on the basis of Para 4 of Preamble of 'Scheme of settlement of SEB dues' Annexure A of the report which observed that, "It is difficult to believe that SEBs can undertake reforms and simultaneously clear the overhang of past dues unless very large tariff increases are mandated beyond levels justified by current cost to cover past dues. In the circumstances, it is appropriate that one time settlement of outstanding dues should be attempted by shifting the burden of clearing these dues to the State Government." The Return on Equity (RoE) was considered as 14 % for the tariff period.
- (e) After due reconciliation of data submitted, since the Petitioner had not provided the details of repayment and drawal of each of the loan and other source-wise details, the Commission decided that repayment would be equal to the depreciation allowed for all generating stations except for Paricha Extn. However, for Paricha Extn, the loan repayment considered at actual, as submitted by the Petitioner, had been accepted. **The approved debt as on 31.3.2005 was ₹ 1479.84 Cr** and rate of interest on loan was considered as 12.5 % except for Parichha Extension for which actual interest rates was to be taken for calculation of interest for future.
- (f) The Commission had allowed O&M expenses according to the norms as provided under the Generation Regulations, 2004 even if it amounted to approving higher than that sought for in case of some generating stations. The excess fund so created was to be utilized for other power stations where higher than normative O&M expenses had been incurred.
-



## True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

---

- (g) The Commission had computed the working capital requirement of UPRVUNL according to the norms specified in Regulations. The interest on working capital was considered 10.25% as on 1st April 2005 and 1st April 2006, the PLR of State Bank of India was 10.25%.
- (h) According to the regulations the tax on income was directly recoverable from the beneficiaries. The mechanism of recovery of tax was through a Tax Escrow Account to be maintained by each of the beneficiaries. This account had to be maintained in a scheduled bank and an amount equivalent to two months liability, as informed by generating company prior to commencement of financial year, had to be maintained in such account. The generating company was liable to withdraw the amount for settling the tax liability according to the procedure specified in the regulations.
- (i) The UPRVUNL's claim for recovery of fixed cost on actual availability in comparison to the target availability, as specified by the Commission under Regulations, was accepted by the Commission.
- (j) The Commission relaxed the norms for Plant Load Factor (PLF) for year 2005-06 and 2006-07 in exercise of power conferred under regulation 13 of Generation Regulations, 2004. However, the auxiliary consumption, Gross Station Heat Rate (GSHR) & oil consumption were considered as specified in the Generation Regulations, 2004.
- (k) The Commission considered fuel price (both coal and secondary oil) and GCV at an average of the last three months price submitted by UPRVUNL in Form no. 19. However, the recovery/adjustment, for any change in fuel cost based on actual audited cost of fuel and GCV to be claimed according to the provisions set out in the regulations was allowed on month to month basis.
- (l) For billing purposes, total energy charge was allowed to be equal to the rate of energy charge multiplied by actual energy sent out but on implementation of ABT in the State, it was to be the rate of energy charge multiplied by scheduled energy sent out.
- (m) The Commission had relaxed the norms for Plant Load Factor (PLF) therefore no incentive was allowed.



- (ii) Determination of tariff and approval of ARR for year 2008-09, vide order dt. 6.3.2009 :
- (a) The tariff was determined for seven generating stations of UPRVUNL namely Anpara A, Anpara B, Harduaganj, Obra A, Obra B, Panki and Parichha and Parichha Extension with total derated capacity of 4022 MW as against installed capacity of 4544 MW.
- (b) The Commission had accepted the Gross Fixed Assets (GFA) ₹ 6706.61 Cr as on 31.3.2005 with a small correction of ₹ 0.12 Cr in earlier approved GFA which was ₹6706.49 Cr, total for all the power stations of UPRVUNL. GFA on 31.3.09 was approved as ₹8518.70 Cr. For FY 2008-09, **the Commission decided to allow true up for additional capitalization provided that the UPRVUNL would submit annual audited account within two years.**
- (c) The Commission, while determining GFA, had taken the gross block as approved on 1.4.05 and allowed additional capitalization in 2005-06, 2006-07 & 2007-08. The additional capital expenditure incurred in year 2008-09 was to be allowed after Commissioning of assets. UPRVUNL was to file petition for allowing additional capitalization. Since, the Commission had allowed capital expenditure to be capitalized in 2005-06, 2006-07 & 2007-08, the years for which the tariff had already been determined in tariff order dt. 26.3.07, the Commission decided to follow depreciation norms as decided in tariff order dt. 26.3.07 i.e. for Obra A, Obra B, Panki & Harduaganj 3.54% and for Anpara A, Anpara B, Parichha & Parichha Extension 3.56%.. It was also decided that in case of additional capital expenditure during 2008-09, depreciation shall be calculated in Form 12 of the Generation Regulations. Since UPRVUNL had not claimed any amount as Advance Against Depreciation (AAD) in its tariff petition, the Commission considered zero AAD.
- (d) Considering equity addition as zero during the financial year 2008-09, **the Commission allowed total equity of UPRVUNL as ₹ 2181.09 Cr as on 31st March 2009** which was also consistent with the values of equity approved by the Commission for UPRVUNL in its previous tariff orders. The Return on Equity (RoE) was considered as 14 % for the tariff period.
- (e) The approved debt as on 31.3.2008 was ₹ 2571.61 Cr and on 31.3.09 ₹ 2267.93Cr. The rate of interest on loan was considered as weighted average of rate of interest on all loans.
-



## True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

---

- (f) The Commission had considered higher O&M than normative as provided under the Regulations for Obra A, Panki, Haduaganj & Parichha for the year 2008-09. In this way, the Commission had approved higher O&M to felicitate proper maintenance in view of the shortfall of funds experienced due to non-payment of dues.
- Some additional O&M expenditures were also allowed to meet out the charges such as finance & bank charges, water cess, payment to pollution board, Regulatory fee and impact of Sixth Pay Commission.
- (g) The working capital requirement of UPRVUNL was approved according to the norms specified in the Regulations and the interest on working capital was considered 12.75% for FY 2008-09.
- (h) Tax on income was directly to be recoverable from the beneficiaries through a Tax Escrow Account. The generating company was liable to withdraw the amount for settling the tax liability according to the procedure specified in the regulations.
- (i) For recovery of fixed costs, the projected availability in comparison to the target availability, as specified by the Commission under Regulations, was approved by the Commission.
- (j) The PLF and specific oil consumption for year 2008-09 were considered as provided under Regulations. However, the auxiliary consumption and GSHR & were relaxed for Obra A, Obra B, Panki, Harduaganj and Parichha (only auxiliary consumption).
- (k) The fuel price was considered at an average of the last three months price. Any variation in fuel cost was allowed to be claimed based on actual audited costs on month to month basis.
- (iii) Determination of MYT tariff and approval of ARR for FY 2009-10 to FY 2013-14, vide order dt. 20.01.2011 :
- (a) The Commission allowed the capitalisation of the R&M programme as per the original estimates submitted by the Petitioner in the MYT Petition. However, the Commission reduced the allowable debt of Obra BTPS to the extent of ₹ 268.48 crore. The Commission further declined payment of finance and bank charges as claimed by the Petitioner stating that it shall not be allowed separately as these
-



charges are considered as part and parcel of the acquired loans to be invested for addition of Gross Fixed Assets and therefore the same shall be claimed as Fixed Charges in the same manner as is applicable for the recovery of interest during construction.

- (b) The Commission had considered the allowance of other fuel related expenses like station supplies, lubricants, consumables and pollution cess based on actual amounts incurred.
- (iv) Review Order dated 20.03.12
  - (a) The Commission in the Review Order of MYT dated 20.03.12 granted partial relief to the UPRVUNL. It has appreciated the dilemma of the Petitioner and allowed the trans-positioning of the capitalisation of the Renovation and Modernisation schemes in respect of Anpara BTPS, Obra APTS and Harduaganj TPS. Further, the capitalization in respect of Obra BTPS was wholly withdrawn during the MYT period due to the uncertainty surrounding its completion
- (v) True-up Order dated 14.11.13
  - (a) The Commission approved the final true-up for FY 2009-10, FY 2010-11, and approved revised estimates for FY 2011-12, FY 2012-13 & FY 2013-14 based on the submissions made by UPRVUNL. The Commission allowed the capitalisation of the R&M programme as per the revised estimates submitted by the Petitioner in the True-up Petition. The Commission restated the Annual Revenue Requirement for FY 2009-10 to FY 2013-14 based on the revised submissions made by the Petitioner in its true-up petition..

### **3. METHODOLOGY FOR TRUING UP :**

True up in respect of the generating stations has been determined under Regulation 5(5) of UPERC (Terms and Conditions of Generation Tariff), 2009 for a generating company for truing up of capital expenditure and tariff, as provided are as below:

- (1) *The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31-3-2014, as admitted by the Commission after prudence check at the time of truing up:*

*Provided that the generating company may in its discretion make an application before the Commission one more time prior to 2013-14 for revision of tariff.*



- (2) *The generating company shall make an application as per Appendix I to the regulations, for carrying out truing up exercise in respect of the generating station or any of its units or blocks thereof by 31-10-2014.*
- (3) *The generating company shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1-4-2009 to 31-3-2014, duly audited and certified by the auditors;*
- (4) *Where after the truing up the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company shall refund to the beneficiaries, the excess amount so recovered along with the simple interest at the rate equal to short term Prime Lending Rate of State Bank of India prevailing as on 1<sup>st</sup> April of the respective year.*
- (5) *Where after the truing up the tariff recovered is less than the tariff approved by the Commission under these regulations, the generating company shall recover from the beneficiaries, the under-recovered amount along with the simple interest at the rate equal to short term Prime Lending Rate of State Bank of India prevailing as on 1<sup>st</sup> April of the respective year.*
- (6) *The amount under-recovered or over recovered, along with simple interest at the rate equal to the short term Prime Lending rate of State Bank of India prevailing as on 1<sup>st</sup> April of the respective year, shall be recovered or refunded by the generating company, in six equal monthly installments starting within three months from the date of the tariff order issued by the Commission after the truing up exercise.*

#### **4. Final True up for FY 2011-12, FY 2012-13 & FY 2013-14**

##### **4.1 True-up Petitions submitted by the UPRVUNL:**

- (1) The petitioner has filed the petition for the final true-up for FY 2011-12, FY 2012-13 and FY 2013-14 for all the generating stations based on the audited accounts. Because the consequential true-up for FY 2013-14 is negative, the Petitioner has proposed a reduction of its Annual Revenue Requirement so as to pass on the variation to the beneficiaries by a reduction in generation tariff.
- (2) In the Order dated 14.11.2013, the Commission had allowed actual true-up for FY 2011-12 and revised estimates for FY 2012-13 & FY 2013-14. The Commission had also allowed the capitalization of the R&M programme as per the revised estimates



## True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

---

submitted by the UPRVNUL in the True-up Petition. The Commission restated the Annual Revenue Requirement for FY 2009-10 to FY 2013-14 based on the revised submissions made by the Petitioner in its true-up petition. Thereafter, UPRVNUL filed an interim True-up petition for additional capitalization based on audited accounts for FY 2011-12 and Actual accounts for FY 2012-13. In its petition the petitioner claimed the final Truing-up for FY 2011-12, actual truing-up for FY 2012-13 and projection of revised estimates for FY 2013-14. The energy charges and fixed charges for FY 2013-14 were claimed as per the principles stipulated in the regulations. The Petitioner in the true-up petition had claimed a reduction of its Annual Revenue Requirement so as to pass on the variation to the beneficiaries by a reduction in generation tariff, on account of lower O&M expenses and transposition of the R&M milestones as approved in the MYT order dated 20.03.2012.

- (3) A hearing on this matter was held with the Commission on 22.07.2014 in which the UPPCL opposed the petition stating that as per the Regulations, the Commission shall carry out the truing-up exercise along-with the tariff petition filed for the next tariff period with respect to the capital expenditure including additional capital expenditure incurred upto 31.03.2014.
- (4) The Commission directed UPRVUNL to file a fresh true-up petition along with the MYT petition and accordingly disposed off the True up petition vide its Order dated 21.08.2014.
- (5) The Petitioner has now filed final true-up for FY 2011-12, FY 2012-13 and FY 2013-14. The Petitioner has claimed the additional capital expenditure based on the audited accounts. The Petitioner has also claimed variation in O&M charges in case of Obra A, Obra B, Panki, Parichha, Harduaganj as per the Regulation 21(iv) of the UPERC (Generation Tariff) Regulations 2009.
- (6) Based on detailed analysis of the Petitioner's submission, the Commission's approval of true up for the years under consideration is deliberated as follows:

Section - 1 Anpara 'A'  
Section - 2 Anpara 'B'  
Section - 3 Obra 'A'  
Section - 4 Obra 'B'  
Section - 5 Panki  
Section - 6 Harduaganj  
Section - 7 Parichha  
Section - 8 Parichha Extension  
Section - 9 Harduaganj Extension  
Section - 10 Parichha Extension Stage-II



## **4.1**

### **Section -1**

#### **True up Tariff**

**For**

**Anpara 'A'**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**





(Rs. in Crores)									
Anpara 'A' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
<b>Cl. Accu. Depreciation</b>	<b>583.47</b>	<b>583.48</b>	<b>583.48</b>	<b>613.05</b>	<b>613.29</b>	<b>613.29</b>	<b>642.64</b>	<b>643.62</b>	<b>643.62</b>
Op. Debts	43.87	43.87	43.87	14.62	15.53	15.53	14.62	17.25	17.25
Additions	0.34	1.27	1.27	-	31.53	31.53	-	13.69	13.63
Less : Repayment	29.58	29.6	29.60	-	29.81	29.81	-	30.33	30.33
<b>Cl. Debts</b>	<b>14.62</b>	<b>15.53</b>	<b>15.53</b>	<b>14.62</b>	<b>17.25</b>	<b>17.25</b>	<b>14.62</b>	<b>0.61</b>	<b>0.61</b>



## Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Anpara 'A' Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	29.58	29.6	29.60	0.02	29.59	29.81	29.81	0.22
Interest on loan	3.19	3.24	3.24	0.05	0.80	1.79	1.79	0.99
Return on Equity	34.35	34.41	34.37	-0.02	34.35	36.51	35.46	1.11
Interest on working Capital	26.6	26.6	26.6	-	27.71	27.71	27.71	-
O&M Expenses	114.29	115.15	114.29	-	135.48	159.48	135.48	-
Compensation Allowance	4.1	4.1	4.1	-	4.1	4.1	4.1	-
<b>Total</b>	<b>212.11</b>	<b>213.11</b>	<b>212.20</b>	<b>0.09</b>	<b>232.03</b>	<b>259.40</b>	<b>234.34</b>	<b>2.32</b>



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Anpara 'A' PowerStation	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	29.59	30.33	30.33	0.74
Interest on loan	0.00	0.97	0.97	0.97
Return on Equity	34.35	37.42	36.96	2.61
Interest on working Capital	28.13	28.13	28.13	-
O&M Expenses	143.23	162.06	143.23	-
Compensation Allowance	4.1	4.1	4.1	-
<b>Total</b>	<b>239.4</b>	<b>244.18</b>	<b>243.72</b>	<b>4.32</b>

**4.1**

**Section - 2**

**True up Tariff**

**For**

**Anpara 'B'**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**





(Rs. in Crores)									
Anpara 'B' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. Equity	1,289.00	1,289.00	1,289.00	1,297.14	1,299.45	1,299.45	1,297.14	1,305.88	1,305.88
Additions	8.14	10.45	10.45	-	6.43	6.43	138.39	11.13	11.13
Reduction	-	-	-			-			-
<b>Cl. Equity</b>	1,297.14	1,299.45	1,299.45	1,297.14	1,305.88	1,305.88	1,435.54	1,317.01	1,317.01
Op. Accu Dep	3,452.28	3,452.28	3452.28	3,625.52	3,625.66	3625.66	3,799.25	3,800.05	3800.05
Dep. during the year	173.24	173.38	173.38	173.73	174.39	174.39	198.64	175.45	175.45
A. A. D.	-	-	-	-	-	-	17.43	-	-
<b>Cl. Accu. Depreciation</b>	3,625.52	3,625.66	3625.66	3,799.25	3,800.05	3800.05	4,015.32	3,975.50	3975.50



(Rs. in Crores)									
Anpara 'B' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. Debts	21.16	21.16	21.16	-	-	-	-	-	-
Additions	19.00	24.38	24.38	-	15	15.00	553.58	25.97	25.97
Less : Repayment	40.16	45.54	45.54	-	15	15.00	42.34	25.97	25.97
<b>Cl. Debts</b>	-	-	-	-	-	-	511.24	-	-



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Anpara 'B' Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	173.24	173.38	173.38	0.14	173.73	174.39	174.39	0.66
Interest on loan	1.41	1.41	1.41	0.00	-	-	0.00	0.00
Return on Equity	201.06	201.41	200.60	-0.46	201.06	202.41	201.42	0.36
Interest on working Capital	41.90	41.90	41.90	0.00	47.20	47.20	47.20	0.00
O&M Expenses	99.71	104.71	99.71	0.00	153.60	81.15	81.15	-72.45
Compensation Allowance	3.50	3.50	3.50	0.00	3.50	3.50	3.50	0.00
<b>Total</b>	520.82	526.30	520.50	-0.32	579.09	508.65	507.66	-71.43



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Anpara 'B' PowerStation	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	216.07	175.45	175.45	-40.62
Interest on loan	33.95	-	-	-33.95
Return on Equity	222.51	204.14	202.29	-20.22
Interest on working Capital	49.73	49.73	49.73	0.00
O&M Expenses	162.39	127.24	127.24	-35.15
Compensation Allowance	3.50	3.50	3.50	0.00
<b>Total</b>	<b>688.15</b>	<b>560.05</b>	<b>558.21</b>	<b>-129.94</b>

**4.1**

**Section - 3**

**True up Tariff**

**For**

**Obra 'A'**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**

### Approved Revised GFA

(Rs. in Crores)									
Obra 'A' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. GFA	364.88	364.88	364.88	365	365.17	365.17	365	365.19	365.19
Additions	0.12	0.29	0.29		0.02	0.02	124.6	0.23	0.20
Deletions		-	0		-	0		133.49	133.49
<b>Cl. GFA</b>	365	365.17	365.17	365	365.19	365.19	489.6	231.93	231.90
Cl. Net FA	217.60		217.77	364.99		204.67	308.71		178.39
<b>Financing:</b>									
Op. Equity	120.34	120.34	120.34	120.37	120.43	120.43	120.37	120.43	120.43
Additions	0.04	0.09	0.09		0.01	0.01	24.92		0.06



(Rs. in Crores)									
Obra 'A' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Reduction	-	-	-	-	-	-	-	39.98	40.05
<b>Cl. Equity</b>	120.37	120.43	120.43	120.37	120.43	120.43	145.29	80.46	80.44
Op. Accu Dep	134.28	134.28	134.28	147.40	147.4	147.4	160.51	160.52	160.52
Dep. during the year	13.11	13.12	13.12	13.12	13.12	13.12	17.60	13.13	13.13
A. A. D.	-	-	-	-	-	-	2.77	-	-
<b>Cl. Accu. Depreciation</b>	147.40	147.4	147.40	160.51	160.52	160.52	180.89	173.65	53.51
Op. Debts	146.50	146.5	146.5	133.47	133.59	133.59	120.35	120.48	120.48
Additions	0.08	0.21	0.20		0.01	0.01	99.68	0.16	0.14
Less : Repayment	13.11	13.12	13.12	13.12	13.12	13.12	20.37	13.13	13.13
<b>Cl. Debts</b>	133.47	133.59	133.59	120.35	120.48	120.48	199.66	107.51	107.49



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Obra 'A' Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	13.11	13.12	13.12	0.01	13.12	13.12	13.12	0.00
Interest on loan	15.41	15.42	15.42	0.01	13.97	13.99	13.99	0.02
Return on Equity	16.97	16.98	18.66	1.69	16.97	16.98	18.67	1.70
Interest on working Capital	15.10	15.10	15.10	0.00	14.09	14.09	14.09	0.00
O &M Expenses	107.14	117.01	104.15*	-2.99	61.93	125.54	114.83*	52.90
Compensation Allowance	1.87	1.87	1.87	0.00	1.87	1.87	1.87	0.00
<b>Total</b>	<b>169.61</b>	<b>179.50</b>	<b>168.32</b>	<b>-1.29</b>	<b>121.96</b>	<b>185.59</b>	<b>176.57</b>	<b>54.61</b>

\*Deducted by the Commission



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Obra 'A' PowerStation	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	20.37	13.13	13.13	-7.24
Interest on loan	17.62	12.55	12.55	-5.07
Return on Equity	22.52	10.78	15.57	-6.95
Interest on working Capital	15.18	15.18	15.18	0.00
O & M Expenses	65.48	128.11	120.70*	55.22
Compensation Allowance	1.87	1.87	1.87	0.00
<b>Total</b>	<b>143.05</b>	<b>181.62</b>	<b>179.00</b>	<b>35.95</b>

\*Deducted by the Commission

During the review of the Petition, the Commission observed that the O&M cost for Obra 'A' has increased significantly from the approved cost in the true up order dated 14.11.2013. Further to review the same, the Commission had asked for the plant/unit wise operational data for the station from the Petitioner. However the Petitioner was not able to submit the requisite details. Thus in view of this, the Commission has deducted the O&M expenses using the following methodology:

- Actual Repair and Maintenance expenses as a percentage of actual O&M expenses as per accounts has been calculated
- Normative O&M expenses based on the installed capacity for FY 2011-12, FY 2012-13 and FY 2013-14 have been calculated
- The allowable R&M expenses have been determined by multiplying the above calculated percentage (actual R&M expenses as a percentage of O&M expense) with the normative O&M expenses.



- The allowable R&M expenses has been added to the actual Employee Expenses and A&G expenses to determine approved O&M expenses
- However in cases where actual O&M expenses are lower than normative O&M expenses, the O&M expenses have been allowed as per actuals

The Commission has disallowed the expenses on account of generator's inefficiencies which should not be passed of the burden to the consumers.

**4.1**

**Section - 4**

**True up Tariff**

**For**

**Obra 'B'**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**

### Approved Revised GFA

(Rs. in Crores)									
Obra 'B' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. GFA	484.35	484.35	484.35	768.78	769.47	769.46	768.78	849.81	849.80
Additions	284.43	285.11	285.11	-	80.34	80.34	-	0.09	0.09
Deletions		-	-	-	-	-	-	-	-
<b>CI. GFA</b>	768.78	769.47	769.46	768.78	849.81	849.80	768.78	849.89	849.89
CI. Net FA	423.11	423.77	423.77	395.40	474.93	474.93	367.69	444.39	444.39
<b>Financing:</b>									
Op. Equity	124.95	124.95	124.95	210.28	210.48	210.48	210.28	234.59	234.59
Additions	85.33	85.53	85.53	-	24.1	24.10	-	0.03	0.03
Reduction	-	-	-	-	-	-	-	-	-
<b>CI. Equity</b>	210.28	210.48	210.48	210.28	234.59	234.59	210.28	234.61	234.61
Op. Accu Dep	323.09	323.09	323.09	345.68	345.69	345.69	373.39	374.87	374.87
Dep. during the year	22.59	22.6	22.60	27.71	29.18	29.18	27.71	30.63	30.63



(Rs. in Crores)									
Obra 'B' Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
A. A. D.	-	-	-	-	-	-	-	-	-
<b>Cl. Accu. Depreciation</b>	345.68	345.69	345.69	373.39	374.87	374.87	401.10	405.5	405.50
Op. Debts	36.74	36.74	36.74	213.26	213.72	213.71	185.55	240.78	240.77
Additions	199.10	199.58	199.58	-	56.24	56.24	-	0.06	0.06
Less :Repayment	22.59	22.6	22.60	27.71	29.18	29.18	27.71	30.63	30.63
<b>Cl. Debts</b>	213.26	213.72	213.71	185.55	240.78	240.77	157.84	210.21	210.21



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Obra 'B' Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	22.59	22.60	22.60	0.01	27.71	29.18	29.18	1.47
Interest on loan	14.33	14.35	14.35	0.02	22.85	26.04	26.04	3.19
Return on Equity	32.59	32.63	26.00	-6.59	32.59	36.36	34.49	1.90
Interest on working Capital	45.73	45.73	45.73	0.00	50.50	50.50	50.50	0.00
O &M Expenses	164.01	176.75	176.75	12.74	215.05	157.24	157.24	(57.81)
Compensation Allowance	6.50	6.50	6.50	0.00	6.50	6.50	6.50	0.00
<b>Total</b>	<b>285.75</b>	<b>298.56</b>	<b>291.93</b>	<b>6.18</b>	<b>355.21</b>	<b>305.82</b>	<b>303.95</b>	<b>(51.26)</b>



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Obra 'B' Power Station	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	27.71	30.63	30.63	2.92
Interest on loan	19.68	25.84	25.83	6.15
Return on Equity	32.59	36.36	36.36	3.77
Interest on working Capital	52.96	52.96	52.96	0.00
O &M Expenses	227.35	176.77	176.77	(50.58)
Compensation Allowance	6.50	6.50	6.50	0.00
<b>Total</b>	<b>366.79</b>	<b>329.07</b>	<b>329.06</b>	<b>(37.74)</b>

**4.1**

**Section - 5**

**True up Tariff**

**For**

**Panki**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**





(Rs. in Crores)									
Panki Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. Accu Dep	94.60	94.6	94.6	100.80	100.81	100.81	107.13	107.15	107.15
Dep. during the year	6.20	6.21	6.21	6.33	6.34	6.34	6.33	6.46	6.46
A. A. D.	-	-	-	-	-	-	-	-	-
<b>Cl. Accu. Depreciation</b>	100.80	100.81	100.81	107.13	107.15	107.15	113.46	113.61	93.80
Op. Debts	34.56	34.56	34.56	33.09	33.25	33.24	26.76	26.99	26.98
Additions	4.73	4.9	4.89	-	0.08	0.07	-	4.64	4.62
Less : Repayment	6.20	6.21	6.21	6.33	6.34	6.34	6.33	6.46	6.46
<b>Cl. Debts</b>	33.09	33.25	33.24	26.76	26.99	26.98	20.43	25.16	25.14

**Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up**



(Rs. in Crores)								
Panki Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	6.2	6.21	6.21	0.01	6.33	6.34	6.34	0.01
Interest on loan	3.91	3.92	3.92	0.01	3.46	3.48	3.48	0.02
Return on Equity	6.38	6.39	6.23	-0.15	6.38	6.39	6.39	0.01
Interest on working Capital	17.05	17.05	17.05	0.00	17.72	17.72	17.72	0.00
O & M Expenses	95.99	111.95	101.14*	5.15	78.98	118.08	105.62*	26.64
Compensation Allowance	1.37	1.37	1.37	0.00	1.37	1.37	1.37	0.00
<b>Total</b>	<b>130.9</b>	<b>146.89</b>	<b>135.92</b>	<b>5.02</b>	<b>114.23</b>	<b>153.38</b>	<b>140.92</b>	<b>26.69</b>

\*Deducted by Commission



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Panki Power Station	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	6.33	6.46	6.46	0.13
Interest on loan	2.73	3.01	3.01	0.28
Return on Equity	6.38	5.68	6.04	-0.34
Interest on working Capital	18.22	18.22	18.22	0.00
O & M Expenses	83.5	127.92	113.11*	29.61
Compensation Allowance	1.37	1.37	1.37	0.00
<b>Total</b>	<b>118.52</b>	<b>162.66</b>	<b>148.21</b>	<b>29.69</b>

\* Deducted by Commission

During the review of the Petition, the Commission observed that the O&M cost for Panki has increased significantly from the approved cost in the true up order dated 14.11.2013. Further to review the same, the Commission had asked for the plant/unit wise operational data for the station from the Petitioner. However the Petitioner was not able to submit the requisite details. Thus in view of this, the Commission has deducted the O&M expenses using the following methodology:

- Actual Repair and Maintenance expenses as a percentage of actual O&M expenses as per accounts has been calculated
- Normative O&M expenses based on the installed capacity for FY 2011-12, FY 2012-13 and FY 2013-14 have been calculated
- The allowable R&M expenses have been determined by multiplying the above calculated percentage (actual R&M expenses as a percentage of O&M expense) with the normative O&M expenses.



- The allowable R&M expenses has been added to the actual Employee Expenses and A&G expenses to determine approved O&M expenses
- However in cases where actual O&M expenses are lower than normative O&M expenses, the O&M expenses have been allowed as per actuals

The Commission has disallowed the expenses on account of generator's inefficiencies which should not be passed of the burden to the consumers.

**4.1**

**Section - 6**

**True up Tariff**

**For**

**Harduaganj**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**

### Approved Revised GFA

(Rs. in Crores)									
Harduaganj Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. GFA	270.49	270.49	270.49	263.87	264.29	264.29	263.87	264.3	264.30
Additions	0.03	-	-	-	0.01	0.01	531.12	0.03	0.01
Deletions	6.65	(6.2)	6.20	-	-	-	-	118.92	118.92
<b>Cl. GFA</b>	263.87	264.29	264.29	263.87	264.3	264.30	794.99	145.42	145.39
Cl. Net FA	69.68		75.79	59.95		60.48	541.41		44.44
<b>Financing:</b>									
Op. Equity	82.15	82.15	82.15	82.15	80.29	80.29	82.15	80.29	80.29
Additions	0.01	-	-		-	0.00	131.74	-	0.00
Reduction	-	1.86	1.86		-	-		35.66	35.68
<b>Cl. Equity</b>	82.15	80.29	80.29	<b>82.15</b>	80.29	80.29	213.89	44.63	44.62



(Rs. in Crores)									
Harduaganj Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. Accu Dep	184.22	184.22	184.22	194.19	194.08	194.08	203.92	203.82	203.82
Dep. during the year	9.97	9.86	9.86	9.73	9.74	9.74	28.85	9.74	9.74
A. A. D.	-	-	-	-	-	-	20.82	-	-
<b>Cl. Accu. Depreciation</b>	194.19	194.08	188.50	<b>203.92</b>	203.82	203.82	253.59	213.56	100.96
Op. Debts	22.85	22.85	22.85	12.90	8.65	8.65	3.17	-	-
Additions	0.02	(4.34)	(4.34)	-	0.01	0.01	399.39	0.02	0.01
Less: Repayment.	9.97	9.86	9.86	9.73	8.66	8.66	49.67		0.01
<b>Cl. Debts</b>	12.90	8.65	8.65	<b>3.17</b>	-	-	352.89	0.02	-



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Harduaganj Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	9.97	9.86	9.86	-0.11	9.73	9.74	9.74	0.01
Interest on loan	2.16	1.91	1.91	-0.25	0.97	0.52	0.52	-0.45
Return on Equity	12.27	12.29	12.59	0.32	12.27	12.29	12.45	0.18
Interest on working Capital	10.67	10.67	10.67	0.00	11.81	11.81	11.81	0.00
O &M Expenses	83.00	95.16	86.91*	3.91	46.01	70.45	66.07*	20.06
Compensation Allowance	1.07	1.07	1.07	0.00	1.07	1.07	1.07	0.00
<b>Total</b>	<b>119.14</b>	<b>130.95</b>	<b>123.01</b>	<b>3.87</b>	<b>81.87</b>	<b>105.89</b>	<b>101.66</b>	<b>19.79</b>



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Harduaganj Power Station	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	49.67	9.74	9.74	-39.93
Interest on loan	21.56	-	-	-21.56
Return on Equity	33.15	6.76	9.68	-23.47
Interest on working Capital	14.36	14.36	14.36	0.00
O & M Expenses	53.07	72.33	67.85	14.78
Compensation Allowance	1.17	1.17	1.17	0.00
<b>Total</b>	<b>172.98</b>	<b>104.37</b>	<b>102.80</b>	<b>-70.18</b>

\*Deducted by Commission

During the review of the Petition, the Commission observed that the O&M cost for Harduaganj has increased significantly from the approved cost in the true up order dated 14.11.2013. Further to review the same, the Commission had asked for the plant/unit wise operational data for the station from the Petitioner. However the Petitioner was not able to submit the requisite details. Thus in view of this, the Commission has deducted the O&M expenses using the following methodology:

- Actual Repair and Maintenance expenses as a percentage of actual O&M expenses as per accounts has been calculated
- Normative O&M expenses based on the installed capacity for FY 2011-12, FY 2012-13 and FY 2013-14 have been calculated
- The allowable R&M expenses have been determined by multiplying the above calculated percentage (actual R&M expenses as a percentage of O&M expense) with the normative O&M expenses.
- The allowable R&M expenses has been added to the actual Employee Expenses and A&G expenses to determine approved O&M expenses



## True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

---

- However in cases where actual O&M expenses are lower than normative O&M expenses, the O&M expenses have been allowed as per actuals

The Commission has disallowed the expenses on account of generator's inefficiencies which should not be passed of the burden to the consumers.

**4.1**

**Section - 7**

**True up Tariff**

**For**

**Parichha**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**

### Approved Revised GFA

(Rs. in Crores)									
Parichha Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. GFA	224.05	224.05	224.05	224.08	224.39	224.39	283.75	224.39	224.40
Additions	0.02	0.34	0.34	59.68	0.01	0.01		80.87	80.87
Deletions		-	-		-	-		-	-
<b>Cl. GFA</b>	224.08	224.39	224.39	283.75	224.39	224.40	283.75	305.26	305.27
Cl. Net FA	69.47		69.78	115.13		61.72	102.89		133.07
<b>Financing:</b>									
Op. Equity	54.66	54.66	54.66	54.66	54.76	54.76	72.57	54.76	54.77
Additions	0.01	0.10	0.10	17.90	-	0.00		24.26	24.26
Reduction			-			-			-
<b>Cl. Equity</b>	54.66	54.76	54.76	72.57	54.76	54.77	72.57	79.02	79.03
Op. Accu Dep	146.55	146.55	146.55	154.60	154.61	154.61	168.63	162.68	162.68
Dep. during the year	8.06	8.06	8.06	10.20	8.07	8.07	10.20	9.52	9.52
A. A. D.	-	-	-	3.82	-	-	2.03	-	-



(Rs. in Crores)									
Parichha Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
<b>Cl. Accu. Depreciation</b>	154.60	154.61	154.61	168.63	162.68	162.68	180.86	172.20	172.20
Op. Debts	22.91	22.91	22.91	14.87	15.08	15.09	42.62	7.02	7.03
Additions	0.02	0.23	0.24	41.77	0.01	0.01		56.61	56.61
Less : Repayment	8.06	8.06	8.06	14.02	8.07	8.07	12.23	9.52	9.52
<b>Cl. Debts</b>	14.87	15.08	15.09	42.62	7.02	7.03	30.39	54.10	54.11



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Parichha Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	8.06	8.06	8.06	0.00	14.02	8.07	8.07	(5.95)
Interest on loan	2.37	2.38	2.38	0.01	3.60	1.38	1.38	(2.22)
Return on Equity	8.47	8.49	8.48	0.01	11.25	8.49	8.49	(2.76)
Interest on working Capital	15.47	15.47	15.47	0.00	16.85	16.85	16.85	0.00
O &M Expenses	46.96	52.37	52.37	5.41	69.02	54.49	54.49	(14.53)
Compensation Allowance	1.43	1.43	1.43	0.00	1.43	1.43	1.43	0.00
<b>Total</b>	<b>82.75</b>	<b>88.20</b>	<b>88.19</b>	<b>5.44</b>	<b>116.17</b>	<b>90.71</b>	<b>90.71</b>	<b>(25.46)</b>



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Parichha Power Station	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	12.23	9.52	9.52	-2.71
Interest on loan	4.57	3.83	3.83	-0.74
Return on Equity	11.25	12.25	10.37	-0.88
Interest on working Capital	17.66	17.66	17.66	0.00
O &M Expenses	72.97	46.43	46.43	-26.54
Compensation Allowance	1.43	1.43	1.43	0.00
<b>Total</b>	<b>120.10</b>	<b>91.12</b>	<b>89.24</b>	<b>-30.86</b>

**4.1**

**Section - 8**

**True up Tariff**

**For**

**Parichha Extension  
Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**

### Approved Revised GFA

(Rs. in Crores)									
Parichha Extension Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. GFA	1,740.88	1,740.88	1740.88	1,751.51	1,751.51	1,751.51	1,751.51	1,751.99	1,751.98
Additions	10.63	10.63	10.63	-	0.47	0.41	-	6.37	6.37
Deletions		-	-	-	-	-	-	-	-
<b>Cl. GFA</b>	1,751.51	1,751.51	1,751.51	1,751.51	1,751.99	1,751.98	1,751.51	1,758.35	1,758.35
Cl. Net FA	1,428.41	1,428.41	1,428.40	1,365.26	1,365.73	1,365.72	1,302.12	1,308.82	1,308.81
<b>Financing:</b>									
Op. Equity	352.52	352.52	352.52	355.71	355.71	355.71	355.71	355.86	355.85
Additions	3.19	3.19	3.19		0.14	0.14		1.91	1.91
Reduction		-	-		-	-		-	-



(Rs. in Crores)									
Parichha Extension Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
<b>Cl. Equity</b>	355.71	355.71	355.71	355.71	355.86	355.85	355.71	357.77	357.76
Op. Accu Dep	260.15	260.15	260.15	323.10	323.11	323.11	386.25	386.26	386.26
Dep. during the year	62.96	62.96	62.96	63.15	63.15	63.15	63.15	63.28	63.28
A. A. D.		-	-		-	-		-	-
<b>Cl. Accu. Depreciation</b>	323.10	323.11	323.11	386.25	386.26	386.26	449.39	449.54	449.54
Op. Debts	1,128.22	1,128.22	1128.22	1,072.70	1,072.71	1,072.71	1,009.56	1,009.88	1,009.88
Additions	7.44	7.44	7.44		0.33	0.33		4.46	4.46
Less : Repayment	62.96	62.96	62.96	63.15	63.15	63.15	63.15	63.28	63.28
<b>Cl. Debts</b>	1,072.70	1,072.71	1,072.71	1,009.56	1,009.88	1,009.88	946.41	951.06	951.06



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Parichha Extension Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	62.96	62.96	62.96	0.00	63.15	63.15	63.15	0.00
Interest on loan	99.70	99.70	99.70	0.00	94.33	94.34	94.34	0.00
Return on Equity	55.14	55.14	54.89	-0.25	55.14	55.16	55.15	0.01
Interest on working Capital	33.94	33.94	33.94	0.00	33.06	33.06	33.06	0.00
O &M Expenses	77.93	71.09	71.09	-6.84	90.32	77.89	77.89	-12.43
Compensation Allowance	-	-	-	0.00	-	-	-	-
<b>Total</b>	<b>329.66</b>	<b>322.83</b>	<b>322.58</b>	<b>-7.08</b>	<b>335.99</b>	<b>323.60</b>	<b>323.59</b>	<b>-12.42</b>



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Parichha Extension Power Station	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	63.15	63.28	63.28	0.13
Interest on loan	88.61	88.83	88.82	0.21
Return on Equity	55.14	55.45	55.30	0.16
Interest on working Capital	33.23	33.23	33.23	0.00
O &M Expenses	95.49	84.50	84.50	-10.99
Compensation Allowance	-	-	-	0.00
<b>Total</b>	<b>335.60</b>	<b>325.30</b>	<b>325.13</b>	<b>-10.49</b>

**4.1**

**Section - 9**

**True up Tariff**

**For**

**Harduaganj Extension  
Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**

## True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

- i. Harduaganj Extension (2 X 250) MW was proposed to be commissioned in FY 2010-11. The Petitioner had sought the provisional tariff for Harduaganj Extension for the MYT Period up to FY 2013-14 in its MYT Petition for the previous control period FY 2009-14. In the MYT Order dated 20.01.2011 The Commission had approved ₹ 2605 Crores as the provisional capital cost for the plant for the purpose of determination of provisional tariff. Thereafter, after the commissioning of the plant in March 2013, the Commission had approved a revised capital cost of ₹ 1518.88 Crores. The Commission now approves the final capital cost of the plant at ₹ 3117.77 Crores.

### Approved Revised GFA

(Rs. in Crores)									
Harduaganj Extension Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. GFA	-	-	-	1,518.88	1,518.88	1,518.97	2,956.00	1,537.93	1,538.02
Additions	1,518.88	1,518.88	1518.97	1,437.12	19.05	19.05		1,579.75	1,579.75
Deletions		-	-		-	-		-	-
<b>Cl. GFA</b>	1,518.88	1,518.88	1518.97	2,956.00	1,537.93	1,538.02	2,956.00	3,117.68	3,117.77
Cl. Net FA	1,464.18		1,491.62			1,455.62			2,951.54
<b>Financing:</b>									
Op. Equity	-	-	-	455.66	455.69	455.69	886.80	461.41	461.41
Additions	455.69	455.69	455.69	431.14	5.72	5.72		473.93	473.93
Reduction	-	-	-	-	-	-		-	-
<b>Cl. Equity</b>	455.69	455.69	455.69	886.80	461.41	461.41	886.80	935.33	935.33



(Rs. in Crores)									
Harduaganj Extension Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Op. Accu Dep	0	0	0	54.70	27.35	27.35	202.38	82.4	82.4
Dep. during the year	54.70	27.35	27.35	106.45	55.05	55.05	106.45	83.83	83.83
A. A. D.	-	-	0	41.24	-	0	53.94	-	0
<b>Cl. Accu. Depreciation</b>	54.70	27.35	27.35	202.38	82.4	82.40	362.78	166.23	166.23
Op. Debts	-	-	-	1,008.52	1,035.86	1,035.93	1,866.82	994.15	994.21
Additions	1,063.22	1,063.22	1,063.28	1,005.98	13.33	13.34	-	1,105.83	1,105.83
Less : Repayment	54.70	27.35	27.35	147.68	55.05	55.05	160.39	83.83	83.83
Cl. Debts	1,008.52	1,035.86	1,035.93	1,866.82	994.15	994.21	1,706.43	2,016.15	2,016.21



### Approved Revised Capacity (fixed) cost for FY 2011-12 and FY 2012-13 after True up

(Rs. in Crores)								
Harduaganj Extension Power Station	2011-12				2012-13			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	54.70	27.35	27.35	-27.35	147.69	55.05	55.05	-92.64
Interest on loan	52.95	54.38	54.39	1.44	150.96	106.58	106.58	-44.38
Return on Equity	70.63	70.63	35.32	-35.31	137.45	71.51	71.08	-66.37
Interest on working Capital	20.35	20.35	20.35	-	49.39	49.39	49.39	-
O&M Expenses	3.26	3.02	3.02	-0.24	107.53	33.26	33.26	-74.27
Compensation Allowance	-	-	-	-	-	-	-	-
<b>Total</b>	<b>201.88</b>	<b>175.73</b>	<b>140.43</b>	<b>-61.45</b>	<b>593.01</b>	<b>315.79</b>	<b>315.36</b>	<b>-277.65</b>



### Approved Revised Capacity (fixed) cost for FY 2013-14 after True up

(Rs. in Crores)				
Harduaganj Extension Power Station	2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	160.39	83.83	83.83	(76.56)
Interest on loan	187.60	158.04	158.05	(29.56)
Return on Equity	137.45	144.97	108.25	(29.20)
Interest on working Capital	50.76	50.76	50.76	-
O&M Expenses	113.68	82.19	82.19	(31.49)
Compensation Allowance	-	-	-	-
<b>Total</b>	<b>649.89</b>	<b>519.79</b>	<b>483.08</b>	<b>(166.81)</b>

**4.1**

**Section - 10**

**True up Tariff**

**For**

**Parichha Extension Stage-II**

**Thermal Power Station**

**For**

**FY 2011-12 to 2013-14**





(Rs. in Crores)									
Parichha Extension-II Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
<b>Financing:</b>	-	-	-						
Op. Equity	-	-	-	-	-	-	423.42	378.37	378.37
Additions	-	-	-	423.42	378.37	378.37	423.42	423.7	423.66
Reduction	-	-	-	-	-	-	-	-	-
<b>Cl. Equity</b>	-	-	-	423.42	378.37	378.37	846.85	802.06	802.03
	-	-	-						
Op. Accu Dep	-	-	-		-	-	73.03	22.7	22.7
Dep. during the year	-	-	-	25.44	22.7	22.70	76.32	70.83	70.83
A. A. D.	-	-	-	47.59	-	-	88.35	-	-
<b>Cl. Accu. Depreciation</b>	-	-	-	73.03	22.7	22.70	237.70	93.53	93.53
	-	-	-						
Op. Debts	-	-	-	-	-	-	914.96	860.15	860.15
Additions	-	-	-	987.99	882.86	882.86	987.99	988.62	988.62



(Rs. in Crores)									
Parichha Extension-II Power Station	2011-12			2012-13			2013-14		
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC
Less : Repayment.	-	-	-	73.03	22.7	22.70	164.67	70.83	70.83
<b>Cl. Debts</b>	-	-	-	<b>914.96</b>	<b>860.15</b>	<b>860.15</b>	<b>1,738.27</b>	<b>1,777.95</b>	<b>1,777.95</b>



### Approved Revised Capacity (fixed) cost for FY 2012-13 and FY 2013-14 after True up

(Rs. in Crores)								
Parichha Extension- II Power Station	2012-13				2013-14			
	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff	Approved True up order dated 14.11.2013	As claimed by UPRVNL	As Approved by the UPERC	Diff
Depreciation incl AAD	73.03	22.70	22.70	-50.33	164.67	70.83	70.83	-93.84
Interest on loan	48.04	45.16	45.16	-2.88	139.29	138.50	138.50	-0.79
Return on Equity	65.63	58.65	29.32	-36.31	131.26	124.32	91.48	-39.78
Interest on working Capital	25.85	25.85	25.85	0.00	53.34	53.34	53.34	-
O &M Expenses	53.76	21.80	21.80	-31.96	113.68	43.36	43.36	-70.32
Compensation Allowance	-	-	-	-	-	-	-	-
<b>Total</b>	<b>266.31</b>	<b>174.16</b>	<b>144.83</b>	<b>-121.48</b>	<b>602.25</b>	<b>430.35</b>	<b>399.51</b>	<b>-204.73</b>

**5. MULTI YEAR TARIFF PETITION FOR FY 2014-15 to 2018-19 :**

**(A) Generation Capacities of UPRVUNL :**

**(i) Existing Capacity:**

The Petitioner, Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL), is a company incorporated on 25<sup>th</sup> August, 1980 with the objective of augmentation of thermal generation in the state of Uttar Pradesh. Due to restructuring and unbundling of erstwhile UPSEB on 14<sup>th</sup> January, 2000, all thermal generating stations of the State belonging to UPSEB were transferred to UPRVUNL. Unchahar thermal power plant (2x210 MW) which was commissioned by UPRVUNL in February, 1992 was later transferred to NTPC.

As on date, against total installed capacity of 4544 MW, total derated capacity of UPRVUNL is 4,082 MW. Deleted units since the year 2007 are as enumerated below:

- a. Harduaganj TPS Unit No 2 (50MW) and Unit No 4 (55MW) w.e.f. 27<sup>th</sup> June 2008.
- b. Harduaganj TPS Unit No 1 (40MW) and Unit No 6 (60 MW) w.e.f. 08<sup>th</sup> February 2007.
- c. Obra 'A' TPS Unit No 3, 4 & 5 of (50MW each) w.e.f. from 16<sup>th</sup> September 2008.
- d. Obra A Unit 6 w.e.f 12<sup>th</sup> January 2011
- e. Harduaganj Unit 3 w.e.f 20<sup>th</sup> November 2010

Under Tariff Order 6.3.2009 for FY 2008-09, the derated capacity was 4022 MW which has increased to 4082 MW (an addition of 60MW) due to completion of refurbishment of Unit No 1 (50MW) Obra ATPS w.e.f. from 01.05.2009, earlier derated to 0 MW, and Unit No 2 (50MW) Obra ATPS w.e.f. 05.02.2009, earlier derated to 40 MW. Now, the derated capacity has increased to 4933 MW in 2011 on account of deletion of Obra Unit 6 and Harduaganj Unit 3.

Accordingly the details of Installed and Derated Capacity of the generating stations of the Petitioner are listed in table as below:

**Generation Capacities of the UPRVUNL**

SN	Thermal Power Station	Unit No.	Installed Capacity	Derated Capacity	Date of Commercial Operation
1	Anpara - A	1	210 MW	210 MW	01-01-87
2		2	210 MW	210 MW	01-08-87
3		3	210 MW	210 MW	01-04-89



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

SN	Thermal Power Station	Unit No.	Installed Capacity	Derated Capacity	Date of Commercial Operation
4	Anpara - B	4	500 MW	500 MW	01-03-94
5		5	500 MW	500 MW	01-10-94
6	Obra - A	1	50 MW	50 MW	15-08-67
7		2	50 MW	50 MW	11-03-68
8		3	50 MW	Nil*	13-10-68
9		4	50 MW	Nil*	16-07-69
10		5	50 MW	Nil*	30-Jul-71
11		6	100 MW	94 MW	04-10-73
12		7	100 MW	94 MW	14-12-74
13		8	100 MW	94 MW	01-01-76
14		9	200 MW	200 MW	15-03-80
15		10	200 MW	200 MW	06-03-79
16	Obra - B	11	200 MW	200 MW	14-03-78
17		12	200 MW	200 MW	29-05-81
18		13	200 MW	200 MW	29-07-82
19		1	32 MW	Nil*	-
20	Panki	2	32 MW	Nil*	-
21		3	110 MW	105 MW	29-01-77
22		4	110 MW	105 MW	29-05-77
23		1	50 MW	Nil*	21-04-68
24		2	50 MW	Nil*	23-01-69
25		3	55 MW	55 MW	Mar-72
26	Harduaganj	4	55 MW	Nil*	18-09-72
27		5	60 MW	60 MW	14-05-77
28		6	60 MW	Nil*	26-10-77
29		7	110 MW	105 MW	Aug-78



SN	Thermal Power Station	Unit No.	Installed Capacity	Derated Capacity	Date of Commercial Operation
30	Harduaganj Extn.	8	250 MW	250 MW	01-02-12
31		9	250 MW	250 MW	10-10-13
32	Parichha	1	110 MW	110 MW	01-10-85
33		2	110 MW	110 MW	25-02-85
34	Parichha Extn.	3	210 MW	210 MW	24-11-06
35		4	210 MW	210 MW	01-12-07
36	Parichha Extn. Stage 2	5	250 MW	250 MW	17-Jul-12
37		6	250 MW	250 MW	18-Apr-13
	<b>Total</b>	<b>33</b>	<b>5544 MW</b>	<b>4933 MW</b>	

\* These units have been closed and excluded from Installed Capacity.

**(ii) Augmentation Plan:**

The plan for augmentation of generation capacity with the expected dates of Commissioning as submitted by the Petitioner is as follows:

**Generation Capacity Augmentation Plan**

Name of Project	Capacity (MW)	Likely Commissioning Dates
Anpara D (2x500 MW)	1000 MW	2016-17
Obra C (2x660 MW)	1320 MW	12th Plan
Meja (2x660 MW) (In JV with NTPC)	1320 MW	12th Plan
Anpara E (2x660 MW)	1320 MW	12th Plan
Fatehpur (In JV with Neyvile Lignite)	2000 MW	12th Plan



**(B) ARR & Tariff submitted by UPRVUNL :**

The Multi Year Tariff (MYT) petition submitted by the Petitioner has average of tariffs and total ARR for FY 2014-15 to FY 2018-19 for all the generating stations as indicated below:

(Rs/kWh)

SN	UPRVUNL	FY 14 -15	FY 15 - 16	FY 16 - 17	FY 17 - 18	FY 18 - 19
1	Anpara 'A'	2.16	2.26	2.37	2.48	2.60
2	Anpara 'B'	2.56	2.68	2.78	2.89	3.00
3	Obra 'A'	4.03	4.19	4.35	4.53	4.73
4	Obra 'B'	2.66	2.78	2.90	3.04	3.18
5	Panki	5.14	5.37	5.61	5.87	6.14
6	Harduaganj	5.31	5.56	5.81	6.08	6.36
7	Parichha	4.76	4.96	5.17	5.40	5.64
8	Parichha Extension	4.27	4.42	4.57	4.73	4.91
9	Harduaganj Extension	4.82	4.94	5.06	5.20	5.34
10	Parichha Extn Stage-II	4.88	5.02	5.16	5.31	5.47
11	Anpara D		3.17	3.95	3.99	4.03
	<b>Average Charges</b>	<b>3.47</b>	<b>3.52</b>	<b>3.78</b>	<b>3.90</b>	<b>4.03</b>

**6. TARIFF DESIGN**

The tariff is structured on the following basis:

- a. The data of GFA, NFA, Debt and Equity on 01.04.14, as approved by the Commission in the true-up of FY 2013-14 in this Tariff Order, has been considered as baseline data for calculation of tariff and ARR for the Petitioner for the MYT period from FY 2014-15 to FY 2018-2019. The Accumulated Depreciation has been considered on normative basis as derived from the approved values of GFA, NFA, Debt and Equity on 01.04.14.



- b. Return on Equity has been considered as 15.5 % as provided in the UPERC Generation Tariff Regulations, 2014.
- c. The rate of the interest shall be the weighted average rate of interest calculated on the basis of actual loans at the beginning of each year and shall be adjusted based on actual loan each year accordingly. If there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average of interest has been considered.
- d. Depreciation has been allowed as provided in Regulation 25 (ii) in the UPERC Generation Tariff Regulations, 2014.
- e. The O&M expenditure has been allowed as per the normative values provided in Regulation 21(iv) of the UPERC Generation Tariff Regulations, 2014
- f. The Compensation Allowance has been allowed for Anpara 'A', Anpara 'B', Obra 'A', Obra 'B', Panki and Parichha, as per the Para 25 (iv) Note (d) of the UPERC Generation Tariff Regulations 2014 which prescribe a separate compensation allowance in case of coal-based thermal generating stations unit-wise, to meet expenses in nature of capital expenditure on replacement of minor assets which are not admissible under Regulation 22 of the UPERC Generation Tariff Regulations 2014.
- g. Working capital requirement has been allowed as per Regulation 25 (v) of the UPERC Generation Tariff Regulations 2014. The rate of interest on working capital has been allowed on normative basis as the Bank Rate as on 1.4.2014 or as on 1<sup>st</sup> April of the year during the tariff period FY 2014-15 to FY 2018-19 in which the generating station or a unit thereof is declared under commercial operation, whichever is later.
- h. Thus the MYT for Thermal Power Stations of the Petitioner for FY 2014–2015 to FY 2018–2019 has been worked out adopting the above elaborated methodology.

## **7. COMMISSION'S APPROACH FOR DETERMINATION OF MYT :**

In its Multi Year ARR and Tariff petition, the Petitioner has claimed Generation Tariff for ten Power Stations, namely Anpara 'A', Anpara 'B', Obra 'A', Obra 'B', Harduaganj, Panki, Parichha, Parichha Extension, Harduaganj Extension and Parichha Extension Stage-II and provisional Tariff for Anpara 'D'. Out of these eleven Power Stations, seven

---



are those which were vested in UPRVUNL by the State Government after unbundling of erstwhile UPSEB on January the 15th, 2000. These have been taken together for determination of tariff based on earlier orders of the Commission.

Accordingly, the opening value of the Net Fixed Assets as well as Gross Fixed Assets along with financing thereof existing generation stations of the Petitioner is, as per final true up for FY 2013-14 approved in this Tariff Order.

## **8. APPROVED MULTI YEAR TARIFF AND ARR :**

Generating station wise approved MYT and ARR for FY 2014 - 15 to FY 2018 - 19 shall be as detailed in following sections.

- 8.1 - Section - 1** Anpara 'A'
- 8.2 - Section - 2** Anpara 'B'
- 8.3 - Section - 3** Obra 'A'
- 8.4 - Section - 4** Obra 'B'
- 8.5 - Section - 5** Panki
- 8.6 - Section - 6** Harduaganj
- 8.7 - Section - 7** Parichha
- 8.8 - Section - 8** Parichha Extensions
- 8.9 - Section - 9** Harduaganj Extensions
- 8.10 - Section -10** Parichha Extension Stage-II



**8.1**

**Section-1**

**Multi Year Tariff**

**For**

**Anpara 'A'  
Thermal Power Station**

**For**

**FY 2014 - 15 to FY 2018 - 19**



### 8.1.1 ARR and MYT as according to petition:

In the petition, the Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Anpara A	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	4292	4292	4292	4292	4292
Fixed Charges (Rs/kWh)	0.65	0.68	0.70	0.73	0.77
Variable Charges (Rs/kWh)	1.51	1.58	1.66	1.75	1.83
Total Charges (Rs/kWh)	2.16	2.26	2.37	2.48	2.60
ARR (Rs Cr.)	<b>925.52</b>	<b>969.21</b>	<b>1015.29</b>	<b>1063.79</b>	<b>1114.90</b>

### 8.1.2 ARR and MYT as determined by the Commission:

#### i. Capacity (Fixed) Charges:

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014 - 15 to FY 2018 - 19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on equity	15.5%	As per the Regulations
Interest on Loans	10.91%	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

**(b) Gross Fixed Assets (GFA) and its Components :**

For the determination of Return on Equity, Interest on balance Loans and Depreciation it is essential to determine the value of GFA duly supported with the financing program and the value of NFA at the end of each financial year. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 to FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14.

**Calculation of GFA & NFA including financing**

(Rs Crores)

Anpara 'A' Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	885.62	885.62	885.62	885.62	885.62
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	885.62	885.62	885.62	885.62	885.62
Cl. Net FA	195.93	149.86	103.80	88.56	88.56
<b>Financing:</b>					
Op. Equity	241.39	241.39	241.39	241.39	241.39
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	241.39	241.39	241.39	241.39	241.39
Op. Accu Dep.	643.62	689.69	735.76	781.82	797.06
Dep. During the year	46.07	46.07	46.07	15.24	0.00
Cl. Accu. Dep.	689.69	735.76	781.82	797.06	797.06
Op. Debts	0.61	-	-	-	-
Additions	-	-	-	-	-



Anpara 'A' Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Less: Dep.	0.61	-	-	-	-
Cl. Debts	-	-	-	-	-

**(c) RoE, Depreciation, O&M and Interest on Loans :**

On the basis of decisions of the Commission in the forgoing paragraphs and the details of GFA, NFA and financing as indicated above the Return on Equity, Depreciation, O&M expenditure and Interest on Loans, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, is worked out as under:

**Details of approved RoE, Depreciation, O&M and Interest on Loans**

(Rs Crores)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	37.42	37.42	37.42	37.42	37.42
2	Depreciation	46.07	46.07	46.07	15.24	0.00
3	Interest on Loans	0.03	0.00	0.00	0.00	0.00
4	O & M Expenses	150.57	160.02	170.10	180.81	192.21
5	Com. Allowance	6.30	6.30	6.30	6.30	6.30
	<b>Total:</b>	<b>240.39</b>	<b>249.80</b>	<b>259.88</b>	<b>239.76</b>	<b>235.93</b>

The amount of GFA pertaining to Anpara 'A' Power Station at the beginning of F.Y. 2014-15 was ₹ 885.62 Cr. out of which ₹ 42.12 Cr. was invested on land leaving a balance of ₹ 843.50 Cr. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 permissible is to the extent of 90% of the value of the GFA excluding the value of land which works out to ₹759.15 Cr. The accumulated depreciation allowed till the end of FY 2013-14 is ₹643.62 Cr. which is less than ₹759.15 Cr. therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2018-19.

**(d) Interest on Working Capital:**

The amount of working Capital and Interest on working Capital for the control period of F.Y. 2014-15 to FY 2018-19 as determined by the Commission are as under:



### Annual Receivables of Anpara 'A' Power Station required for

#### Calculation of Working Capital:

(Rs Crore)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	288.49	298.57	309.20	289.03	285.56
Cost of Fuel	801.75	803.58	801.75	801.75	801.75
<b>Total Receivables</b>	<b>1090.24</b>	<b>1102.16</b>	<b>1110.95</b>	<b>1090.78</b>	<b>1087.31</b>

#### Interest on Working Capital as determined by the Commission

(Rs Crore)

SN	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	129.44	129.73	129.44	129.44	129.44
2	Cost of Secondary Fuel Oil for 2 months	2.49	2.50	2.49	2.49	2.49
3	O & M for 1 month	12.55	13.34	14.18	15.07	16.02
4	Maintenance Spares @20% of O & M Exp.	30.11	32.00	34.02	36.16	38.44
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	181.71	183.69	185.16	181.80	181.22
6	<b>Working Capital</b>	<b>356.29</b>	<b>361.26</b>	<b>365.28</b>	<b>364.95</b>	<b>367.60</b>
7	Rate of Interest	13.50	13.50	13.50	13.50	13.50
8	<b>I W C</b>	<b>48.10</b>	<b>48.77</b>	<b>49.31</b>	<b>49.27</b>	<b>49.63</b>

**(e) Capacity (Fixed) Charge per unit of Generation :**

Based on above the capacity charges as claimed by Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to 2018-19. Ex-bus energy sent out has been taken from the data mentioned in Section 8.1.1:

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Interest on Loan (Rs Cr)	0.03	0.03	0.00	0.00	0.00	0.00
Depreciation (Rs Cr)	46.07	46.07	0.00	46.07	46.07	0.00
Return on Equity (Rs Cr)	37.42	37.42	0.00	37.42	37.42	0.00
O & M Expenses (Rs Cr)	150.57	150.57	0.00	160.02	160.02	0.00
Compensation Allowance (Rs Cr)	6.30	6.30	0.00	6.30	6.30	0.00
Interest on Working Capital (Rs Cr)	38.09	48.10	10.01	40.01	48.77	8.76
<b>Total (Rs Cr)</b>	<b>278.48</b>	<b>288.49</b>	<b>10.01</b>	<b>289.82</b>	<b>298.57</b>	<b>8.76</b>
Ex-bus Energy Sent Out (kwh)	4292.25	4292.25	0.00	4292	4302.05	10.05
<b>Fixed Cost per Unit</b>	<b>0.65</b>	<b>0.67</b>	<b>0.02</b>	<b>0.68</b>	<b>0.69</b>	<b>0.01</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Interest on Loan (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation (Rs Cr)	46.07	46.07	0.00	46.07	15.24	-30.83
Return on Equity (Rs Cr)	37.42	37.42	0.00	37.42	37.42	0.00
O & M Expenses (Rs Cr)	170.10	170.10	0.00	180.81	180.81	0.00
Compensation Allowance (Rs Cr)	6.30	6.30	0.00	6.30	6.30	0.00
Interest on Working Capital (Rs Cr)	42.04	49.31	7.27	44.17	49.27	5.10
<b>Total Fixed Cost</b>	<b>301.93</b>	<b>309.20</b>	<b>7.27</b>	<b>314.77</b>	<b>289.03</b>	<b>-25.74</b>



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Ex-bus Energy Sent Out (kWh)	4292.25	4292.25	4292.25	4292.25	4292.25	0.00
<b>Fixed Cost per Unit</b>	<b>0.70</b>	0.72	0.02	<b>0.73</b>	0.67	-0.06

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
Interest on Loan(Rs Cr)	0.00	0.00	0.00
Depreciation(Rs Cr)	46.07	0.00	-46.07
Return on Equity (Rs Cr)	37.42	37.42	0.00
O & M Expenses(Rs Cr)	192.21	192.21	0.00
Compensation Allowance(Rs Cr)	6.30	6.30	0.00
Interest on Working Capital(Rs Cr)	46.42	49.63	3.21
<b>Total (Rs Cr)</b>	<b>328.42</b>	<b>285.56</b>	<b>-42.86</b>
Ex-bus Energy Sent Out (kWh)	4292.25	4292.25	0.00
<b>Fixed Cost per Unit</b>	<b>0.77</b>	0.67	-0.10

## ii. Variable Charges:

### (a) Weighted Average Cost and Gross Calorific Value of Coal and Oil :

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:



### Weighted Average Cost and Gross Calorific Value of Coal and Oil for F.Y. 2014-15.

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(`KCAL/KG)
Oct' 2015	43123	10600	1866	2381
Nov' 2015	42154	10600	1832	2435
Dec' 2015	42154	10600	1789	2563
<b>3 Month Weighted Avg.</b>	42477	10600	1829	2460

#### (b) Variable charge per unit of Generation:

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Anpara 'A' Power Station for the MYT period of F.Y. 2014-15 to F.Y 2018-19 is as given in the following table.

#### Variable charge per unit of generation for Anpara 'A' Power Station

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	630.00	630.00	630.00	630.00	630.00
PAF	%	85%	85%	85%	85%	85%
Gross generation	MU	4690.98	4701.69	4690.98	4690.98	4690.98
Auxiliary Consumption	%	0.09	0.09	0.09	0.09	0.09
Net units sent out	MU	4292.25	4302.05	4292.25	4292.25	4292.25
Gross station heat rate	Kcal/kWh	2475.00	2475.00	2475.00	2475.00	2475.00
Specific oil consumption	ml/kWh	0.75	0.75	0.75	0.75	0.75
Calorific value of secondary fuel	KCal/Lt	10600.0	10600.0	10600.0	10600.0	10600.0
Weighted average landed price of coal	Rs./MT	1828.97	1828.97	1828.97	1828.97	1828.97
Calorific value of Coal	kCal/kg	2459.67	2459.67	2459.67	2459.67	2459.67
Weighted average landed price of secondary fuel	Rs./KL	42477	42477	42477	42477	42477
Energy charge rate (ECR)	Rs/kWh	1.87	1.87	1.87	1.87	1.87



**(c) Cost of alternative coal supply:**

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation rate (%)
01.04.2014 to 31.03.2015	2.43	
01.04.2015 to 30.09.2015	2.18	-20.53%



01.10.2015 to 31.03.2016	2.21	-17.91%
--------------------------	------	---------

**(d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The total charges (costs) for Anpara 'A' Thermal Power Station for the MYT period of FY 2014-15 to FY 2018-19 is summarized in the table below.

**Cost per kWh as claimed by UPRVUNL with those as allowed by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	150.57	150.57	0.00	160.02	160.02	0.00
Depreciation (Rs Cr.)	46.07	46.07	0.00	46.07	46.07	0.00
Interest on Loan (Rs Cr.)	0.03	0.03	0.00	0.00	0.00	0.00



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Return on Equity (Rs Cr.)	37.42	37.42	0.00	37.42	37.42	0.00
Interest on Working Capital(Rs Cr)	38.09	48.10	10.01	40.01	48.77	8.76
Com. Allowance (Rs Cr.)	6.30	6.30	0.00	6.30	6.30	0.00
Fixed Cost (Rs Cr.)	278.48	288.49	10.01	289.82	298.57	8.76
F. C. per Unit (In Rs/kWh)	0.65	0.67	0.02	0.68	0.69	0.01
V. C.on Fuel (Rs Cr.)	647.04	801.75	154.72	679.39	803.58	124.20
V. C. per Unit (Rs./kWh)	1.51	1.87	0.36	1.58	1.87	0.28
Total Cost (Rs Cr.)	925.52	1090.24	164.72	969.21	1102.6	132.95
Ex-bus Energy Sent Out (MU)	4292.25	4292.25	0.00	4292.00	4302.05	10.05
Total Cost per Unit (Rs/kWh)	<b>2.20</b>	<b>2.54</b>	<b>0.38</b>	<b>2.26</b>	<b>2.56</b>	<b>0.30</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	170.10	170.10	0.00	180.81	180.81	0.00
Depreciation (Rs Cr.)	46.07	46.07	0.00	46.07	15.24	-30.83
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	37.42	37.42	0.00	37.42	37.42	0.00
Interest on Working Capital(Rs Cr.)	42.04	49.31	7.27	44.17	49.27	5.10
Com. Allowance (Rs. Cr)	6.30	6.30	0.00	6.30	6.30	0.00
Fixed Cost (Rs Cr.)	301.93	309.20	7.27	314.77	289.03	-25.74
F. C. per Unit (Rs./kWh)	0.70	0.72	0.02	0.73	0.67	-0.06
V. C.on Fuel (Rs Cr.)	713.36	801.75	88.40	749.02	801.75	52.73
V. C. per Unit (Rs./kWh)	1.66	1.87	0.21	1.75	1.87	0.12
Total Cost (Rs Cr.)	1015.29	1110.95	95.66	1063.79	1090.78	26.99



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Ex-bus Energy Sent Out (MU)	4292.25	4292.25	0.00	4292.25	4292.25	0.00
Total Cost per Unit (Rs/kWh)	<b>2.37</b>	<b>2.59</b>	0.22	<b>2.48</b>	<b>2.54</b>	0.6

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	192.21	192.21	0.00
Depreciation (Rs Cr.)	46.07	0.00	-46.07
Interest on Loan (Rs Cr.)	0.00	0.00	0.00
Return on Equity (Rs Cr.)	37.42	37.42	0.00
Interest on Working Capital (Rs Cr.)	46.42	49.63	3.21
Com. Allowance (Rs Cr.)	6.30	6.30	0.00
Fixed Cost (Rs Cr.)	328.42	285.56	-42.86
F. C. per Unit (In Rs/kWh.)	0.77	0.67	-0.10
V. C.on Fuel (Rs Cr.)	786.48	801.75	15.28
V. C. per Unit (Rs/ kWh.)	1.83	1.87	0.04
Total Cost (Rs Cr.)	1114.90	1087.31	-27.59
Ex-bus Energy Sent Out (MU)	4292.25	4292.25	0.00
Total Cost per Unit (Rs./kWh)	<b>2.60</b>	<b>2.53</b>	-0.06



## **8.2**

### **Section - 2**

#### **Multi Year Tariff**

**For**

**Anpara 'B'  
Thermal Power Station**

**For**

**FY 2014 - 15 to FY 2018 - 19**



### 8.2.1 ARR and MYT as according to petition:

In the petition, the Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Anpara 'B'	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	7055.09	7055.09	7055.09	7055.09	7055.09
Fixed Charges (Rs/kWh)	1.02	1.06	1.08	1.1	1.12
Variable Charges (Rs/kWh)	1.61	1.69	1.78	1.87	1.96
Total Charges (Rs/kWh)	2.56	2.68	2.78	2.89	3.00
ARR (Rs Cr.)	<b>1807.99</b>	<b>1887.95</b>	<b>1959.93</b>	<b>2035.43</b>	<b>2114.67</b>

### 8.2.2 ARR and MYT as determined by the Commission:

#### i. Capacity (Fixed) Charges:

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	13.28 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW and 0.5 lacs/MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

##### (b) Gross Fixed Assets (GFA) and its Components :

For the determination of Return on Equity, Interest on balance Loans and Depreciation it is essential to determine the value of GFA duly supported with the financing program and the value of NFA at the end of each financial year. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15



FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14.

### Calculation of GFA & NFA including financing

(Rs Crore)

Anpara 'B' Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	4,834.56	4,834.56	4,834.56	4,834.56	4,834.56
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	4834.56	4834.56	4834.56	4834.56	4834.56
Cl. Net FA	581.32	464.33	464.33	464.33	464.33
<b>Financing:</b>					
Op. Equity	1,310.63	1,310.63	1,310.63	1,310.63	1,310.63
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	1310.63	1310.63	1310.63	1310.63	1310.63
Op. Accu Dep.	3975.50	4253.25	4370.24	4370.24	4370.24
Dep. During the year	277.75	116.99	-	-	-
Cl. Accu. Dep.	4253.25	4370.24	4370.24	4370.24	4370.24
Op. Debts	-	-	-	-	-
Additions	-	-	-	-	-
Less: Dep.	-	-	-	-	-
Cl. Debts	-	-	-	-	-

#### (c) RoE, Depreciation, O&M and Interest on Loans:

On the basis of decisions of the Commission in the forgoing paragraphs and the details of GFA, NFA and financing as indicated above the Return on Equity (RoE), Depreciation, O&M expenditure and Interest on Loans, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, is worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Crore)

Sl. No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	203.15	203.15	203.15	203.15	203.15
2	Depreciation	277.75	116.99	0.00	0.00	0.00



Sl. No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
3	Interest on Loans	0.00	0.00	0.00	0.00	0.00
4	O & M Expenses	160.00	170.10	180.80	192.20	204.30
5	Com. Allowance	7.50	7.50	7.50	7.50	7.50
	<b>Total:</b>	<b>648.40</b>	<b>497.74</b>	<b>391.45</b>	<b>402.85</b>	<b>414.95</b>

The amount of GFA pertaining to Anpara 'B' Power Station at the beginning of FY2014-15 was ₹4,834.56 Cr. out of which ₹11.66 Cr. was invested on land leaving a balance of ₹4822.90 Cr. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹4340.61 Cr. for Anpara 'B' Power Station. The accumulated depreciation allowed till the end of FY 2013-14 is ₹3975.50 Cr. which is less than ₹4340.61 Cr. therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2015-16:

(Rs Crore)

Particulars	2014-15	2015-16	2017-18	2018-19	2019-20
Annual Capacity [Fixed] Charges	721.93	568.32	459.88	471.99	484.84
Cost of Fuel	1144.52	1147.14	1144.52	1144.52	1144.52
<b>Total Receivables</b>	<b>1866.46</b>	<b>1715.46</b>	<b>1604.41</b>	<b>1616.52</b>	<b>1629.37</b>

### Working Capital as determined by the Commission

(Rs Crore)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	184.35	184.77	184.35	184.35	184.35
2	Cost of Secondary Fuel Oil for 2 months	3.95	3.96	3.95	3.95	3.95
3	O & M for 1 month	13.33	14.18	15.07	16.02	17.03
4	Maintenance Spares @20% of O & M Exp.	32.00	34.02	36.16	38.44	40.86
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	311.08	285.91	267.40	269.42	271.56
6	<b>Working Capital</b>	<b>544.71</b>	<b>522.84</b>	<b>506.93</b>	<b>512.18</b>	<b>517.75</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>73.54</b>	<b>70.58</b>	<b>68.44</b>	<b>69.14</b>	<b>69.90</b>

**(d) Capacity (Fixed) Charges :**

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to F.Y 2018-19. Ex-bus energy sent out has been taken from mentioned in Section 8.2.1 above -

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr)	160.00	160.00	0.00	170.10	170.10	0.00
Depreciation (Rs Cr)	277.75	277.75	0.00	277.75	116.99	-160.76
Interest on Loan (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr)	204.14	203.15	-0.99	204.14	203.15	-0.99
Interest on Working Capital (Rs Cr)	51.87	73.54	21.67	66.39	70.58	4.19
Compensation Allowance (Rs Cr)	7.50	7.50	0.00	7.50	7.50	0.00
<b>Total (Rs Cr)</b>	<b>701.26</b>	<b>721.93</b>	<b>20.67</b>	<b>725.88</b>	<b>568.32</b>	<b>-157.56</b>
Ex-bus Energy Sent Out (kWh)	7055.09	7055.09	0.00	7055.00	7071.19	16.19
<b>Fixed Cost per Unit</b>	<b>0.99</b>	<b>1.02</b>	<b>0.03</b>	<b>1.03</b>	<b>0.80</b>	<b>-0.23</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr)	180.80	180.80	0.00	192.20	192.20	0.00
Depreciation (Rs Cr)	277.75	0.00	-277.75	277.75	0.00	-277.75
Interest on Loan (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr)	204.14	203.15	0.00	204.14	203.15	-0.99
Interest on	69.57	68.44	-1.13	72.66	63.74	-3.52



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Working Capital (Rs Cr)						
Compensation Allowance (Rs Cr)	7.50	7.50	0.00	7.50	7.50	0.00
<b>Total (Rs Cr)</b>	<b>739.76</b>	<b>459.88</b>	<b>-279.88</b>	<b>754.25</b>	<b>471.99</b>	<b>-282.26</b>
Ex-bus Energy Sent Out (kWh)	7055.09	7055.09	0.00	7055.09	7055.09	0.00
<b>Fixed Cost per Unit</b>	<b>1.05</b>	<b>0.65</b>	<b>-0.40</b>	<b>1.07</b>	<b>0.67</b>	<b>-0.40</b>

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr)	204.14	204.30	-0.16
Depreciation (Rs Cr)	277.75	0.00	-277.75
Interest on Loan (Rs Cr)	0.00	0.00	0.00
Return on Equity (Rs Cr)	204.14	203.15	-0.99
Interest on Working Capital	75.90	69.90	-6.00
Compensation Allowance (Rs Cr)	7.50	7.50	0.00
<b>Total (Rs Cr)</b>	<b>769.43</b>	<b>484.84</b>	<b>-284.59</b>
Ex-bus Energy Sent Out (kWh)	7055.09	7055.09	0.00
<b>Fixed Cost per Unit</b>	<b>1.09</b>	<b>0.69</b>	<b>-0.40</b>

ii. **Variable Charges:**

(a) **Weighted Average Cost and Gross Calorific Value of Coal and Oil**

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:



### Weighted Average Cost and Gross Calorific Value of Coal and Oil for F.Y. 2014-15.

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal( Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(`KCAL/KG)
Oct' 2015	43123	10600	2055	2973
Nov' 2015	42154	10600	2114	3201
Dec' 2015	42154	10600	2105	3305
<b>3 Month Weighted Avg.</b>	<b>42477</b>	<b>10600</b>	<b>2091</b>	<b>3160</b>

**(b) Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Anpara 'B' Power Station for the MYT period of F.Y. 2014-15 to FY 2018-19 is as given in the following table.

#### Variable charge per unit of generation for Anpara 'B' Power Station

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	1000.00	1000.00	1000.00	1000.00	1000.00
PAF	%	85%	85%	85%	85%	85%
Gross generation	MU	7446	7463	7446	7446	7446
Auxiliary Consumption	%	0.05	0.05	0.05	0.05	0.05
Net units sent out	MU	7055	7071	7055	7055	7055.09
Gross station heat rate	Kcal/kWh	2410	2410	2410	2410	2410.00
Specific oil consumption	ml/kWh	0.75	0.75	0.75	0.75	0.75
Calorific value of secondary fuel	KCal/Lt	10600	10600	10600	10600	10600
Weighted average landed price of coal	Rs./MT	2090.91	2090.91	2090.91	2090.91	2090.91
Calorific value of Coal	kCal/kg	3159.67	3159.67	3159.67	3159.67	3159.67
Weighted average landed price of secondary fuel	Rs./KL	42477	42477	42477	42477	42477
Energy charge rate (ECR)	Rs/kWh	1.62	1.62	1.62	1.62	1.62



**(c) Cost of alternative coal supply:**

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rate (%)
01.04.2014 to 31.03.2015	2.11	
01.04.2015 to 30.09.2015	1.89	-20.53%



01.10.2015 to 31.03.2016	1.92	-17.91%
--------------------------	------	---------

**(d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Anpara 'B' Thermal Power Station for the MYT period of FY 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

**Cost per kWh as claimed by UPRVUNL with those as allowed by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	160.00	160.00	0.00	170.10	170.10	0.00
Depreciation (Rs Cr.)	277.75	277.75	0.00	277.75	116.99	-160.76
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	204.14	203.15	-0.99	204.14	203.15	-0.99
Interest on Working Capital (Rs Cr.)	51.87	73.54	21.67	66.39	70.58	4.19
Com. Allowance (Rs Cr.)	7.50	7.50	0.00	7.50	7.50	0.00
Fixed Cost (Rs Cr.)	<b>701.26</b>	<b>721.93</b>	20.67	<b>725.88</b>	<b>568.32</b>	-157.56
F. C. per Unit (Rs./ kWh)	0.99	1.02	0.03	1.03	0.80	-0.23
V. C.on Fuel (Rs Cr..)	<b>1106.73</b>	<b>1144.52</b>	37.79	<b>1162.07</b>	1147.14	-14.93
V. C. per Unit (Rs./kWh)	1.57	1.62	0.05	1.65	1.62	-0.03
Total Cost (Rs In Cr..)	<b>1807.99</b>	<b>1866.46</b>	58.47	<b>1887.95</b>	<b>1715.46</b>	-296.58
Ex-bus Energy Sent Out (MU)	<b>7055.09</b>	<b>7055.09</b>	0.00	<b>7055.00</b>	<b>7071.19</b>	-16.19
Total Cost per Unit (Rs/kWh)	<b>2.56</b>	<b>2.65</b>	<b>0.08</b>	<b>2.68</b>	<b>2.43</b>	<b>-0.25</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	180.80	180.80	0.00	192.20	192.20	0.00
Depreciation (Rs Cr.)	277.75	0.00	-277.75	277.75	0.00	-277.75
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	204.14	203.15	-0.99	204.14	203.15	-0.99
Interest on Working Capital (Rs Cr.)	69.57	68.44	-1.13	72.66	69.14	-3.52
Com. Allowance (Rs Cr.)	7.50	7.50	0.00	7.50	7.50	0.00
Fixed Cost (Rs Cr.)	<b>739.76</b>	<b>459.88</b>	-279.88	<b>754.25</b>	<b>471.99</b>	-282.26
F. C. per Unit (Rs /kWh.)	1.05	0.65	-0.40	1.07	0.67	-0.40
V. C.on Fuel (Rs Cr.)	<b>1220.17</b>	<b>1144.52</b>	-75.65	<b>1281.18</b>	<b>1144.52</b>	-136.66
V. C. per Unit (Rs/ kWh.)	1.73	1.62	-0.11	1.82	1.62	-0.19
Total Cost (Rs Cr.)	1959.93	1604.41	-355.52	2035.43	1492.72	-542.71
Ex-bus Energy Sent Out (MU)	7055.09	7055.09	0.00	7055.09	7055.09	0.00
Total Cost per Unit (Rs/kWh)	2.78	2.27	-0.50	2.89	2.29	-0.59



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	204.14	204.30	0.16
Depreciation(Rs Cr.)	277.75	0.00	-277.75
Interest on Loan(Rs Cr.)	0.00	0.00	0.00
Return on Equity(Rs Cr.)	204.14	203.15	-0.99
Interest on Working Capital (Rs Cr.)	75.90	69.90	-6.00
Com. Allowance(Rs Cr.)	7.50	7.50	-0.16
Fixed Cost ( ` in Cr..)	769.43	484.84	-284.59
F. C. per Unit ( Rs/kWh.)	1.09	0.69	-0.40
V. C.on Fuel (Rs Cr.)	<b>1345.24</b>	<b>1144.52</b>	-200.72
V. C. per Unit ( Rs/ kWh.)	1.91	1.62	-0.28
Total Cost (Rs Cr.)	2114.67	1629.37	-485.30
Ex-bus Energy Sent Out (MU)	7055.09	7055.09	0.00
Total Cost per Unit (In Rs./kWh)	3.00	2.31	-0.69



**8.3**  
**Section - 3**  
**Multi Year Tariff**  
**for**  
**Obra 'A'**  
**Thermal Power Station**  
**for**  
**FY 2014-15 to 2018-19**



### 8.3.1 ARR and MYT as according to petition

In the petition, UPRVUNL has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Obra A	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	994.00	994.00	994.00	994.00	994.00
Fixed Charges (₹)	1.90	1.95	2.00	2.06	2.13
Variable Charges (₹)	2.14	2.24	2.36	2.47	2.60
Total Charges (₹)	4.04	4.19	4.36	4.53	4.73
ARR (₹ In Cr.)	400.92	416.44	432.88	450.79	470.03

### 8.3.2 ARR and MYT as determined by the Commission

#### i. Capacity (Fixed) Charges

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff) Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	11.01%	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

##### (b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 to FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14..



### Calculation of GFA & NFA including financing

(Rs Cr.)

Obra 'A' Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	231.90	231.90	231.90	231.90	231.90
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	231.90	231.90	231.90	231.90	231.90
Cl. Net FA	165.65	152.91	143.30	143.30	143.30
<b>Financing:</b>					
Op. Equity	80.44	80.44	80.44	80.44	80.44
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	80.44	80.44	80.44	80.44	80.44
Op. Accu Dep.	53.51	66.24	78.98	88.59	88.59
Dep. During the year	12.74	12.74	9.61	0.00	0.00
Cl. Accu. Dep.	66.24	78.98	88.59	88.59	88.59
Op. Debts	107.49	94.75	82.01	72.40	72.40
Additions	-	-	-	-	-
Less: Dep.	12.74	12.74	9.61	-	-
Cl. Debts	94.75	82.01	72.40	72.40	72.40

#### (c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, Return on Equity, Depreciation, O&M and Interest on Loans are worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr.)

S.No	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	12.47	12.47	12.47	12.47	12.47
2	Depreciation	12.74	12.74	9.61	0.00	0.00
3	Interest on Loans	11.13	9.73	8.50	7.97	7.97
4	O & M Expenses	133.14	138.70	144.43	150.34	156.41
5	Com. Allowance	1.50	1.50	1.50	1.50	1.50



S.No	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
	<b>Total:</b>	<b>170.98</b>	<b>175.14</b>	<b>176.51</b>	<b>172.28</b>	<b>178.35</b>

The amount of GFA pertaining to Obra 'A' Power Station at the beginning of F.Y. 2014-15 was ₹231.93 Cr. out of which ₹2.25 Cr. was invested in the land leaving thereby a balance of ₹229.68 Cr. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹ 206.71 Cr. for Obra 'A' Power Station. The accumulated depreciation allowed till the end of FY 2016-17 is ₹206.71 Cr therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2016-17.

**(e) Interest on Working Capital:**

The amount of Working Capital and Interest on Working Capital for the control period of FY 2014-15 to FY 2018-19 as determined by the Commission are as under:-

**Annual Receivables of Obra 'A' Power Station required for Calculation of Working Capital:**

(Rs Cr.)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	187.98	192.47	194.07	189.97	196.43
Cost of Fuel	171.15	171.54	171.15	171.15	171.15
<b>Total Receivables</b>	<b>359.13</b>	<b>364.01</b>	<b>365.22</b>	<b>361.12</b>	<b>367.58</b>

**Working Capital as determined by the Commission**

(Rs Cr.)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	26.53	26.59	26.53	26.53	26.53
2	Cost of Secondary Fuel Oil for 2 months	1.78	1.78	1.78	1.78	1.78
3	O & M for 1 month	11.10	11.56	12.04	12.53	13.03
4	Maintenance Spares @20% of O & M Exp.	26.63	27.74	28.89	30.07	31.28
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	59.85	60.67	60.87	60.19	61.26
6	<b>Working Capital</b>	<b>125.88</b>	<b>128.34</b>	<b>130.10</b>	<b>131.09</b>	<b>133.89</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>16.99</b>	<b>17.33</b>	<b>17.56</b>	<b>17.70</b>	<b>18.07</b>

**(f) Capacity (Fixed) Charges**

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.3.1:

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	133.14	133.14	0.00	138.70	138.70	0.00
Depreciation (Rs Cr.)	12.74	12.74	0.00	12.74	12.74	0.00
Interest on Loan (Rs Cr.)	11.14	11.13	-0.01	9.73	9.73	0.00
Return on Equity (Rs Cr.)	12.47	12.47	0.00	12.47	12.47	0.00
Interest on Working Capital (Rs Cr.)	17.49	16.99	-0.50	18.24	17.33	-0.91
Compensation Allowance (Rs Cr.)	1.50	1.50	0.00	1.50	1.50	0.00
<b>Total (Rs Cr.)</b>	<b>188.48</b>	<b>187.68</b>	<b>-0.51</b>	<b>193.38</b>	<b>192.47</b>	<b>-0.91</b>
Ex-bus Energy Sent Out (kwh)	994.00	1070.65	76.65	994.00	1073.09	79.09
<b>Fixed Cost per Unit</b>	<b>1.90</b>	<b>1.76</b>	<b>-0.14</b>	<b>1.95</b>	<b>1.79</b>	<b>-0.16</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	144.43	144.43	0.00	150.34	150.34	0.00
Depreciation (Rs Cr.)	12.74	9.61	-3.31	12.74	0.00	-12.74
Interest on Loan (Rs Cr.)	8.50	8.50	0.00	7.97	7.97	0.00
Return on Equity (Rs Cr.)	12.47	12.47	0.00	12.47	12.47	0.00
Interest on Working Capital (Rs Cr.)	19.01	17.56	-1.45	19.84	17.70	-2.14
Compensation Allowance (Rs Cr.)	1.50	1.50	0.00	1.50	1.50	0.00



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Total (Rs Cr.)	<b>198.65</b>	<b>194.07</b>	<b>-4.58</b>	<b>204.86</b>	<b>189.67</b>	<b>-14.89</b>
Ex-bus Energy Sent Out (kWh)	994.00	1070.65	76.65	994.00	1070.65	76.65
<b>Fixed Cost per Unit</b>	<b>2.00</b>	<b>1.81</b>	<b>-0.19</b>	<b>2.06</b>	<b>1.77</b>	<b>-0.29</b>

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr.)	156.41	156.41	0.00
Depreciation (Rs Cr.)	12.74	0.00	-12.74
Interest on Loan (Rs Cr.)	7.97	7.97	0.00
Return on Equity (Rs Cr.)	12.47	12.47	0.00
Interest on Working Capital (Rs Cr.)	20.71	18.07	-2.64
Compensation Allowance (Rs Cr.)	1.50	1.50	0.00
Total (Rs Cr.)	<b>211.80</b>	<b>196.43</b>	<b>-15.37</b>
Ex-bus Energy Sent Out (MU)	994.00	1070.65	76.65
<b>Fixed Cost per Unit</b>	<b>2.13</b>	<b>1.83</b>	<b>-0.30</b>

ii. **Variable Charges:**

(a) **Weighted Average Cost and Gross Calorific Value of Coal and Oil :**

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

**Weighted Average Cost and Gross Calorific Value of Coal and Oil  
For F.Y. 2014-15**

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(KCAL/KG)
Oct' 2015	30482	10429	2056	3861
Nov' 2015	30482	10429	2137	4006
Dec' 2015	23139	10429	2044	3954
<b>3 Month Weighted Avg.</b>	28035	10429	2079	3940

**(b) Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Obra 'A' Power Station for the MYT period of FY2014-15 to FY 2018-19 is as given in the following table.

**Variable charge per unit of generation for Obra 'A' Power Station**

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	194.00	194.00	194.00	194.00	194.00
PAF	%	70%	70%	70%	70%	70%
Gross generation	MU	1189.61	1192.32	1189.61	1189.61	1189.61
Auxiliary Consumption	%	0.10	0.10	0.10	0.10	0.10
Net units sent out	MU	1070.65	1073.09	1070.65	1070.65	1070.65
Gross station heat rate	Kcal/kWh	2890.00	2890.00	2890.00	2890.00	2890.00
Specific oil consumption	ml/kWh	3.20	3.20	3.20	3.20	3.20
Calorific value of secondary fuel	KCal/Lt	10429	10429	10429	10429	10429
Weighted average landed price of coal	Rs./MT	2079	2079	2079	2079	2079
Calorific value of Coal	kCal/kg	3940	3940	3940	3940	3940
Weighted average landed price of secondary fuel	Rs./KL	28034	28034	28034	28034	28034
Energy charge rate (ECR)	Rs/kWh	1.60	1.60	1.60	1.60	1.60



**(c) Cost of alternative coal supply:**

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 to 31.03.2015	2.08	
01.04.2015 to 30.09.2015	1.86	-20.53%



01.10.2015 to 31.03.2016	1.89	-17.91%
--------------------------	------	---------

**(d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Obra 'A' Thermal Power Station for the MYT period of FY 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

**Cost per kWh as claimed by UPRVUNL with those as allowed  
By the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	133.14	133.14	0.00	138.70	138.70	0.00
Depreciation (Rs Cr.)	12.74	12.74	0.00	12.74	12.74	0.00
Interest on Loan (Rs Cr.)	11.14	11.13	-0.01	9.73	9.73	0.00
Return on Equity	12.47	12.47	0.00	12.47	12.47	0.00
Interest on Working Capital(Rs Cr.)	17.49	16.99	-0.50	18.24	17.33	-0.91
Com. Allowance	1.50	1.50	0.00	1.50	1.50	0.00
Fixed Cost (Rs Cr.)	<b>188.48</b>	<b>187.98</b>	-0.51	<b>193.38</b>	<b>192.47</b>	-0.91
F. C. per Unit (Rs./kWh)	1.90	1.76	-0.14	1.95	1.79	-0.15
V. C.on Fuel (Rs Cr.)	<b>212.44</b>	<b>171.15</b>	-41.29	<b>223.06</b>	<b>171.54</b>	-51.52
V. C. per Unit (Rs/kWh.)	2.14	1.60	-0.54	2.24	1.60	-0.65
Total Cost (Rs Cr.)	<b>400.92</b>	<b>359.13</b>	-41.79	<b>416.44</b>	<b>364.01</b>	-52.43
Ex-bus Energy Sent Out (MU)	<b>994.00</b>	<b>1070.65</b>	76.65	<b>994.00</b>	<b>1073.09</b>	79.09
Total Cost per Unit (Rs/kWh)	<b>4.03</b>	<b>3.35</b>	<b>-0.68</b>	<b>4.19</b>	<b>3.39</b>	<b>-0.80</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	144.43	144.43	0.00	150.34	150.34	0.00
Depreciation(Rs Cr.)	12.74	9.61	-3.31	12.74	0.00	-12.74
Interest on Loan (Rs Cr.)	8.50	8.50	0.00	7.97	7.97	0.00
Return on Equity (Rs Cr.)	12.47	12.47	0.00	12.47	12.47	0.00
Interest on Working Capital(Rs Cr.)	19.01	17.56	-1.45	19.84	17.70	-2.14
Com. Allowance (Rs Cr.)	144.43	144.43	0.00	1.50	1.50	0.00
Fixed Cost (Rs	<b>198.65</b>	<b>194.07</b>	-4.58	<b>204.86</b>	<b>189.97</b>	-14.89



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Cr.)						
F. C. per Unit (Rs./kWh)	2.00	1.81	-0.19	2.06	1.77	-0.29
V. C.on Fuel (Rs Cr.)	234.22	171.15	-63.07	245.93	171.15	-74.78
V. C. per Unit (Rs/kWh)	2.36	1.60	-0.76	2.47	1.60	-0.88
Total Cost (Rs Cr.)	432.87	365.22	-67.65	450.79	361.12	-89.67
Ex-bus Energy Sent Out (MU)	994.00	1070.65	76.65	994.00	1070.65	76.65
Total Cost per Unit (Rs/kWh)	4.35	3.41	-0.94	4.54	3.37	-1.16

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	156.41	156.41	0.00
Depreciation(Rs Cr.)	12.74	0.00	-12.74
Interest on Loan(Rs Cr.)	7.97	7.97	0.00
Return on Equity(Rs Cr.)	12.47	12.47	0.00
Interest on Working Capital (Rs Cr.)	20.71	18.07	-2.64
Com. Allowance(Rs Cr.)	1.50	1.50	0.00
Fixed Cost (Rs Cr.)	211.80	196.43	-15.37
F. C. per Unit (Rs/kWh.)	2.13	1.83	-87.07
V. C.on Fuel (Rs Cr.)	258.22	171.15	-94.21
V. C. per Unit (Rs/ kWh.)	2.60	1.60	-1.00
Total Cost (Rs Cr.)	470.02	367.58	-102.44
Ex-bus Energy Sent Out (MU)	994.00	1070.65	-76.65
Total Cost per Unit (In Rs./kWh)	4.73	3.43	-1.30



**8.4**

**Section - 4**

**Multi Year Tariff**

**For**

**Obra 'B'**

**Thermal Power Station**

**For**

**FY 2014-15 to FY 2018-19**



#### 8.4.1 ARR and MYT as according to petition

In the petition, Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Obra 'B'	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	5933	5933	5933	5933	5933
Fixed Charges (Rs/kWh)	0.70	0.73	0.75	0.78	0.81
Variable Charges (Rs/kWh)	1.95	2.05	2.15	2.26	2.37
Total Charges (Rs/kWh)	2.66	2.78	2.90	3.04	3.18
ARR (₹ in Cr.)	<b>1576.25</b>	<b>1647.19</b>	<b>1722.21</b>	<b>1801.47</b>	<b>1886.18</b>

#### 8.4.2 ARR and MYT as determined by the Commission

##### i. Capacity (Fixed) Charges

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	11.46 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

##### (b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end



of each financial year commencing from FY 2014-15 FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final true up for FY 2013-14..

### Calculation of GFA & NFA including financing

(Rs Cr.)

Obra 'B' Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	849.89	849.89	849.89	849.89	849.89
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	849.89	849.89	849.89	849.89	849.89
Cl. Net FA	399.01	353.63	308.25	262.87	217.48
<b>Financing:</b>					
Op. Equity	234.61	234.61	234.61	234.61	234.61
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>234.61</b>	<b>234.61</b>	<b>234.61</b>	<b>234.61</b>	<b>234.61</b>
Op. Accu Dep.	405.50	450.88	496.26	541.64	587.02
Dep. During the year	45.38	45.38	45.38	45.38	45.38
Cl. Accu. Dep.	<b>450.88</b>	<b>496.26</b>	<b>541.64</b>	<b>587.02</b>	<b>632.41</b>
Op. Debts	210.21	164.82	119.44	74.06	28.68
Additions	-	-	-	-	-
Less: Dep.	45.38	45.38	45.38	45.38	28.68
Cl. Debts	164.82	119.44	74.06	28.68	-

### (c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to 2018-19, Return on Equity (RoE), Depreciation, O&M and Interest on Loans are worked out as under:



### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr.)

Sl.No	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	36.36	36.36	36.36	36.36	36.36
2	Depreciation	45.38	45.38	45.38	45.38	45.38
3	Interest on Debts	21.49	16.29	11.09	5.89	1.64
4	O & M Expenses	239.00	254.00	270.00	287.00	305.10
5	Com. Allowance	10.00	10.00	10.00	10.00	10.00
	<b>Total:</b>	<b>352.24</b>	<b>362.03</b>	<b>372.83</b>	<b>384.63</b>	<b>398.49</b>

The amount of GFA pertaining to Obra 'B' Power Station at the beginning of F.Y. 2014-15 was ₹ 849.89 Cr. out of which ₹ 4.31 Cr. was invested in the land leaving thereby a balance of ₹ 845.58 Cr. The maximum Depreciation as per UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹ 761.02 Cr. for Obra 'B' Power Station. The accumulated depreciation allowed till the end of FY 2018-19 is ₹ 632.41 Cr. which is less than ₹ 761.02 Cr. Therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2018-19.

#### (d) Interest on Working Capital:

The amount of Working Capital and Interest on Working Capital for the control period of F.Y. 2014-15 to FY 2018-19 as determined by the Commission are as under:-

#### Annual Receivables of Obra 'B' Power Station required for Calculation of Working Capital:

(Rs Cr.)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	413.88	424.59	436.17	448.90	463.79
Cost of Fuel	964.65	966.85	964.65	964.65	964.65
<b>Total Receivables</b>	<b>1378.53</b>	<b>1391.44</b>	<b>1400.81</b>	<b>1413.55</b>	<b>1428.43</b>

#### Working Capital as determined by the Commission

(Rs Cr.)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	152.29	152.64	152.29	152.29	152.29
2	Cost of Secondary Fuel Oil for 2 months	6.88	6.89	6.88	6.88	6.88
3	O & M for 1 month	19.92	21.17	22.50	23.92	25.43
4	Maintenance Spares	47.80	50.80	54.00	57.40	61.02



Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	@20% of O & M Exp.					
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	229.75	231.91	233.47	235.59	238.07
6	<b>Working Capital</b>	<b>456.64</b>	<b>463.41</b>	<b>469.14</b>	<b>476.08</b>	<b>483.69</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>61.65</b>	<b>62.56</b>	<b>63.33</b>	<b>64.27</b>	<b>65.30</b>

### (e)Capacity (Fixed) Charges

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of FY 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.4.1:

### Fixed Charges as claimed by UPRVUNL and as approved by the Commission

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	239.00	239.00	0.00	254.00	254.00	0.00
Depreciation (Rs Cr.)	45.38	45.38	0.00	45.38	45.38	0.00
Interest on Loan (Rs Cr.)	21.49	21.49	0.00	16.29	16.29	0.00
Return on Equity (Rs Cr.)	36.36	36.36	0.00	36.36	36.36	0.00
Interest on Working Capital (Rs Cr.)	65.44	61.65	-3.79	68.66	62.56	-6.10
Compensation Allowance (Rs Cr.)	10.00	10.00	0.00	10.00	10.00	0.00
Total (Rs Cr.)	417.67	413.88	-3.79	430.69	424.59	-6.10
Ex-bus Energy Sent Out (MU)	5933.00	6328.22	395.22	5933.00	6342.67	409.67
<b>Fixed Cost per Unit</b>	<b>0.70</b>	<b>0.65</b>	<b>-0.05</b>	<b>0.73</b>	<b>0.67</b>	<b>-0.06</b>



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	270.00	270.00	0.00	287.00	287.00	0.00
Depreciation (Rs Cr.)	45.38	45.38	0.00	45.38	45.38	0.00
Interest on Loan (Rs Cr.)	11.09	11.09	0.00	5.89	5.89	0.00
Return on Equity (Rs Cr.)	36.36	36.36	0.00	36.36	36.36	0.00
Interest on Working Capital (Rs Cr.)	72.05	63.33	-8.72	75.64	64.27	-11.37
Compensation Allowance (Rs Cr.)	10.00	10.00	0.00	10.00	10.00	0.00
<b>Total (Rs Cr.)</b>	<b>444.88</b>	<b>436.17</b>	<b>-8.71</b>	<b>460.27</b>	<b>448.90</b>	<b>-11.37</b>
Ex-bus Energy Sent Out (MU)	5933.00	6328.22	395.22	5933.00	6328.22	395.22
<b>Fixed Cost per Unit</b>	<b>0.75</b>	<b>0.69</b>	<b>-0.06</b>	<b>0.78</b>	<b>0.71</b>	<b>-0.07</b>

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr.)	305.10	305.10	0.00
Depreciation (Rs Cr.)	45.38	45.38	0.00
Interest on Loan (Rs Cr.)	1.64	1.64	0.00
Return on Equity (Rs Cr.)	36.36	36.36	0.00
Interest on Working Capital (Rs Cr.)	79.44	65.30	-14.13
Compensation Allowance (Rs Cr.)	10.00	10.00	0.00
<b>Total (Rs Cr.)</b>	<b>477.92</b>	<b>463.79</b>	<b>-14.13</b>
Ex-bus Energy Sent Out (MU)	5933.00	6328.22	395.22
<b>Fixed Cost per Unit</b>	<b>0.81</b>	<b>0.73</b>	<b>-0.07</b>

ii. Variable Charges:

(a) Weighted Average Cost and Gross Calorific Value of Coal and Oil :

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for



the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

**Weighted Average Cost and Gross Calorific Value of Coal and Oil  
for F.Y. 2014-15**

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(`KCAL/KG)
Oct' 2015	30483	10429	2150	3861
Nov' 2015	30483	10429	2095	4006
Mar' 2015	23139	10429	2087	3954
<b>3 Month Weighted Avg.</b>	<b>28035</b>	<b>10429</b>	<b>2111</b>	<b>3940</b>

**(b) Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Obra 'B' Power Station for the MYT period of FY2014-15 to FY 2018-19 is as given in the following table.

**Variable charge per unit of generation for Obra 'B' Power Station**

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	1000.00	1000.00	1000.00	1000.00	1000.00
PAF	%	80%	80%	80%	80%	80%
Gross generation	MU	7008.00	7024.00	7008.00	7008.00	7008.00
Auxiliary Consumption	%	0.10	0.10	0.10	0.10	0.10
Net units sent out	MU	6328.22	6342.67	6328.22	6328.22	6328.22
Gross station heat rate	Kcal/kWh	2755.00	2755.00	2755.00	2755.00	2755.00
Specific oil consumption	ml/kWh	2.10	2.10	2.10	2.10	2.10
Calorific value of secondary fuel	KCal/Lt	10429	10429	10429	10429	10429
Weighted average landed price of coal	Rs./MT	2111	2111	2111	2111	2111
Calorific value of Coal	kCal/kg	3940	3940	3940	3940	3940
Weighted average landed price of secondary fuel	Rs./KL	28034	28034	28034	28034	28034
Energy charge rate (ECR)	Rs/kWh	1.52	1.52	1.52	1.52	1.52



**(c) Cost of alternative coal supply:**

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 to 31.03.2015	1.98	
01.04.2015 to 30.09.2015	1.78	-20.53%
01.10.2015 to 31.03.2016	1.80	-17.91%



**(d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Obra 'B' Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below:

**Cost per kWh as claimed by UPRVUNL with those as allowed by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	239.00	239.00	0.00	254.00	254.00	0.00



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Depreciation (Rs Cr.)	45.38	45.38	0.00	45.38	45.38	0.00
Interest on Loan (Rs Cr.)	21.49	21.49	0.00	16.29	16.29	0.00
Return on Equity (Rs Cr.)	36.36	36.36	0.00	36.36	36.36	0.00
Interest on Working Capital (Rs Cr.)	65.44	61.65	-3.79	68.66	63.32	-6.10
Com. Allowance (Rs Cr.)	10.00	10.00	0.00	10.00	10.00	0.00
Fixed Cost (Rs Cr.)	417.67	413.88	-3.79	430.69	424.59	-6.10
F. C. per Unit (Rs/kWh.)	0.70	0.65	-0.05	0.73	0.67	-0.06
V. C. on Fuel (Rs Cr.)	1158.58	964.65	-193.93	1216.50	966.85	-249.65
V. C. per Unit (Rs/kWh.)	1.95	1.52	-0.43	2.05	1.52	-0.53
Total Cost (Rs Cr.)	1576.25	1647.96	-71.71	1647.19	1391.44	-255.75
Ex-bus Energy Sent Out (MU)	5933.00	6328.22	395.22	5933.00	6342.67	-409.67
Total Cost per Unit (Rs/kWh)	2.66	2.18	-0.48	2.78	2.19	<b>-0.58</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	270.00	270.00	0.00	287.00	287.00	0.00
Depreciation (Rs Cr.)	45.38	45.38	0.00	45.38	45.38	0.00
Interest on Loan (Rs Cr.)	11.09	11.09	0.00	5.89	5.89	0.00
Return on Equity (Rs Cr.)	36.36	36.36	0.00	36.36	36.36	0.00
Interest on Working Capital (Rs Cr.)	72.05	63.33	-8.72	75.64	64.27	-11.37
Com. Allowance (Rs Cr.)	10.00	10.00	0.00	10.00	10.00	0.00
Fixed Cost (Rs Cr.)	444.88	436.17	-8.72	460.27	448.90	-11.37
F. C. per Unit (Rs./kWh)	0.75	0.69	-0.06	0.78	0.71	-0.07
V. C. on Fuel (Rs Cr.)	1277.33	979.22	-298.11	1341.20	979.22	-361.98



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
V. C. per Unit (Rs./kWh)	2.15	1.52	-0.63	2.26	1.52	-0.74
Total Cost (Rs Cr.)	1722.21	1400.81	-321.40	1801.47	1413.55	-387.92
Ex-bus Energy Sent Out (MU)	5933.00	6328.22	395.22	5933.00	6328.22	-395.22
Total Cost per Unit (Rs/kWh)	2.90	2.21	-0.69	3.04	2.23	-0.80

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	305.10	305.10	0.00
Depreciation(Rs Cr.)	45.38	45.38	0.00
Interest on Loan(Rs Cr.)	1.64	1.64	0.00
Return on Equity(Rs Cr.)	36.36	36.36	0.00
Interest on Working Capital(Rs Cr.)	79.44	65.30	-14.13
Com. Allowance(Rs Cr.)	10.00	10.00	0.00
Fixed Cost (Rs Cr.)	477.92	463.79	-14.13
F. C. per Unit (Rs/kWh.)	0.81	0.73	-0.07
V. C.on Fuel (Rs Cr.)	1408.26	964.65	-443.61
V. C. per Unit ( Rs/ kWh.)	2.37	1.52	-0.85
Total Cost (Rs Cr.)	1886.18	1428.43	-457.75
Ex-bus Energy Sent Out (MU)	5933.00	6328.22	395.22
Total Cost per Unit (Rs./kWh)	3.18	2.26	-0.92



**8.5**

**Section - 5**

**Multi Year Tariff**

**For**

**Panki**

**Thermal Power Station**

**For**

**FY 2014-15 to FY 2018-19**



### 8.5.1 ARR and MYT as according to petition

In the petition, the Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Panki	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	1079.00	1079.00	1079.00	1079.00	1079.00
Fixed Charges (Rs/kWh)	1.45	1.50	1.55	1.60	1.66
Variable Charges (Rs/kWh)	3.68	3.86	4.06	4.26	4.47
Total Charges (Rs/kWh)	<b>5.13</b>	<b>5.37</b>	<b>5.61</b>	<b>5.86</b>	<b>6.14</b>
ARR (Rs Cr.)	<b>554.06</b>	<b>578.99</b>	<b>605.12</b>	<b>632.72</b>	<b>662.10</b>

### 8.5.2 ARR and MYT as determined by the Commission

#### i. Capacity (Fixed) Charges

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	11.55 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

##### (b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14.



### Calculation of GFA & NFA including financing

(Rs Cr.)

Panki Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	159.97	159.97	159.97	159.97	159.97
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	159.97	159.97	159.97	159.97	159.97
Cl. Net FA	58.76	51.36	43.96	36.55	35.78
<b>Financing:</b>					
Op. Equity	36.63	36.63	36.63	36.63	36.63
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>36.63</b>	<b>36.63</b>	<b>36.63</b>	<b>36.63</b>	<b>36.63</b>
Op. Accu Dep.	93.80	101.21	108.61	116.02	123.42
Dep. During the year	7.40	7.40	7.40	7.40	0.78
Cl. Accu. Dep.	101.21	108.61	116.02	123.42	124.20
Op. Debts	25.14	17.74	10.33	2.93	-
Additions	-	-	-	-	-
Less: Repayment	7.40	7.40	7.40	2.93	-
Cl. Debts	17.74	10.33	2.93	-	-

#### (c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, RoE, Depreciation, O&M and Interest on Loans are worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr.)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	5.68	5.68	5.68	5.68	5.68
2	Depreciation	7.40	7.40	7.40	7.40	7.40
3	Interest on Loan	2.48	1.62	0.77	0.17	0.00
4	O & M Expenses	115.37	120.20	125.18	130.28	135.56
5	Com.	2.10	2.10	2.10	2.10	2.10



Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
	Allowance					
	<b>Total:</b>	<b>133.03</b>	<b>137.01</b>	<b>141.13</b>	<b>145.63</b>	<b>144.11</b>

The amount of GFA pertaining to Panki Power Station at the beginning of F.Y. 2014-15 was ` 160.00 Cr. out of which ₹1.55 Cr. was invested in the land leaving thereby a balance of ₹158.45 Cr. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹142.61 Cr. for Panki Power Station. The accumulated depreciation allowed till the end of FY 2018-19 is ₹144.01 Cr. and the Commission has allowed full Depreciation for FY 2014-15 to 2017-18 and balance amount in FY 2018-19.

**(d) Interest on Working Capital:**

The amount of Working Capital and Interest on Working Capital for the control period of FY2014-15 to FY 2018-19 as determined by the Commission are as under:-

**Annual Receivables of Panki Power Station required for Calculation of Working Capital:**

(Rs Cr.)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	158.93	163.23	167.70	172.40	171.05
Cost of Fuel	400.34	401.26	400.34	400.34	400.34
<b>Total Receivables</b>	<b>559.27</b>	<b>564.48</b>	<b>568.05</b>	<b>572.75</b>	<b>571.40</b>

**Working Capital as determined by the Commission**

(Rs Cr.)

Sl.No	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	64.28	64.43	64.28	64.28	64.28
2	Cost of Secondary Fuel Oil for 2 months	1.65	1.65	1.65	1.65	1.65
3	O & M for 1 month	9.61	10.02	10.43	10.86	11.30
4	Maintenance Spares @20% of O & M Exp.	23.07	24.04	25.04	26.06	27.11
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	93.21	94.08	95.46	95.46	95.23
6	<b>Working Capital</b>	<b>191.83</b>	<b>194.22</b>	<b>196.85</b>	<b>198.30</b>	<b>199.57</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>25.90</b>	<b>26.22</b>	<b>26.58</b>	<b>26.77</b>	<b>26.94</b>



### IWC during the Control Period as claimed by UPRVUNL

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital	191.22	200.05	209.29	218.99	229.21
Rate of Interest	12.50%	12.50%	12.50%	12.50%	12.50%
I W C	<b>23.9</b>	<b>25.01</b>	<b>26.16</b>	<b>27.37</b>	<b>28.65</b>

#### (e) Capacity (Fixed) Charges

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of FY 2014-15 to FY2018-19. Ex-bus energy sent out has been taken from Section 8.5.1:

#### Fixed Charges as claimed by UPRVUNL and as approved by the Commission

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	115.37	115.37	0.00	120.20	120.20	0.00
Depreciation (Rs Cr.)	7.40	7.40	0.00	7.40	7.40	0.00
Interest on Loan (Rs Cr.)	2.48	2.48	0.00	1.62	1.62	0.00
Return on Equity (Rs Cr.)	5.68	5.68	0.00	5.68	5.68	0.00
Interest on Working Capital (Rs Cr.)	23.90	25.90	2.00	25.01	26.22	1.21
Compensation Allowance (Rs Cr.)	2.10	2.10	0.00	2.10	2.10	0.00
Total (Rs Cr.)	156.93	158.93	2.00	162.01	163.23	1.21
Ex-bus Energy Sent Out (MU)	1079.00	1161.52	82.52	1079.00	1164.18	82.52
<b>Fixed Cost per Unit</b>	1.45	1.37	-0.09	1.50	1.40	-0.10



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	125.18	125.18	0.00	130.28	130.28	0.00
Depreciation (Rs Cr.)	7.40	7.40	0.00	7.40	7.40	0.00
Interest on Loan (Rs Cr.)	0.77	0.77	0.00	0.17	0.17	0.00
Return on Equity (Rs Cr.)	5.68	5.68	0.00	5.68	5.68	0.00
Interest on Working Capital (Rs Cr.)	26.16	26.58	0.42	27.37	26.77	-0.60
Compensation Allowance (Rs Cr.)	2.10	2.10	0.00	2.10	2.10	0.00
Total (Rs Cr.)	167.29	167.70	0.42	173.00	172.40	-0.60
Ex-bus Energy Sent Out (MU)	1079.00	1161.52	86.11	1079.00	1161.52	86.11
<b>Fixed Cost per Unit</b>	1.55	1.44	<b>-0.11</b>	1.60	1.48	<b>-0.12</b>

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr.)	135.56	135.56	0.00
Depreciation (Rs Cr.)	7.40	0.78	-6.62
Interest on Loan (Rs Cr.)	0.00	0.00	0.00
Return on Equity (Rs Cr.)	5.68	5.68	0.00
Interest on Working Capital (Rs Cr.)	28.65	26.94	-1.71
Compensation Allowance (Rs Cr.)	2.10	2.10	0.00
Total (Rs Cr.)	<b>179.39</b>	<b>171.05</b>	<b>-8.34</b>
Ex-bus Energy Sent Out (MU)	1079.00	1161.52	82.52
<b>Fixed Cost per Unit</b>	1.66	1.47	<b>-0.19</b>



ii. **Variable Charges:**

a) **Weighted Average Cost and Gross Calorific Value of Coal and Oil :**

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

**Weighted Average Cost and Gross Calorific Value of Coal and Oil  
For F.Y. 2014-15**

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal( Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(₹KCAL/KG)
Oct' 2015	37158	9678	4581	4250
Nov' 2015	36262	9733	4491	3837
Dec' 2015	36262	9733	4491	3837
<b>3 Month Weighted Avg.</b>	<b>36561</b>	9715	4521	3975

b) **Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Obra 'B' Power Station for the MYT period of FY2014-15 to FY 2018-19 is as given in the following table.

**Variable charge per unit of generation for Panki Power Station**

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	210.00	210.00	210.00	210.00	210.00
PAF	%	0.70	0.70	0.70	0.70	0.70
Gross generation	MU	1287.72	1290.66	1287.72	1287.72	1287.72
Auxiliary Consumption	%	0.10	0.10	0.10	0.10	0.10
Net units sent out	MU	1161.52	1164.18	1161.52	1161.52	1161.52
Gross station heat rate	Kcal/kWh	2980.00	2980.00	2980.00	2980.00	2980.00
Specific oil	ml/kWh	2.10	2.10	2.10	2.10	2.10



Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
consumption						
Calorific value of secondary fuel	KCal/Lt	9715	9715	9715	9715	9715
Weighted average landed price of coal	Rs./MT	4521	4521	4521	4521	4521
Calorific value of Coal	kCal/kg	3975	3975	3975	3975	3975
Weighted average landed price of secondary fuel	Rs./KL	36561	36561	36561	36561	36561
Energy charge rate (ECR)	Rs/kWh	3.45	3.45	3.45	3.45	3.45

**c) Cost of alternative coal supply:**

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*



However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 to 31.03.2015	4.48	
01.04.2015 to 30.09.2015	4.02	-20.53%
01.10.2015 to 31.03.2016	4.08	-17.91%

**d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity



generated. The total charges (costs) as determined by the Commission for Panki Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

**Cost per kWh as claimed by UPRVUNL with those as allowed  
By the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	115.37	115.37	0.00	120.20	120.20	0.00
Depreciation (Rs Cr.)	7.40	7.40	0.00	7.40	7.40	0.00
Interest on Loan (Rs Cr.)	2.48	2.48	0.00	1.62	1.62	0.00
Return on Equity (Rs Cr.)	5.68	5.68	0.00	5.68	5.68	0.00
Interest on Working Capital (Rs Cr.)	23.90	25.90	2.00	25.01	26.22	1.21
Com. Allowance (Rs Cr.)	2.10	2.10	0.00	2.10	2.10	0.00
Fixed Cost (Rs Cr.)	<b>156.93</b>	<b>158.93</b>	2.00	<b>162.01</b>	<b>163.23</b>	1.21
F. C. per Unit (Rs/kWh)	1.45	1.37	-0.09	1.50	1.40	-0.10
V. C. on Fuel (Rs Cr.)	<b>397.13</b>	<b>400.34</b>	3.21	<b>416.98</b>	<b>401.26</b>	-15.72
V. C. per Unit (Rs./kWh)	3.68	3.45	-0.23	3.86	3.45	-0.42
Total Cost (Rs Cr.)	<b>554.06</b>	<b>559.27</b>	5.21	<b>578.99</b>	<b>564.48</b>	-14.51
Ex-bus Energy Sent Out (MU)	<b>1079.00</b>	1161.52	82.52	1079.00	1164.18	85.18
Total Cost per Unit (Rs/kWh)	<b>5.13</b>	<b>4.81</b>	<b>-0.32</b>	<b>5.37</b>	<b>4.85</b>	<b>-0.52</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	125.18	125.18	0.00	130.28	130.28	0.00
Depreciation (Rs Cr.)	7.40	7.40	0.00	7.40	7.40	0.00



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Interest on Loan (Rs Cr.)	0.77	0.77	0.00	0.17	0.17	0.00
Return on Equity (Rs Cr.)	5.68	5.68	0.00	5.68	5.68	0.00
Interest on Working Capital (Rs Cr.)	26.16	26.58	0.41	27.37	26.77	-0.60
Com. Allowance (Rs Cr.)	2.10	2.10	0.00	2.10	2.10	0.00
Fixed Cost (Rs Cr.)	167.29	167.70	0.41	173.00	172.40	-0.60
F. C. per Unit (Rs/kWh)	1.55	1.44	-0.11	1.60	1.48	-0.12
V. C.on Fuel (Rs Cr.)	437.83	400.34	-37.49	459.72	400.34	-59.38
V. C. per Unit (Rs./kWh)	4.06	3.45	-0.61	4.26	3.45	-0.81
Total Cost (Rs Cr.)	605.12	568.05	-37.07	632.72	572.75	-59.97
Ex-bus Energy Sent Out (MU)	1079.00	1161.52	82.52	1079.00	1161.52	82.52
Total Cost per Unit (Rs/kWh)	5.61	4.89	-0.72	5.86	4.93	-0.93

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	135.56	135.56	0.00
Depreciation(Rs Cr.)	7.40	0.78	-6.68
Interest on Loan(Rs Cr.)	0.00	0.00	0.00
Return on Equity(Rs Cr.)	5.68	5.68	0.00
Interest on Working Capital(Rs Cr.)	28.65	26.94	-1.71
Com. Allowance(Rs Cr.)	2.10	2.10	0.00
Fixed Cost (Rs Cr.)	179.39	171.05	-8.34
F. C. per Unit (Rs/kWh.)	1.66	1.47	-0.19
V. C.on Fuel (Rs Cr.)	482.71	400.34	-82.37
V. C. per Unit (Rs/ kWh.)	4.47	3.45	-1.03
Total Cost (Rs Cr.)	662.10	571.40	-90.70
Ex-bus Energy Sent Out (MU)	1079.00	1161.52	-825.52
Total Cost per Unit (Rs./kWh)	6.14	4.92	-1.22



**8.6**  
**Section - 6**  
  
**Multi Year Tariff**  
  
**for**  
  
**Harduaganj**  
**Thermal Power Station**  
  
**For**  
  
**FY 2014-15 to 2018-19**



### 8.6.1 ARR and MYT as according to petition

In the petition, the Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Harduaganj TPS	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	776.00	776.00	776.00	776.00	776.00
Fixed Charges (Rs/kWh)	1.56	1.62	1.68	1.74	1.81
Variable Charges (Rs/kWh)	3.75	3.94	4.13	4.34	4.56
Total Charges (Rs/kWh)	5.31	5.56	5.81	6.08	6.36
ARR (Rs Cr.)	412.22	431.27	451.19	472.05	493.84

### 8.6.2 ARR and MYT as determined by the Commission

#### i. Capacity (Fixed) Charges

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	12.11 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

##### (b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14.



### Calculation of GFA & NFA including financing

(Rs Cr.)

Harduaganj Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	145.39	145.39	145.39	145.39	145.39
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	145.39	145.39	145.39	145.39	145.39
Cl. Net FA	37.37	31.03	31.03	31.03	31.03
<b>Financing:</b>					
Op. Equity	44.62	44.62	44.62	44.62	44.62
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>44.62</b>	<b>44.62</b>	<b>44.62</b>	<b>44.62</b>	<b>44.62</b>
Op. Accu Dep.	100.96	108.02	114.36	114.36	114.36
Dep. During the year	7.06	6.34	0.00	0.00	0.00
Cl. Accu. Dep.	108.02	114.36	114.36	114.36	114.36
Op. Debts	-	-	-	-	-
Additions	-	-	-	-	-
Less: Repayment	-	-	-	-	-
Cl. Debts	-	-	-	-	-

#### (c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, Return on Equity (RoE), Depreciation, O&M and Interest on Loans are worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr.)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	6.92	6.92	6.92	6.92	6.92
2	Depreciation	7.06	6.34	0.00	0.00	0.00
3	Interest on Loans	0.00	0.00	0.00	0.00	0.00
4	O & M Expenses	87.91	91.59	95.37	99.28	103.29
5	Com. Allowance	1.65	1.65	1.65	1.65	1.65
	<b>Total:</b>	<b>103.54</b>	<b>106.50</b>	<b>103.94</b>	<b>107.85</b>	<b>111.86</b>



The amount of GFA pertaining to Harduaganj Power Station at the beginning of F.Y. 2014-15 was ₹145.42 Cr. out of which ₹ 1.97 Cr. was invested in the land leaving thereby a balance of ₹ 143.45 Cr. The maximum Depreciation as per UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹ 129.11 Cr. for Harduaganj Power Station. The accumulated depreciation allowed till the end of FY 2015-16 is ₹ 121.13 Cr. which is permissible due to such additional capitalization in subsequent years and therefore, the depreciation as claimed by the petitioner has been allowed till F.Y.2015-16.

**(d) Interest on Working Capital:**

The amount of Working Capital and Interest on Working Capital for the control period of FY2014-15 to FY 2018-19 as determined by the Commission is as under:-

**Annual Receivables of Harduaganj Power Station required for Calculation of Working Capital:**

(Rs Cr.)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	122.72	125.92	123.42	127.57	131.83
Cost of Fuel	291.61	292.28	291.61	291.61	291.61
<b>Total Receivables</b>	<b>414.33</b>	<b>418.20</b>	<b>415.03</b>	<b>419.18</b>	<b>423.44</b>

**Working Capital as determined by the Commission**

(Rs Cr.)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	46.19	46.30	46.19	46.19	46.19
2	Cost of Secondary Fuel Oil for 2 months	1.92	1.92	1.92	1.92	1.92
3	O & M for 1 month	7.33	7.63	7.95	8.27	8.61
4	Maintenance Spares @20% of O & M Exp.	17.58	18.32	19.07	19.86	20.66
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	69.06	69.70	69.17	69.86	70.57
6	<b>Working Capital</b>	<b>142.07</b>	<b>143.87</b>	<b>144.30</b>	<b>146.10</b>	<b>147.95</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>19.18</b>	<b>19.42</b>	<b>19.48</b>	<b>19.72</b>	<b>19.97</b>

**(e) Capacity (Fixed) Charges:**

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.6.1:

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	87.91	87.91	0.00	91.59	91.59	0.00
Depreciation (Rs Cr.)	7.06	7.06	0.00	7.06	6.34	-0.72
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	6.92	6.92	0.00	6.92	6.92	0.00
Interest on Working Capital (Rs Cr.)	17.76	19.18	1.42	18.59	19.42	0.83
Compensation Allowance (Rs Cr.)	1.65	1.65	0.00	1.65	1.65	0.00
Total (Rs Cr.)	121.30	122.72	1.42	125.81	125.92	0.11
Ex-bus Energy Sent Out (MU)	776.00	840.86	64.86	776.00	842.78	64.86
<b>Fixed Cost per Unit</b>	1.56	1.46	-0.10	1.62	1.49	-0.13

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	95.37	95.37	0.00	99.28	99.28	0.00
Depreciation (Rs Cr.)	7.06	0.00	-7.06	7.06	0.00	-7.06
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	6.92	6.92	0.00	6.92	6.92	0.00



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Interest on Working Capital(Rs Cr.)	19.46	19.48	0.02	20.37	19.72	-0.65
Compensation Allowance(Rs Cr.)	1.65	1.65	0.00	1.65	1.65	0.00
Total (Rs Cr.)	130.46	123.42	-7.04	135.28	127.57	-7.71
Ex-bus Energy Sent Out (MU)	776.00	840.86	64.86	776.00	840.86	64.86
<b>Fixed Cost per Unit</b>	1.68	1.47	-0.21	1.74	1.52	-0.23

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses(Rs Cr.)	103.29	103.29	0.00
Depreciation(Rs Cr.)	7.06	0.00	-7.06
Interest on Loan(Rs Cr.)	0.00	0.00	0.00
Return on Equity(Rs Cr.)	6.92	6.92	0.00
Interest on Working Capital (Rs Cr.)	21.31	19.97	-1.34
Compensation Allowance (Rs Cr.)	1.65	1.65	0.00
Total(Rs Cr.)	<b>140.23</b>	<b>131.83</b>	-8.40
Ex-bus Energy Sent Out (MU)	776.00	840.86	64.86
<b>Fixed Cost per Unit</b>	1.81	1.57	-0.24

## ii. Variable Charges:

### a) Weighted Average Cost and Gross Calorific Value of Coal and Oil :

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:



### Weighted Average Cost and Gross Calorific Value of Coal and Oil For F.Y. 2014-15

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(`KCAL/KG)
Oct' 2015	32024	9482	4622	4507
Nov' 2015	33672	9482	4714	4424
Dec' 2015	33672	9482	4780	4227
<b>3 Month Weighted Avg.</b>	33123	9482	4705	4386

#### b) Variable charge per unit of Generation:

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Harduaganj Power Station for the MYT period of FY 2014-15 to FY 2018-19 is as given in the following table.

#### Variable charge per unit of generation for Harduaganj Power station

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	165.00	165.00	165.00	165.00	165.00
PAF	%	65%	s	65%	65%	65%
Gross generation	MU	939.51	941.66	939.51	939.51	939.51
Auxiliary Consumption	%	0.11	0.11	0.11	0.11	0.11
Net units sent out	MU	840.86	842.78	840.86	840.86	840.86
Gross station heat rate	Kcal/kWh	3150.00	3150.00	3150.00	3150.00	3150.00
Specific oil consumption	ml/kWh	3.70	3.70	3.70	3.70	3.70
Calorific value of secondary fuel	KCal/Lt	9482.00	9482.00	9482.00	9482.00	9482.00
Weighted average landed price of coal	Rs./MT	4705.49	4705.49	4705.49	4705.49	4705.49
Calorific value of Coal	kCal/kg	4386.00	4386.00	4386.00	4386.00	4386.00
Weighted average landed price of secondary fuel	Rs./KL	33122.64	33122.64	33122.64	33122.64	33122.64
Energy charge rate (ECR)	Rs/kWh	3.47	3.47	3.47	3.47	3.47



### c) Cost of alternative coal supply:

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 to 31.03.2015	4.51	
01.04.2015 to 30.09.2015	4.05	-20.53%
01.10.2015 to 30.09.2016	4.10	-17.91%



**d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition need to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Harduaganj Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

**Cost per kWh as claimed by UPRVUNL with those as allowed  
By the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M	87.91	87.91	0.00	91.59	91.59	0.00



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Expenses (Rs Cr.)						
Depreciation (Rs Cr.)	7.06	7.06	0.00	7.06	6.34	-0.72
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	6.92	6.92	0.00	6.92	6.92	0.00
Interest on Working Capital (Rs Cr.)	17.76	19.18	1.42	18.59	19.42	0.83
Com. Allowance	1.65	1.65	0.00	1.65	1.65	0.00
Fixed Cost (Rs Cr.)	121.30	22.72	1.42	125.81	125.92	0.11
F. C. per Unit (Rs/kWh)	1.56	1.46	-0.10	1.62	1.49	-0.13
V. C.on Fuel (Rs Cr.)	290.92	291.61	0.69	305.46	292.28	-13.18
V. C. per Unit (Rs/kWh)	3.75	3.47	-0.28	3.94	3.47	-0.47
Total Cost (Rs Cr)	412.22	414.33	2.11	431.27	418.20	-13.07
Ex-bus Energy Sent Out (MU)	776.00	840.86	64.86	776.00	842.78	66.78
Total Cost per Unit (Rs/kWh)	5.31	4.93	-0.38	5.56	4.96	-0.60

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	95.37	95.37	0.00	99.28	99.28	0.00
Depreciation (Rs Cr.)	7.06	0.00	-7.06	7.06	0.00	-7.06
Interest on Loan (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity (Rs Cr.)	6.92	6.92	0.00	6.92	6.92	0.00
Interest on Working Capital (Rs Cr.)	19.46	19.48	0.02	20.37	19.72	-0.65
Com. Allowance	1.65	1.65	0.00	1.65	1.65	0.00



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Fixed Cost (Rs Cr)	130.46	123.42	-7.04	135.28	127.57	-7.71
F. C. per Unit (Rs/kWh)	1.68	1.47	-0.21	1.74	1.52	-0.23
V. C.on Fuel (Rs Cr)	320.73	291.61	-29.12	336.77	291.61	-45.16
V. C. per Unit (Rs/kWh)	4.13	3.47	-0.67	4.34	3.47	-0.87
Total Cost (Rs Cr)	451.19	415.03	-36.16	472.05	419.18	-52.87
Ex-bus Energy Sent Out (MU)	776.00	840.86	64.86	776.00	840.86	64.86
Total Cost per Unit (Rs/kWh)	5.81	4.94	-1.45	6.08	4.99	-1.10

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	103.29	103.29	0.00
Depreciation(Rs Cr.)	7.06	0.00	-7.06
Interest on Loan(Rs Cr.)	0.00	0.00	0.00
Return on Equity(Rs Cr.)	6.92	6.92	0.00
Interest on Working Capital (Rs Cr.)	21.31	19.97	-1.34
Com. Allowance(Rs Cr.)	1.65	1.65	0.00
Fixed Cost (Rs Cr.)	140.23	131.83	-8.40
F. C. per Unit (Rs/kWh.)	1.81	1.57	-0.24
V. C.on Fuel (Rs Cr)	353.61	291.61	-62.00
V. C. per Unit (Rs/ kWh.)	4.56	3.47	-1.09
Total Cost (Rs Cr.)	493.84	423.44	-70.40
Ex-bus Energy Sent Out (MU)	776.00	840.86	64.86
Total Cost per Unit (Rs./kWh)	6.36	5.04	-1.33



**8.7**

**Section – 7**

**Multi Year Tariff**

**for**

**Parichha**

**Thermal Power Station**

**for**

**FY 2014-15 to FY 2018-19**



### 8.7.1 ARR and MYT as according to petition

In the petition, the Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Parichha	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	1205.00	1205.00	1205.00	1205.00	1205.00
Fixed Charges (Rs/kWh)	1.08	1.10	1.11	1.14	1.17
Variable Charges (Rs/kWh)	3.68	3.86	4.06	4.26	4.47
Total Charges (Rs/kWh)	4.76	4.96	5.17	5.40	5.64
ARR (Rs Cr.)	573.36	597.53	622.95	650.32	680.03

### 8.7.2 ARR and MYT as determined by the Commission

#### i. Capacity (Fixed) Charges

##### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	12.52 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	₹ 1 lacs / MW	As per the Regulations
Interest on working capital	13.50 %	As per the Regulations

##### (b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 to FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14.



### Calculation of GFA & NFA including financing

(Rs Cr.)

Parichha Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	305.27	305.27	305.27	305.27	305.27
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	305.27	305.27	305.27	305.27	305.27
Cl. Net FA	117.14	101.22	85.30	69.38	53.46
<b>Financing:</b>					
Op. Equity	79.03	79.03	79.03	79.03	79.03
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>79.03</b>	<b>79.03</b>	<b>79.03</b>	<b>79.03</b>	<b>79.03</b>
Op. Accu Dep.	172.2	188.12	204.04	219.97	235.89
Dep. During the year	15.92	15.92	15.92	15.92	15.92
Cl. Accu. Dep.	<b>188.12</b>	<b>204.04</b>	<b>219.96</b>	<b>235.89</b>	<b>251.81</b>
Op. Debts	54.11	38.19	22.27	6.34	-
Additions	-	-	-	-	-
Less: Repayment	15.92	15.92	15.92	6.34	-
Cl. Debts	38.19	22.27	6.34	-	-

#### (c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, RoE, Depreciation, O&M and Interest on Loans are worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr.)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	12.25	12.25	12.25	12.25	12.25
2	Depreciation	15.92	15.92	15.92	15.92	15.92
3	Interest on Loans	5.78	3.78	1.79	0.40	0.00
4	O & M Expenses	70.20	73.13	76.14	79.27	82.46
5	Com. Allowance	2.20	2.20	2.20	2.20	2.20
	<b>Total:</b>	<b>106.35</b>	<b>107.28</b>	<b>108.30</b>	<b>110.03</b>	<b>112.83</b>



The amount of GFA pertaining to Parichha Power Station at the beginning of F.Y. 2014-15 was ₹305.26 Cr. out of which ₹3.66 Cr. was invested in the land leaving thereby a balance of ₹301.60 Cr. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹271.44 Cr. for Parichha Power Station. The accumulated depreciation allowed till the end of FY 2018-19 is ₹251.81 Cr. which is less than ₹271.44 Cr. therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2018-19.

**(d) Interest on Working Capital:**

The amount of Working Capital and Interest on Working Capital for the control period of FY 2014-15 to FY 2018-19 as determined by the Commission is as under:-

**Annual Receivables of Parichha Power Station required for Calculation of Working Capital:**

(Rs Cr.)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	134.59	135.71	136.82	138.71	141.69
Cost of Fuel	503.46	504.61	503.46	503.46	503.46
<b>Total Receivables</b>	<b>638.05</b>	<b>640.32</b>	<b>640.28</b>	<b>642.17</b>	<b>645.15</b>

**Working Capital as determined by the Commission**

(Rs Cr.)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	80.92	81.10	80.92	80.92	80.92
2	Cost of Secondary Fuel Oil for 2 months	1.99	2.00	1.99	1.99	1.99
3	O & M for 1 month	5.85	6.09	6.35	6.61	6.87
4	Maintenance Spares @20% of O & M Exp.	14.04	14.63	15.23	15.85	16.49
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	106.34	106.72	106.71	107.03	107.53
6	<b>Working Capital</b>	<b>209.14</b>	<b>210.54</b>	<b>211.20</b>	<b>212.40</b>	<b>213.80</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>28.23</b>	<b>28.42</b>	<b>28.51</b>	<b>28.67</b>	<b>28.86</b>

**(e) Capacity (Fixed) Charges**

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of FY 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.7.1.

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	70.20	70.20	0.00	73.13	73.13	0.00
Depreciation (Rs Cr.)	15.92	15.92	0.00	15.92	15.92	0.00
Interest on Loan (Rs Cr.)	5.78	5.78	0.00	3.78	3.78	0.00
Return on Equity (Rs Cr.)	12.25	12.25	0.00	12.25	12.25	0.00
Interest on Working Capital (Rs Cr.)	23.67	28.23	4.56	24.74	28.42	3.68
Compensation Allowance (Rs Cr.)	2.20	2.20	0.00	2.20	2.20	0.00
<b>Total(Rs Cr.)</b>	<b>130.02</b>	<b>134.59</b>	<b>4.56</b>	<b>132.02</b>	<b>135.71</b>	<b>3.68</b>
Ex-bus Energy Sent Out (MU)	1205.00	1290.74	85.74	1205.00	1293.69	88.69
<b>Fixed Cost per Unit</b>	<b>1.08</b>	<b>1.04</b>	<b>-0.04</b>	<b>1.10</b>	<b>1.05</b>	<b>-0.05</b>

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	76.14	76.14	0.00	79.27	79.27	0.00
Depreciation (Rs Cr.)	15.92	15.92	0.00	15.92	15.92	0.00
Interest on Loan (Rs Cr.)	1.79	1.79	0.00	0.40	0.40	0.00
Return on Equity (Rs Cr.)	12.25	12.25	0.00	12.25	12.25	0.00
Interest on Working	25.86	28.51	2.65	27.05	28.67	1.62



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Capital (Rs Cr.)						
Compensation Allowance(Rs Cr.)	2.20	2.20	0.00	2.20	2.20	0.00
Total (Rs Cr.)	<b>134.16</b>	<b>136.82</b>	<b>3.68</b>	<b>137.09</b>	<b>138.71</b>	<b>2.65</b>
Ex-bus Energy Sent Out (MU)	1205.00	1290.74	85.74	1205.00	1290.74	85.74
<b>Fixed Cost per Unit</b>	<b>1.11</b>	<b>1.06</b>	<b>-0.05</b>	<b>1.14</b>	<b>1.07</b>	<b>-0.06</b>

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr.)	82.46	82.46	0.00
Depreciation(Rs Cr.)	15.92	15.92	0.00
Interest on Loan(Rs Cr.)	0.00	0.00	0.00
Return on Equity (Rs Cr.)	12.25	12.25	0.00
Interest on Working Capital (Rs Cr.)	28.31	28.86	0.55
Compensation Allowance (Rs Cr.)	2.20	2.20	0.00
Total (Rs Cr.)	<b>141.14</b>	<b>141.69</b>	<b>0.55</b>
Ex-bus Energy Sent Out (MU)	1205.00	1290.74	85.74
<b>Fixed Cost per Unit</b>	<b>1.17</b>	<b>1.10</b>	<b>-0.07</b>

## ii. Variable Charges:

### a) Weighted Average Cost and Gross Calorific Value of Coal and Oil :

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

### Weighted Average Cost and Gross Calorific Value of Coal and Oil for F.Y. 2014-15

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(₹KCAL/KG)
Oct' 2015	27448	10270	4071	3342
Nov' 2015	40467	10417	4174	3228
Dec' 2015	27633	10224	4131	3014
<b>3 Month Weighted Avg.</b>	31850	10304	4126	3195

#### b) Variable charge per unit of Generation:

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Parichha Power Station for the MYT period of FY 2014-15 to FY 2018-19 is as given in the following table.

#### Variable charge per unit of generation for Parichha Power station

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	220.00	220.00	220.00	220.00	220.00
PAF	%	75%	75%	75%	75%	75%
Gross generation	MU	1445.40	1448.70	1445.40	1445.40	1445.40
Auxiliary Consumption	%	0.11	0.11	0.11	0.11	0.11
Net units sent out	MU	1290.74	1293.69	1290.74	1290.74	1290.74
Gross station heat rate	Kcal/kWh	2980.00	2980.00	2980.00	2980.00	2980.00
Specific oil consumption	ml/kWh	2.60	2.60	2.60	2.60	2.60
Calorific value of secondary fuel	KCal/Lt	10304.10	10304.10	10304.10	10304.10	10304.10
Weighted average landed price of coal	Rs./MT	4125.53	4125.53	4125.53	4125.53	4125.53
Calorific value of Coal	kCal/kg	3194.78	3194.78	3194.78	3194.78	3194.78
Weighted average landed price of secondary fuel	Rs./KL	31849.58	31849.58	31849.58	31849.58	31849.58
Energy charge rate (ECR)	Rs/kWh	3.90	3.90	3.90	3.90	3.90



**c) Cost of alternative coal supply:**

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 To 31.03.2015	5.07	
01.04.2015 To 30.09.2015	4.55	-20.53%



01.10.2015 To 31.03.2016	4.62	-17.91%
--------------------------	------	---------

**d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Parichha Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below:

**Cost per kWh as claimed by UPRVUNL with those as allowed  
By the Commission**



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	70.20	70.20	0.00	73.13	73.13	0.00
Depreciation (Rs Cr.)	15.92	15.92	0.00	15.92	15.92	0.00
Interest on Loan (Rs Cr.)	5.78	5.78	0.00	3.78	3.78	0.00
Return on Equity (Rs Cr.)	12.25	12.25	0.00	12.25	12.25	0.00
Interest on Working Capital (Rs Cr.)	23.67	28.23	4.56	24.74	28.42	3.68
Com. Allowance (Rs Cr.)	2.20	2.20	0.00	2.20	2.20	0.00
Fixed Cost (Rs Cr.)	130.02	134.59	4.56	132.02	135.71	3.68
F. C. per Unit (Rs/kWh)	1.08	1.04	-0.04	1.10	1.05	-0.05
V. C.on Fuel (Rs Cr.)	443.34	503.46	60.12	465.51	504.61	39.10
V. C. per Unit (Rs/kWh)	3.68	3.90	0.22	3.86	3.90	0.04
Total Cost (Rs Cr.)	573.36	638.05	64.69	597.53	640.32	42.79
Ex-bus Energy Sent Out (MU)	1205.00	1290.74	-85.74	1205.00	1293.69	-88.69
Total Cost per Unit (Rs/kWh)	4.76	4.94	0.19	4.96	4.95	-0.01

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	76.14	76.14	0.00	79.27	79.27	0.00
Depreciation (Rs Cr.)	15.92	15.92	0.00	15.92	15.92	0.00
Interest on Loan (Rs Cr.)	1.79	1.79	0.00	0.40	0.40	0.00
Return on Equity (Rs Cr.)	12.25	12.25	0.00	12.25	12.25	0.00
Interest on Working Capital (Rs Cr.)	25.86	28.51	2.65	27.05	28.67	1.62
Com. Allowance (Rs Cr.)	2.20	2.20	0.00	2.20	2.20	0.00



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Fixed Cost (Rs Cr.)	134.16	136.82	-4.17	137.09	138.71	1.62
F. C. per Unit (Rs.kWh)	1.11	1.06	-0.15	1.14	1.07	-0.06
V. C.on Fuel (Rs Cr)	488.79	503.46	14.67	513.23	503.46	-9.77
V. C. per Unit (Rs/kWh)	4.06	3.90	-0.16	4.26	3.90	-0.36
Total Cost (Rs Cr.)	622.95	640.28	17.33	650.32	642.17	-8.15
Ex-bus Energy Sent Out (MU)	1205.00	1290.74	85.74	1205.00	1290.74	85.74
Total Cost per Unit (Rs./kWh)	5.17	4.96	-0.21	5.40	4.98	-0.42

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	82.46	82.46	0.00
Depreciation(Rs Cr.)	15.92	15.92	0.00
Interest on Loan(Rs Cr.)	0.00	0.00	0.00
Return on Equity(Rs Cr.)	12.25	12.25	0.00
Interest on Working Capital (Rs Cr.)	28.31	28.86	0.55
Com. Allowance(Rs Cr.)	2.20	2.20	0.00
Fixed Cost (in Cr..)	141.14	141.69	0.55
F. C. per Unit (Rs/kWh.)	1.17	1.10	-0.07
V. C.on Fuel (Rs Cr)	538.89	503.46	-35.43
V. C. per Unit (Rs/ kWh.)	4.47	3.90	-0.57
Total Cost (Rs Cr)	680.03	488.57	-191.46
Ex-bus Energy Sent Out (MU)	1205.00	1290.74	85.74
Total Cost per Unit (Rs./kWh)	5.64	5.00	-0.65



**8.8**

**Section - 8**

**Multi Year Tariff**

**for**

**Parichha Extension  
Thermal Power Station**

**for**

**FY 2014-15 to 2018-19**



### 8.8.1 ARR and MYT as according to petition

In the petition, the Petitioner has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Parichha Extension	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	2846.00	2846.00	2846.00	2846.00	2846.00
Fixed Charges (Rs/kWh)	1.34	1.34	1.34	1.34	1.34
Variable Charges (Rs/kWh)	2.93	3.08	3.23	3.39	3.56
Total Charges (Rs/kWh)	4.27	4.42	4.57	4.73	4.91
ARR (Rs Cr.)	1215.85	1256.98	1300.72	1347.18	1396.54

### 8.8.2 ARR and MYT as determined by the Commission

#### i. Capacity (Fixed) Charges

#### (a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	12.52 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	NA	NA
Interest on working capital	13.50 %	As per the Regulations

#### (b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 to FY 2018-19 has been worked out along with Equity and Debts taking base figures as allowed in the final True-up for FY 2013-14.



### Calculation of GFA & NFA including financing

(Rs Cr.)

Parichha Extension Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	1,758.35	1,758.35	1,758.35	1,758.35	1,758.35
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	1758.35	1758.35	1758.35	1758.35	1758.35
Cl. Net FA	1211.17	1113.53	1015.89	918.25	820.60
<b>Financing:</b>					
Op. Equity	357.76	357.76	357.76	357.761	357.761
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>357.76</b>	<b>357.76</b>	<b>357.76</b>	<b>357.76</b>	<b>357.76</b>
Op. Accu Dep.	449.54	547.18	644.82	742.46	840.11
Dep. During the year	97.64	97.64	97.64	97.64	97.64
Cl. Accu. Dep.	<b>547.18</b>	<b>644.82</b>	<b>742.46</b>	<b>840.10</b>	<b>937.75</b>
Op. Debts	951.06	853.42	755.78	658.14	560.50
Additions	-	-	-	-	-
Less: Repayment	97.64	97.64	97.64	97.64	97.64
Cl. Debts	853.42	755.78	658.14	560.50	462.85

#### (c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, Return on Equity, Depreciation, O&M and Interest on Loans are worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr.)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	<b>55.45</b>	<b>55.45</b>	<b>55.45</b>	<b>55.45</b>	<b>55.45</b>
2	Depreciation	97.64	97.64	97.64	97.64	97.64
3	Interest on Loans	81.74	72.90	64.05	55.20	46.36
4	O & M Expenses	100.38	106.68	113.4	120.54	128.142
5	Com. Allowance	0.00	0.00	0.00	0.00	0.00



Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
	<b>Total:</b>	<b>335.22</b>	<b>332.67</b>	<b>330.54</b>	<b>328.84</b>	<b>327.59</b>

The amount of GFA pertaining to Parichha Extension Power Station at the beginning of FY 2014-15 was ₹1758.35 Cr.. The cost of land is nil and therefore. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹1582.52 Cr. for Parichha Extension Power Station. The accumulated depreciation allowed till the end of FY 2018-19 is ₹840.11 Cr. which is less than ₹1582,52 Cr. therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2018-19.

**(d) Interest on Working Capital:**

The amount of Working Capital and Interest on Working Capital for the control period of FY 2014-15 to FY 2018-19 as determined by the Commission is as under:-

**Annual Receivables of Parichha Extension Power Station required for calculation of Working Capital:**

(Rs Cr.)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	388.67	386.40	384.40	382.93	381.95
Cost of Fuel	914.38	916.47	914.38	914.38	914.38
<b>Total Receivables</b>	<b>1303.05</b>	<b>1302.87</b>	<b>1298.78</b>	<b>1297.31</b>	<b>1296.33</b>

**Working Capital as determined by the Commission**

(Rs Cr.)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	149.06	149.40	149.06	149.06	149.06
2	Cost of Secondary Fuel Oil for 2 months	1.25	1.25	1.25	1.25	1.25
3	O & M for 1 month	8.37	8.89	9.45	10.05	10.68
4	Maintenance Spares @20% of O & M Exp.	20.08	21.34	22.68	24.11	25.63
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	217.17	217.15	216.46	216.22	216.06
6	<b>Working Capital</b>	<b>395.92</b>	<b>398.02</b>	<b>398.89</b>	<b>400.67</b>	<b>402.66</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>53.45</b>	<b>53.73</b>	<b>53.85</b>	<b>54.09</b>	<b>54.36</b>

**(e) Capacity (Fixed) Charges**

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.8.1.

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	100.38	100.38	0.00	106.68	106.68	0.00
Depreciation (Rs Cr.)	97.64	97.64	0.00	97.64	97.64	0.00
Interest on Loan (Rs Cr.)	81.74	81.74	0.00	72.90	72.90	0.00
Return on Equity (Rs Cr.)	55.45	55.45	0.00	55.45	55.45	0.00
Interest on Working Capital (Rs Cr.)	46.27	53.45	7.18	48.22	53.73	5.51
Compensation Allowance (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Total (Rs Cr.)	381.48	388.67	7.19	380.89	386.40	5.51
Ex-bus Energy Sent Out (MU)	2846.00	2845.86	-0.14	2846.00	2852.36	6.36
<b>Fixed Cost per Unit</b>	1.34	1.37	0.03	1.34	1.35	0.01

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	113.40	113.40	0.00	120.54	120.54	0.00
Depreciation (Rs Cr.)	97.64	97.64	0.00	97.64	97.64	0.00
Interest on Loan (Rs Cr.)	64.05	64.05	0.00	55.20	55.20	0.00
Return on Equity (Rs Cr.)	55.45	55.45	0.00	55.45	55.45	0.00



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Interest on Working Capital(Rs Cr.)	50.28	53.85	3.57	52.46	54.09	1.63
Compensation Allowance(Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Total (Rs Cr.)	380.82	384.40	3.57	381.29	382.93	1.63
Ex-bus Energy Sent Out (MU)	2846.00	2845.86	-0.14	2846.00	2845.86	-0.14
<b>Fixed Cost per Unit</b>	1.34	1.35	0.01	1.34	1.35	0.01

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses(Rs Cr.)	128.14	128.14	0.00
Depreciation(Rs Cr.)	97.64	97.64	0.00
Interest on Loan(Rs Cr.)	46.36	46.36	0.00
Return on Equity (Rs Cr.)	55.45	55.45	0.00
Interest on Working Capital(Rs Cr.)	54.76	54.36	-0.40
Compensation Allowance(Rs Cr.)	0.00	0.00	0.00
Total (Rs Cr.)	<b>382.35</b>	<b>381.95</b>	-0.40
Ex-bus Energy Sent Out (MU)	2846.00	2845.86	-0.14
<b>Fixed Cost per Unit</b>	1.34	1.34	-0.01

ii. **Variable Charges:**

a) **Weighted Average Cost and Gross Calorific Value of Coal and Oil :**

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

**Weighted Average Cost and Gross Calorific Value of Coal and Oil for F.Y. 2014-15**



Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(₹KCAL/KG)
Oct' 2015	27448	10174	4071	3342
Nov' 2015	40467	10089	4174	3227
Dec' 2015	27633	101.27	4131	3014
<b>3 Month Weighted Avg.</b>	55357	10130	4126	3195

**b) Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Parichha Extension Power Station for the MYT period of F.Y. 2014-15 to FY 2018-19 is as given in the following table.

**Variable charge per unit of generation for Parichha Extension Power station**

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	420.00	420.00	420.00	420.00	420.00
PAF	%	0.85	0.85	0.85	0.85	0.85
Gross generation	MU	3127.32	3134.46	3127.32	3127.32	3127.32
Auxiliary Consumption	%	0.09	0.09	0.09	0.09	0.09
Net units sent out	MU	2845.86	2852.36	2845.86	2845.86	2845.86
Gross station heat rate	Kcal/kWh	2475.00	2475.00	2475.00	2475.00	2475.00
Specific oil consumption	ml/kWh	0.75	0.75	0.75	0.75	0.75
Calorific value of secondary fuel	KCal/Lt	10130.26	10130.26	10130.26	10130.26	10130.26
Weighted average landed price of coal	Rs./MT	4125.53	4125.53	4125.53	4125.53	4125.53
Calorific value of Coal	kCal/kg	3194.78	3194.78	3194.78	3194.78	3194.78
Weighted average landed price of secondary fuel	Rs./KL	31849.58	31849.58	31849.58	31849.58	31849.58
Energy charge rate (ECR)	Rs/kWh	3.21	3.21	3.21	3.21	3.21

**c) Cost of alternative coal supply:**



Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 to 31.03.2015	4.18	
01.04.2015 to 30.09.2015	3.75	-20.53%



01.10.2015 to 31.03.2016	3.80	-17.91%
--------------------------	------	---------

**d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the "As Received GCV" and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

**iii. Total Charges (Cost):**

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Parichha Extension Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

**Cost per kWh as claimed by UPRVUNL with those as allowed  
By the Commission**

Particulars	FY 15	FY 16
-------------	-------	-------



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	100.38	100.38	0.00	106.68	106.68	0.00
Depreciation(Rs Cr.)	97.64	97.64	0.00	97.64	97.64	0.00
Interest on Loan(Rs Cr.)	81.74	81.74	0.00	72.90	72.90	0.00
Return on Equity(Rs Cr.)	55.45	55.45	0.00	55.45	55.45	0.00
Interest on Working Capital	46.27	53.45	7.18	48.22	53.73	5.51
Com. Allowance(Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	381.48	388.67	7.18	380.89	386.40	5.51
F. C. per Unit (Rs./kWh)	1.34	1.37	0.03	1.34	1.35	0.01
V. C.on Fuel (Rs Cr.)	834.37	914.38	80.01	876.09	916.47	40.38
V. C. per Unit (Rs/ kWh)	2.93	3.21	0.28	3.08	3.21	0.13
Total Cost (Rs Cr.)	1215.85	1303.05	87.20	1256.98	1302.87	45.89
Ex-bus Energy Sent Out (MU)	2846.00	2845.86	-0.14	2846.00	2852.36	-6.36
Total Cost per Unit (Rs/kWh)	4.27	4.58	0.31	4.42	4.57	-0.15

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	113.40	113.40	0.00	120.54	120.54	0.00
Depreciation(Rs Cr.)	97.64	97.64	0.00	97.64	97.64	0.00
Interest on Loan(Rs Cr.)	64.05	64.05	0.00	55.20	55.20	0.00
Return on Equity(Rs Cr.)	55.45	55.45	0.00	55.45	55.45	0.00
Interest on Working Capital	50.28	53.85	3.57	52.46	54.09	1.63
Com. Allowance(Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	<b>380.82</b>	<b>381.15</b>	3.57	<b>381.29</b>	<b>382.93</b>	1.63
F. C. per Unit (Rs./kWh)	1.34	1.34	0.00	1.34	1.35	0.01
V. C.on Fuel (Rs)	<b>919.90</b>	<b>914.38</b>	5.52	<b>965.89</b>	<b>914.38</b>	-51.51



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Cr.)						
V. C. per Unit (Rs/kWh)	3.23	3.21	-0.02	3.39	3.21	-0.18
Total Cost (Rs Cr.)	1300.72	1298.78	1.94	1347.18	1297.31	-49.87
Ex-bus Energy Sent Out (MU)	2846.00	2845.86	-0.14	2846.00	2845.86	-0.41
Total Cost per Unit (Rs/kWh)	4.57	4.56	-0.01	4.73	4.56	-0.18

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses(Rs Cr.)	128.14	128.14	0.00
Depreciation(Rs Cr.)	97.64	97.64	0.00
Interest on Loan(Rs Cr.)	46.36	46.36	0.00
Return on Equity(Rs Cr.)	55.45	55.45	0.00
Interest on Working Capital	54.76	54.36	-0.40
Com. Allowance(Rs Cr.)	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	382.35	381.95	-0.40
F. C. per Unit (Rs./kWh)	1.34	1.34	0.00
V. C.on Fuel (Rs Cr.)	1014.19	914.38	-99.81
V. C. per Unit (Rs/ kWh)	3.56	3.21	-0.35
Total Cost (Rs Cr.)	1396.54	1296.33	-100.21
Ex-bus Energy Sent Out (MU)	2846.00	2845.86	-0.14
Total Cost per Unit (Rs/kWh)	4.91	4.56	-0.35



**8.9**

**Section - 9**

**Multi Year Tariff**

**For**

**Harduaganj Extension  
Thermal Power Station**

**For**

**FY 2014-15 to FY 2018-19**



### 8.9.1 ARR and MYT as according to petition

In the petition, UPRVUNL has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Harduaganj Extension	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	3388.00	3388.00	3388.00	3388.00	3388.00
Fixed Charges (Rs/kWh)	2.03	2.01	1.99	1.97	1.96
Variable Charges (Rs/kWh)	2.79	2.93	3.07	3.22	3.39
Total Charges (Rs/kWh)	<b>4.82</b>	<b>4.94</b>	<b>5.06</b>	<b>5.20</b>	<b>5.34</b>
ARR (Rs Cr.)	<b>1632.69</b>	<b>1672.31</b>	<b>1714.92</b>	<b>1760.62</b>	<b>1809.63</b>

### 8.9.2 ARR and MYT as according to petition

#### i. Capacity (Fixed) Charges

##### a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	10.50 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	NA	NA
Interest on working capital	13.50 %	As per the Regulations

##### b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at



the end of each financial year commencing from FY 2014-15 FY 2018-19 has been worked out along with Equity and Debts taking base figures as provided by the Petitioner.

### Calculation of GFA & NFA including financing

(Rs Cr)

Harduaganj Extension Power Station	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	3,117.77	3,117.77	3,117.77	3,117.77	3,117.77
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	3,117.77	3,117.77	3,117.77	3,117.77	3,117.77
Cl. Net FA	2788.19	2624.84	2461.48	2298.13	2134.77
<b>Financing:</b>					
Op. Equity	935.33	935.33	935.33	935.33	935.33
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>935.33</b>	<b>935.33</b>	<b>935.33</b>	<b>935.33</b>	<b>935.33</b>
Op. Accu Dep.	166.23	329.58	492.94	656.29	819.65
Dep. During the year	163.35	163.35	163.35	163.35	163.35
Cl. Accu. Dep.	<b>329.58</b>	<b>492.93</b>	<b>656.29</b>	<b>819.64</b>	<b>983.00</b>
Op. Debts	2,016.21	1,852.86	1,689.50	1,526.15	1,362.80
Additions	-	-	-	-	-
Less: Repayment	163.35	163.35	163.35	163.35	163.35
Cl. Debts	1,852.86	1,689.50	1,526.15	1,362.80	1,199.44

#### c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19, Return on Equity, Depreciation, O&M and Interest on Loans are worked out as under:

#### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	144.98	144.98	144.98	144.98	144.98



Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
2	Depreciation	163.35	163.35	163.35	163.35	163.35
3	Interest on Loans	203.13	185.97	168.82	151.67	134.52
4	O & M Expenses	119.5	127	135	143.5	152.55
5	Com. Allowance	0.00	0.00	0.00	0.00	0.00
	<b>Total:</b>	630.96	621.30	612.15	603.50	595.40

The amount of GFA pertaining to Harduaganj Extension Power Station at the beginning of F.Y. 2014-15 was ₹ 3117.68Cr. The cost of land is nil. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹2805.91 Cr. for Harduaganj Extension Power Station. The accumulated depreciation allowed till the end of FY 2018-19 is ₹983 Cr. which is less than ₹ 2805.91 Cr. therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2018-19.

**(f) Interest on Working Capital:**

The amount of Working Capital and Interest on Working Capital for the control period of F.Y. 2014-15 to FY 2018-19 as determined by the Commission is as under:-

**Annual Receivables of Harduaganj Extension required for Calculation of Working Capital:**

(Rs Cr)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	691.59	682.11	672.96	664.44	656.51
Cost of Fuel	906.24	908.31	906.24	906.24	906.24
<b>Total Receivables</b>	1597.83	1590.42	1579.20	1570.68	1562.75

**Working Capital as determined by the Commission**

(Rs Cr)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	147.45	147.79	147.45	147.45	147.45
2	Cost of Secondary Fuel Oil for 2 months	1.54	1.54	1.54	1.54	1.54
3	O & M for 1 month	9.96	10.58	11.25	11.96	12.71
4	Maintenance Spares @20% of O & M Exp.	23.90	25.40	27.00	28.70	30.51
5	Receivables equivalent	266.31	265.07	263.20	261.78	260.46



Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	to 2 months capacity and energy charges for sale of electricity					
6	<b>Working Capital</b>	<b>449.16</b>	<b>450.39</b>	<b>450.45</b>	<b>451.43</b>	<b>452.68</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>60.64</b>	<b>60.80</b>	<b>60.81</b>	<b>60.94</b>	<b>61.11</b>

**(f) Capacity (Fixed) Charges**

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.9.1.

**Fixed Charges as claimed by UPRVUNL and as approved by the Commission**

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr)	119.50	119.50	0.00	127.00	127.00	0.00
Depreciation (Rs Cr)	163.35	163.35	0.00	163.35	163.35	0.00
Interest on Loan (Rs Cr)	203.12	203.13	0.01	185.97	185.97	0.00
Return on Equity (Rs Cr)	144.97	144.98	0.01	144.97	144.98	0.01
Interest on Working Capital (Rs Cr)	57.91	60.64	2.73	59.98	60.80	0.82
Compensation Allowance (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Total (Rs Cr) :	688.85	691.59	2.74	681.27	682.11	-6.86
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3395.67	-0.07
<b>Fixed Cost per Unit</b>	<b>2.03</b>	<b>2.04</b>	<b>-0.01</b>	<b>2.01</b>	<b>2.01</b>	<b>0.00</b>



Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr)	135.00	135.00	0.00	143.50	143.50	0.00
Depreciation (Rs Cr)	163.35	163.35	0.00	163.35	163.35	0.00
Interest on Loan (Rs Cr)	168.82	168.82	0.00	151.66	151.67	0.01
Return on Equity (Rs Cr)	144.97	144.98	0.01	144.97	144.98	0.01
Interest on Working Capital (Rs Cr)	62.19	60.81	-1.38	64.52	60.94	-3.58
Compensation Allowance (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Total (Rs Cr) :	674.33	672.96	-1.37	668.00	656.76	-3.56
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3387.93	-0.07
<b>Fixed Cost per Unit</b>	<b>1.99</b>	<b>1.99</b>	<b>0.00</b>	<b>1.97</b>	<b>1.96</b>	<b>-0.01</b>

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr)	152.55	152.55	0.00
Depreciation (Rs Cr)	163.35	163.35	0.00
Interest on Loan (Rs Cr)	134.51	134.52	0.01
Return on Equity (Rs Cr)	144.97	144.98	0.01
Interest on Working Capital (Rs Cr)	67.00	61.11	-5.89
Compensation Allowance (Rs Cr)	0.00	0.00	0.00
Total (Rs Cr) :	662.38	656.51	-5.87
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	0.07
<b>Fixed Cost per Unit</b>	<b>1.96</b>	<b>1.94</b>	<b>-0.02</b>



ii. **Variable Charges:**

a) **Weighted Average Cost and Gross Calorific Value of Coal and Oil :**

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

**Weighted Average Cost and Gross Calorific Value of Coal and Oil**

**For F.Y. 2014-15**

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal( Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(₹KCAL/KG)
Oct' 2015	32024.19	9482	4,621.96	4507
Nov' 2015	33671.86	9482	4714.12	4424
Dec' 2015	33671.86	9482	4780.39	4227
<b>3 Month Weighted Avg.</b>	33123	9482	4705	4,386

b) **Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Parichha Extension Power Station for the MYT period of FY 2014-15 to FY 2018-19 is as given in the following table.

**Variable charge per unit of generation for Harduaganj Extension Power station**

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	500.00	500.00	500.00	500.00	500.00
PAF	%	85%	85%	85%	85%	85%



Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Gross generation	MU	3723.00	3731.50	3723.00	3723.00	3723.00
Auxiliary Consumption	%	0.09	0.09	0.09	0.09	0.09
Net units sent out	MU	3387.93	3395.67	3387.93	3387.93	3387.93
Gross station heat rate	Kcal/kWh	2475.00	2475.00	2475.00	2475.00	2475.00
Specific oil consumption	ml/kWh	0.75	0.75	0.75	0.75	0.75
Calorific value of secondary fuel	Kcal/Lt	9482.00	9482.00	9482.00	9482.00	9482.00
Weighted average landed price of coal	Rs./MT	4705.49	4705.49	4705.49	4705.49	4705.49
Calorific value of Coal	kCal/kg	4386.00	4386.00	4386.00	4386.00	4386.00
Weighted average landed price of secondary fuel	Rs./KL	33122	33122	33122	33122	33122
Energy charge rate (ECR)	Rs/kWh	2.67	2.67	2.67	2.67	2.67

### c) Cost of alternative coal supply:

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*"In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*



*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 To 31.03.2015	3.48	
01.04.2015 to 30.09.2015	3.12	-20.53%
01.10.2015 to 31.03.2016	3.17	-17.91%

**d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the “As Received GCV” and landed cost of coal from the original coal purchase bills of UPRVUNL.



UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations.

### iii. Total Charges (Cost):

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Harduaganj Extension Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

#### Cost per kWh as claimed by UPRVUNL with those as allowed By the Commission

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	119.50	119.50	0.00	127.00	127.00	0.00
Depreciation( Rs Cr.)	163.35	163.35	0.00	163.35	163.35	0.00
Interest on Loan (Rs Cr.)	203.12	203.13	0.01	185.97	185.97	0.00
Return on Equity (Rs Cr.)	144.97	144.98	0.01	144.97	144.98	0.01
Interest on Working Capital(Rs Cr.)	57.91	60.64	2.73	59.98	60.80	0.82
Com. Allowance (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	688.85	691.59	2.74	681.27	682.11	-0.84
F. C. per Unit (Rs./kWh)	2.03	2.04	0.01	2.01	2.01	0.00
V. C.on Fuel (Rs Cr.)	943.84	906.24	-37.60	991.04	908.31	-82.73
V. C. per Unit (Rs/ kWh)	2.79	2.67	-0.11	2.93	2.67	-0.25
Total Cost (Rs)	1632.69	1597.83	-34.86	1672.31	1590.42	-81.89



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Cr.)						
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3395.67	-0.07
Total Cost per Unit (Rs/kWh)	4.82	4.72	-0.10	4.94	4.68	-0.25

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	135.00	135.00	0.00	143.50	143.50	0.00
Depreciation (Rs Cr.)	163.35	163.35	0.00	163.35	163.35	0.00
Interest on Loan (Rs Cr.)	168.82	168.82	0.00	151.66	151.67	0.00
Return on Equity (Rs Cr.)	144.97	144.98	0.01	144.97	144.98	0.01
Interest on Working Capital (Rs Cr.)	62.19	60.81	-1.38	64.52	60.94	-3.58
Com. Allowance (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	674.33	672.96	-1.37	668.00	664.44	-3.56
F. C. per Unit (Rs/kWh)	1.99	1.99	0.00	1.97	1.96	-0.01
V. C.on Fuel (Rs Cr)	1040.59	906.24	-134.35	1092.62	906.24	-186.38
V. C. per Unit (Rs Cr)	3.07	2.67	-0.40	3.22	2.67	-0.55
Total Cost (Rs Cr)	1714.92	1579.20	-135.72	1760.62	1570.68	-189.94



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3387.93	-0.07
Total Cost per Unit (Rs/kWh)	5.06	4.66	0.40	5.20	4.64	-0.56

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	152.55	152.55	0.00
Depreciation(Rs Cr.)	163.35	163.35	0.00
Interest on Loan(Rs Cr.)	134.51	134.52	0.01
Return on Equity(Rs Cr.)	144.97	144.98	0.01
Interest on Working Capital (Rs Cr.)	67.00	61.11	-5.89
Com. Allowance(Rs Cr.)	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	662.38	656.51	-5.87
F. C. per Unit (Rs/kWh)	1.96	1.94	-0.02
V. C.on Fuel (Rs Cr)	1147.25	906.24	-241.01
V. C. per Unit (Rs Cr)	3.39	2.67	-0.71
Total Cost (Rs Cr)	1809.63	1562.75	-246.88
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07
Total Cost per Unit (Rs/kWh)	5.34	4.61	-0.73



**8.10**  
**Section - 10**

**Multi Year Tariff**

**For**

**Parichha Extension Stage - II**  
**Thermal Power Station**

**For**

**FY 2014-15 to FY 2018-19**



### 8.10.1 ARR and MYT as according to petition

In the petition, UPRVUNL has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Parichha Extension Stage- II	2014-15	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	3388.00	3388.00	3388.00	3388.00	3388.00
Fixed Charges (Rs/kWh)	1.87	1.85	1.83	1.82	1.81
Variable Charges (Rs/kWh)	3.02	3.17	3.33	3.49	3.67
Total Charges (Rs/kWh)	4.88	5.02	5.16	5.31	5.47
ARR (Rs Cr.)	1654.09	1699.29	1747.68	1799.38	1854.61

### 8.10.2 ARR and MYT as determined by the Commission

#### i. Capacity (Fixed) Charges

#### a) Provisions under Regulations:

For determination of components of fixed charges for MYT period of FY 2014-15 to FY 2018-19, the Commission opines that the parameters provided under UPERC Generation Tariff Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	10.50 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations
Compensation Allowance	NA	NA
Interest on working capital	13.50 %	As per the Regulations



## b) Gross Fixed Assets (GFA) and its Components

The valuation of GFA duly supported with the financing program and the value of NFA is essential to be worked out at the end of each financial year for the determination of Return on Equity, Interest on balance Loans and Depreciation. Therefore, the GFA and NFA at the end of each financial year commencing from FY 2014-15 to FY 2018-19 has been worked out along with Equity and Debts taking base figures as provided by the Petitioner.

### Calculation of GFA & NFA including financing

(Rs Cr)

PARICHHA EXTENSION STAGE-II	2014-15	2015-16	2016-17	2017-18	2018-19
Op. GFA	2,673.43	2,673.43	2,673.43	2,673.43	2,673.43
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. GFA	2,673.43	2,673.43	2,673.43	2,673.43	2,673.43
Cl. Net FA	2430.54	2281.18	2131.81	1982.45	1833.09
<b>Financing:</b>					
Op. Equity	802.03	802.03	802.03	802.03	802.03
Additions	-	-	-	-	-
Deletions	-	-	-	-	-
Cl. Equity	<b>802.03</b>	<b>802.03</b>	<b>802.03</b>	<b>802.03</b>	<b>802.03</b>
Op. Accu Dep.	93.53	242.89	392.26	541.62	690.98
Dep. During the year	149.36	149.36	149.36	149.36	149.36
Cl. Accu. Dep.	<b>242.89</b>	<b>392.25</b>	<b>541.62</b>	<b>690.98</b>	<b>840.34</b>
Op. Debts	1,777.87	1,628.51	1,479.14	1,329.78	1,180.42
Additions	-	-	-	-	-
Less: Repayment	149.36	149.36	149.36	149.36	149.36
Cl. Debts	1,628.51	1,479.14	1,329.78	1,180.42	1,031.06

## c) RoE, Depreciation, O&M and Interest on Loans

On the basis of decisions of the Commission in forgoing paragraphs and the details of GFA, NFA and financing as above, at the end of each financial year of the control MYT period from FY 2014-15 to FY 2018-19 RoE, Depreciation, O&M and Interest on Loans are worked out as under:



### Details of RoE, Depreciation, O&M and Interest on Loans

(Rs Cr)

Sl.No.	Particular	2014-15	2015-16	2016-17	2017-18	2018-19
1	Return on Equity	124.31	124.31	124.31	124.31	124.31
2	Depreciation	149.36	149.36	149.36	149.36	149.36
3	Interest on Loans	178.83	163.15	147.47	131.79	116.10
4	O & M Expenses	119.5	127	135	143.5	152.55
5	Com. Allowance	0.00	0.00	0.00	0.00	0.00
	<b>Total:</b>	572.01	563.83	556.15	548.96	542.33

The amount of GFA pertaining to Parichha Extension Stage-II Power Station at the beginning of FY2014-15 was ₹2673.54 Cr. The cost of land is nil. The maximum Depreciation as per UPERC Generation Tariff Regulations, 2014 is permissible to the extent of 90% of the value of the GFA excluding the value of land which is worked out to ₹2406.19 Cr. for Parichha Extension Stage-II Power Station. The accumulated depreciation allowed till the end of FY 2018-19 is ₹840.34 Cr. which is less than ₹2406.19 Cr. therefore, the Commission has allowed full Depreciation for FY 2014-15 to FY 2018-19.

#### d) Interest on Working Capital:

The amount of Working Capital and Interest on Working Capital for the control period of FY 2014-15 to FY 2018-19 as determined by the Commission is as under:-

#### Annual Receivables of Parichha Extension Stage-II Power Station required for calculation of Working Capital:

(Rs Cr)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capacity [Fixed] Charges	639.62	626.61	624.00	616.98	610.55
Cost of Fuel	1088.53	1091.02	1088.53	1088.53	1088.53
<b>Total Receivables</b>	1728.15	1717.62	1712.53	1705.51	1699.08

#### Working Capital as determined by the Commission

(Rs Cr)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Cost of Coal for 60 days	177.45	177.85	177.45	177.45	177.45
2	Cost of Secondary Fuel Oil for 2 months	1.48	1.49	1.48	1.48	1.48



Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
3	O & M for 1 month	9.96	10.58	11.25	11.96	12.71
4	Maintenance Spares @20% of O & M Exp.	23.90	25.40	27.00	28.70	30.51
5	Receivables equivalent to 2 months capacity and energy charges for sale of electricity	288.03	286.27	285.42	284.25	283.18
6	<b>Working Capital</b>	<b>500.81</b>	<b>501.59</b>	<b>502.60</b>	<b>503.84</b>	<b>505.33</b>
7	Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
8	I W C	<b>67.61</b>	<b>67.71</b>	<b>67.85</b>	<b>68.02</b>	<b>68.22</b>

#### e) Capacity (Fixed) Charges

Based on above the capacity charges as claimed by the Petitioner and as approved by the Commission are tabulated herein for the MYT period of F.Y. 2014-15 to FY 2018-19. Ex-bus energy sent out has been taken from Section 8.10.1

#### Fixed Charges as claimed by UPRVUNL and as approved by the Commission

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr)	119.50	119.50	0.00	127.00	127.00	0.00
Depreciation (Rs Cr)	149.36	149.36	0.00	149.36	149.36	0.00
Interest on Loan (Rs Cr)	178.84	178.83	-0.01	163.16	163.15	-0.01
Return on Equity (Rs Cr)	124.32	124.31	-0.01	124.32	124.31	-0.01
Interest on Working Capital (Rs Cr)	59.99	67.61	7.62	62.26	67.83	5.57
Compensation Allowance (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Total (Rs Cr)	632.01	639.62	-7.60	626.10	631.66	5.56
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	0.07	3388.00	3395.67	7.67



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
<b>Fixed Cost per Unit</b>	1.87	1.89	0.02	1.85	1.86	0.01

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr)	135.00	135.00	0.00	143.50	143.50	0.00
Depreciation (Rs Cr)	149.36	149.36	0.00	149.36	149.36	0.00
Interest on Loan (Rs Cr)	147.48	147.47	-0.01	131.79	131.79	0.00
Return on Equity (Rs Cr)	124.32	124.31	-0.01	124.32	124.31	-0.01
Interest on Working Capital (Rs Cr)	64.67	67.85	3.18	67.22	68.02	0.80
Compensation Allowance (Rs Cr)	0.00	0.00	0.00	0.00	0.00	0.00
Total (Rs Cr) :	620.83	624.00	3.17	616.19	616.98	-3.06
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3387.93	-0.07
<b>Fixed Cost per Unit</b>	1.83	1.84	0.01	1.82	1.82	0.00

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
O & M Expenses (Rs Cr)	152.55	152.55	0.00
Depreciation (Rs Cr)	149.36	149.36	0.00
Interest on Loan (Rs Cr)	116.11	116.10	-0.01
Return on Equity (Rs Cr)	124.32	124.31	-0.01
Interest on Working Capital (Rs Cr)	69.92	68.22	-1.70



Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Difference (if any)
Compensation Allowance (Rs Cr)	0.00	0.00	0.00
Total (Rs Cr) :	<b>612.26</b>	<b>610.55</b>	1.71
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07
<b>Fixed Cost per Unit</b>	<b>1.81</b>	1.80	-0.01

ii. **Variable Charges:**

a) **Weighted Average Cost and Gross Calorific Value of Coal and Oil :**

The Petitioner was directed by the Commission to provide the details of weighted average cost of coal and oil as well as the weighted average calorific values on as received basis for the three months preceding the FY 2014-15 which is the first year of the MYT. However, the Petitioner had not submitted the requisite data for that period. Therefore for the purpose of this order, the Commission has considered the cost accountant certified GCV on as received basis and price for October 2015 to December 2015 worked out as under:

**Weighted Average Cost and Gross Calorific Value of Coal and Oil  
For F.Y. 2014-15**

Month	Weighted Average of Landed Cost of Oil	Weighted Average of Gross Calorific value of Oil	Weighted Average of Landed Cost of Coal	Weighted Average of Gross Calorific value of Coal (Received)
	(₹/kl)	KCAL/Ltr.	(₹/mt)	(₹KCAL/KG)
Oct' 2015	27448.27	10088.68	4,071.09	3342.91
Nov' 2015	40467.32	10290.39	4,174.29	3227.77
Dec' 2015	27633.15	10178.38	4,131.21	3013.66
<b>3 Month Weighted Avg.</b>	31,850	10,186	4126.00	3195

b) **Variable charge per unit of Generation:**

Based on the operation norms provided in the UPERC Generation Tariff Regulations, 2014 and the Commission's decisions in foregoing paragraphs, the variable charge per unit of generation for Parichha Extension -II Power Station for the MYT period of F.Y. 2014-15 to FY 2018-19 is as given in the following table.



### Variable charge per unit of generation for Parichha Extension-II Power station

Description	Unit	2014-15	2015-16	2016-17	2017-18	2018-19
Capacity	MW	500.00	500.00	500.00	500.00	500.00
PAF	%	85%	85%	85%	85%	85%
Gross generation	MU	3723.00	3731.50	3723.00	3723.00	3723.00
Auxiliary Consumption	%	0.09	0.09	0.09	0.09	0.09
Net units sent out	MU	3387.93	3395.67	3387.93	3387.93	3387.93
Gross station heat rate	Kcal/kWh	2475.00	2475.00	2475.00	2475.00	2475.00
Specific oil consumption	ml/kWh	0.75	0.75	0.75	0.75	0.75
Calorific value of secondary fuel	KCal/Lt	10185.82	10185.82	10185.82	10185.82	10185.82
Weighted average landed price of coal	Rs./MT	4125.53	4125.53	4125.53	4125.53	4125.53
Calorific value of Coal	kCal/kg	3194.78	3194.78	3194.78	3194.78	3194.78
Weighted average landed price of secondary fuel	Rs./KL	31849.58	31849.58	31849.58	31849.58	31849.58
Energy charge rate (ECR)	Rs/kWh	3.21	3.21	3.21	3.21	3.21

#### c) Cost of alternative coal supply:

Regulation 26 (iv) of the UPERC Generation Tariff Regulations 2014 specifies the norms for the calculation of cost of alternative coal supply:

*“In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreement for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted to generating station;*

*Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (v) of this regulation;*

*Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base*



*energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds 20% of energy charge rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consent of the beneficiary shall be taken by the generator by serving a notice upon the beneficiary in writing not later than seven working days in advance.*

*Provided that if the beneficiary does not respond to the notice given by the generator in writing within the above stipulated time, the beneficiary shall be liable for payment of fixed charges to generator”*

*Further Alternative coal supply from CIL beyond the FSA must be done through e-auction route and for procurement of domestic open market coal and imported coal the generating companies shall follow a transparent competitive bidding process so as to identify a reasonable market price.*

However the Commission directs that the Committee should be formed for carrying out the above mentioned process with at least one member of the Beneficiary.

Accordingly the cost of alternative coal supply for FY 2014-15 and FY 2015-16 shall not exceed the following:

Period	Maximum ECR (Rs/kWh)	CERC Escalation Rates (%)
01.04.2014 to 31.03.2015	4.18	
01.04.2015 to 30.09.2015	3.75	-20.53%
01.10.2015 to 31.03.2016	3.80	-17.91%

**d) Adjustment of Rate of Energy Charge on Account of Variation in price or Heat Value of Fuels:**

Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or gas or liquid fuel received and landed cost incurred by the generating company for procurement of coal, oil, or gas or liquid fuel, as the case may be. No separate petition needs to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Uttar Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on



the website of the generating company. The details should be available on its website on monthly basis for a period of three months.

However, UPPCL shall verify the “As Received GCV” and landed cost of coal from the original coal purchase bills of UPRVUNL.

UPRVUNL shall be entitled to recover / adjust any change in fuel cost according to the provisions set out in the Generation Regulations

### iii. Total Charges (Cost):

The overall tariff comprises two parts, Fixed and Variable. The Annual Capacity (Fixed) Charge consists of Interest on loan capital, Depreciation, ROE, O&M, IWC and Compensation Allowance and Energy (Variable) Charges consists coal and secondary oil cost per kWh of the electricity generated. The total charges (costs) as determined by the Commission for Parichha Extension-II Thermal Power Station for the MYT period of 2014-15 to FY 2018-19 as against claimed by the Petitioner are summarized in the table below.

#### Cost per kWh as claimed by UPRVUNL with those as allowed by the Commission

Particulars	FY 15			FY 16		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	119.50	119.50	0.00	127.00	127.00	0.00
Depreciation(Rs Cr.)	149.36	149.36	0.00	149.36	149.36	0.00
Interest on Loan (Rs Cr.)	178.84	178.83	-0.01	163.16	163.15	-0.01
Return on Equity (Rs Cr.)	124.32	124.31	-0.01	124.32	124.31	-0.01
Interest on Working Capital(Rs Cr.)	59.99	67.61	7.62	62.26	62.78	0.52
Com. Allowance (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	632.01	639.62	7.60	626.10	626.61	0.51
F. C. per Unit (Rs./kWh)	1.87	1.89	0.02	1.85	1.85	0.00
V. C.on Fuel (Rs Cr.)	1022.08	1088.53	66.45	1073.19	1091.02	-67.05
V. C. per Unit (Rs/ kWh)	3.02	3.21	0.20	3.17	2.96	-0.20
Total Cost (Rs Cr.)	1654.09	1728.15	74.06	1699.29	1632.75	-66.54
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3395.67	7.67
Total Cost per Unit (Rs/kWh)	4.88	5.10	0.22	5.02	4.81	-0.21



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

Particulars	FY 17			FY 18		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	135.00	135.00	0.00	143.50	143.50	0.00
Depreciation(Rs Cr.)	149.36	149.36	0.00	149.36	149.36	0.00
Interest on Loan (Rs Cr.)	147.48	147.47	-0.01	131.79	131.79	0.00
Return on Equity (Rs Cr.)	124.32	124.31	-0.01	124.32	124.31	-0.01
Interest on Working Capital(Rs Cr.)	64.67	67.85	3.18	67.22	64.16	-3.06
Com. Allowance (Rs Cr.)	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	620.83	624.00	3.17	616.19	616.98	-3.06
F. C. per Unit (Rs./kWh)	1.83	1.84	0.00	1.82	1.82	-0.01
V. C.on Fuel (Rs Cr.)	1126.85	1088.53	-123.00	1183.19	1088.53	-94.66
V. C. per Unit (Rs/ kWh)	3.33	3.21	-0.11	3.49	3.21	-0.28
Total Cost (Rs Cr.)	1747.68	1712.53	-35.15	1799.38	1705.51	-176.45
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07	3388.00	3387.93	-0.07
Total Cost per Unit (Rs/kWh)	5.16	5.05	-0.10	5.31	5.03	-0.28

Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
O & M Expenses (Rs Cr.)	152.55	152.55	0.00
Depreciation(Rs Cr.)	149.36	149.36	0.00
Interest on Loan(Rs Cr.)	116.11	116.10	-0.01
Return on Equity(Rs Cr.)	124.32	124.31	-0.01
Interest on Working Capital (Rs Cr.)	69.92	68.22	-1.70
Com. Allowance (Rs Cr.)	0.00	0.00	0.00
Fixed Cost (Rs Cr.)	612.26	610.55	-1.72
F. C. per Unit (Rs./kWh)	1.81	1.80	-0.01



Particulars	FY 19		
	As claimed by UPRVUNL	As determined by the Commission	Diff. (if any)
V. C.on Fuel (Rs Cr.)	1242.35	1003.85	-238.50
V. C. per Unit (Rs/ kWh)	3.67	3.21	-0.45
Total Cost (Rs Cr.)	1854.61	1699.08	-155.53
Ex-bus Energy Sent Out (MU)	3388.00	3387.93	-0.07
Total Cost per Unit (Rs/kWh)	5.47	5.02	-0.46

## 9. Provisional Tariff for Anpara 'D'

### 9.1 ARR and MYT as according to petition

In the petition, UPRVUNL has proposed the fixed, variable and total charges for the electricity sent out as given in the table below:

Anpara D	2015-16	2016-17	2017-18	2018-19
Energy Sent out (MU)	7018.00	7018.00	7018.00	7018.00
Fixed Charges (₹)	1.52	2.21	2.16	2.11
Variable Charges (₹)	1.62	1.70	1.78	1.87
Total Charges (₹)	3.13	3.91	3.95	3.99
ARR (₹ in Cr.)	<b>1063.86</b>	<b>1553.56</b>	<b>1518.39</b>	<b>1484.10</b>

### 9.2 Approved Provisional Capital Cost and Provisional Tariff

In case of Anpara 'D' for which provisional tariff has been sought, the provisional tariff has been determined on the basis of proposed capital expenditure subject to the condition that on completion of the project, the Petitioner shall file the details of capital expenditure actually incurred, duly audited and certified by the statutory auditors, for the consideration of the Commission. The Petitioner shall also make a fresh application as per Appendix – II to UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014 for determination of final tariff for this generation station. Any over or under recovery of charges by the generating company on account of provisional tariff shall be subject to retrospective adjustments on the basis of final tariff determined by the Commission under Regulation 25 of UPERC Generation Tariff Regulations, 2014. Tariff of Anpara D has been approved provisionally on the basis of proposed capital expenditure submitted by UPRVUNL.



For determination of provisional tariff, the Regulation 5 (3) of the UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014, provides as below:

*“(3) In case of a generating station declared under commercial operation on or after the date of commencement of this regulation, an application for fixation of tariff shall be made as per Appendix II to these regulations, for determination of provisional tariff within 180 days of the anticipated date of commercial operation based on the capital expenditure actually incurred up to the date of making of the application or a date prior to making of the application, duly audited and certified by the statutory auditors, and the provisional tariff shall be charged from the date of commercial operation of the respective unit of the generating station.*

*A generating company shall make a fresh application as per Appendix II to these regulations, for determination of final tariff based on actual capital expenditure incurred up to the date of commercial operation of the generating station, duly audited and certified by the statutory auditors.*

*Provided further that over or under recovery of charges by the generating company on account of provisional tariff shall be subject to retrospective adjustment on the basis of final tariff determined by the Commission. The generating company, on the basis of such final tariff, shall calculate the amount of under or over recovery of charges and bill such amount to be recovered or paid by it from or to the beneficiary (ies), for the period the provisional tariff remained effective, within six months of determination of final tariff, along with simple interest calculated at rate equal to Bank Rate as on 1st April of the relevant year.*

*(4) Where application for determination of tariff of an existing or a new project has been filed before the Commission in accordance with clauses (2) and (3) of this regulation, the Commission may consider in its discretion to grant provisional tariff up to 95% of the annual fixed cost of the project claimed in the application subject to adjustment as per proviso to clause (3) of this regulation after the final tariff order has been issued.*

*Provided that recovery of capacity charge and energy charge, as the case may be, in respect of the existing or new project for which provisional tariff has been granted shall be made in accordance with the relevant provisions of these regulations.*

The Petitioner has submitted the capital costs which have the total cost of project for the 2 Projects (2 x 500 MW) as Rs.7027.40 Crores up to 08.08.2014. The details for the same has been shown below:

S. No	Total Amount Spent	Amount (Rs. In Crore)
1	Land	26.08
2	Steam Generator island	1766.41



3	Turbine generator Island	420.44
4	CW System	89.38
5	Ash Handling System	264.03
6	Coal Handling Plant	411.60
7	Rolling stock and locomotives	44.42
8	SWITCH Yard Package	297.67
9	Transformers Package	47.61
10	Cable, Cable facilities & grounding	118.21
11	Lighting	0.15
12	Initial Spares	54.70
13	Main plant/Adm. Building	522.02
14	Cooling towers	2.21
15	MGR & Marshaling Yard	155.02
16	Township & Colony	0.23
17	Road & Drainage	7.97
18	Erection Testing & Commissioning	212.96
19	Start up Fuel	92.52
20	Establishment	52.64
21	Contingency	-70.91
22	Interest During Construction(IDC & Financial Charges )	1573.70
	<b>Total</b>	<b>6089.06</b>

The Commission considers it suitable to consider 95% of the annual fixed cost for the determination of provisional tariff. The Commission approves Rs. 1.89/kWh as annual fixed charge and Rs.1.44 /kWh energy charges for the project from FY 2016-17.

**i. Capacity (Fixed) Charges**

**a) Provisions under Regulations:**

For determination of components of fixed charges for provisional tariff, the Commission opines that the parameters provided under UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014 shall be considered. Hence, the Commission has decided to allow the components of fixed charges as below:

Components of Fixed Charge	Value	Remark
Return on Equity	15.5%	As per the Regulations
Interest on Loans	10.75 %	Weighted average of interest on loans for FY 2014-15 & FY 2018-19 as per form 13 of ARR
O & M Expenses	Normative	As per the Regulations



Components of Fixed Charge	Value	Remark
Compensation Allowance	NA	NA
Interest on working capital	13.50 %	As per the Regulations

S.No	Particular	Units	UPRVUNL Submission	UPERC Provisional Approval for FY 16-17
1.	Capital cost filed by the Petitioner	Rs.Cr	7027.40	6089.06
<b>2.</b>	<b>Annual Fixed Charges</b>			
3.	Interest on loans	Rs.Cr	566.11	511.96
4.	Return on Equity	Rs.Cr	326.77	283.14
5.	Depreciation	Rs.Cr	390.27	333.30
6.	Operation and Maintenance Expenses	Rs.Cr	180.80	180.80
7.	Interest on working Capital	Rs.Cr	89.61	83.45
<b>8.</b>	<b>Annual Fixed Charges</b>	<b>Rs.Cr</b>	<b>1553.56</b>	<b>1392.66</b>
9.	<i>Provisional AFC allowed(95%)</i>			<i>1323.02</i>
10.	<i>AFC</i>	<i>Rs./kWh</i>	<i>2.21</i>	<i>1.89</i>
11.	<i>Energy Charge Rate</i>	<i>Rs./kWh</i>	<i>1.70</i>	<i>1.44</i>
<b>12.</b>	<b>Total Tariff</b>	<b>Rs./kWh</b>	<b>3.91</b>	<b>3.33</b>

Any over or under recovery arising out of the finally approved tariff shall be adjusted according to provisions of UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014 and its amendments.



### 10. Approval of Tariff for Vintage Stations of UPRVUNL during the MYT Control Period FY 2015-19

Based on the study conducted by the Commission during the formulation of UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014. , it has been observed by the Commission that following is the availability of plant vis-a vis target given by the Commission over the years:

Plant	Year	Actual Availability (%)	Target Availability (%)
Anpara A	2009-10	81.08	80
	2010-11	73.55	80
	2011-12	75.25	80
	<b>2012-13</b>	<b>57.19</b>	<b>80</b>
	<b>2013-14</b>	<b>57.99</b>	<b>80</b>
Anpara B	2009-10	82.15	80
	2010-11	87.02	80
	2011-12	82.04	80
	2012-13	77.17	80
	2013-14	92.26	80
Obra A	<b>2009-10</b>	<b>48.43</b>	<b>60</b>
	<b>2010-11</b>	<b>53.16</b>	<b>61</b>
	<b>2011-12</b>	<b>43.02</b>	<b>63</b>
	<b>2012-13</b>	<b>26.51</b>	<b>66</b>
	<b>2013-14</b>	<b>23.98</b>	<b>70</b>
Obra B	<b>2009-10</b>	<b>54.78</b>	<b>70</b>
	<b>2010-11</b>	<b>50.80</b>	<b>71</b>
	<b>2011-12</b>	<b>47.78</b>	<b>73</b>
	<b>2012-13</b>	<b>41.38</b>	<b>76</b>
	<b>2013-14</b>	<b>39.94</b>	<b>80</b>
Panki	2009-10	65.50	65
	2010-11	54.71	66



Plant	Year	Actual Availability (%)	Target Availability (%)
	2011-12	52.13	67
Panki	<b>2012-13</b>	<b>46.43</b>	<b>68</b>
	<b>2013-14</b>	<b>40.94</b>	<b>70</b>
Harduaganj	<b>2009-10</b>	<b>43.72</b>	<b>55</b>
	<b>2010-11</b>	<b>39.57</b>	<b>56</b>
	<b>2011-12</b>	<b>30.93</b>	<b>58</b>
	<b>2012-13</b>	<b>39.90</b>	<b>61</b>
	<b>2013-14</b>	<b>21.71</b>	<b>65</b>
Harduaganj Extension	<b>2011-12</b>	<b>49.12</b>	<b>85</b>
	<b>2012-13</b>	<b>47.53</b>	<b>85</b>
	2013-14	79.17	85
Parichha	<b>2009-10</b>	<b>45.00</b>	<b>65</b>
	<b>2010-11</b>	<b>37.71</b>	<b>66</b>
	<b>2011-12</b>	<b>23.32</b>	<b>68</b>
	<b>2012-13</b>	<b>18.64</b>	<b>71</b>
	<b>2013-14</b>	<b>26.64</b>	<b>75</b>
Parichha Extension	2009-10	72.42	80
	2010-11	65.25	80
	2011-12	63.01	80
	2012-13	68.22	80
	2013-14	65.24	80
Parichha Extension Stage-2	2012-13	79.24	85
	2013-14	78.81	85

On analysis of the above data, it can be clearly observed that availability of the above mentioned vintage plants has been poor over the years. The actual operating performance of most of these plants was not in line with the performance envisaged by the Commission while setting the targets.



## True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

---

The Commission is of the view that the inefficiencies of the generator should not be passed on to the beneficiaries. The same has been communicated to the Petitioner many times during the previous years.

Further, the Commission has also observed that the Petitioner has not undertaken the approved Renovation and Modernization schemes in spite of directions by the Commission. The Commission is of the view that the capacity of the units which are underperforming should be deleted in the coming years and thus no tariff for these plants shall be allowed after FY 2017-18.

The Tariff approved for FY 2018-19 shall not be applicable to power generated from the vintage units specified in the following table:

<b>Plant</b>	<b>Units</b>
Obra-A	Unit -1,2,3 and 4
Panki	Unit 3
Harduaganj	Unit 5
Parichha	Unit 1 & 2



## 11. OTHER PROVISIONS

### (A) MP RI&RD TAX

The Petitioner had raised the bills on account of Statutory Charges of Madhya Pradesh Rural Infrastructure & Roads Development Tax relating to the period FY 2005-06 to 2010-11 during the financial year 2011-12 for Anpara A & B, Obra A & B and Parichha and Parichha Extn. Such bills were raised on UPPCL to the tune of Rs. 174.25 crore.

The Commission allows the recovery of MPRI&RD Tax by the Petitioner from UPPCL.

### (B) Elements of Arrears of Sixth Pay Commission :

The element of Sixth Pay Commission has been considered in approved O & M expenditures for the financial years 2009-10 to 2013-14 as per the UPERC (Terms & Conditions of Generation Tariff) Regulations, 2009. However, the payment of arrears of sixth pay Commission, if any including the impact of pay revision as a result of seventh pay commission including the pension, gratuity and provident fund contribution thereon shall be claimed by UPRVUNL from the beneficiaries on providing the details of actual payments.

### (C) UP Forest Transit Fees:

The petitioner has incurred some expenses on account of UP Forest Transit Fee of Rs. 246.75 crore for the period Jan 1999 to March 2012. The payment of the same has been made to NCL for transit of coal from the UP forest areas in the Financial Year 2015-16.

The Commission allows the recovery of UP Forest Transit Fees by the Petitioner from UPPCL as Statutory Charges on pass through basis.

### (D) Incentive :

Incentive shall be calculated according to Regulations 27 of UPERC (Terms and Conditions of Generation tariff) Regulations, 2014. Incentive does not form a component of tariff.

### (E) Billing & Payment :

Billing and Payment of Capacity Charges shall be done under provisions of Regulation 51 of UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014.



## (F) Truing up of Capital Expenditure and Tariff

- (i) The Commission shall carry out true up exercise along with the tariff petition filed for the next tariff period with respect to the Capital Expenditure incurred up to 31.03.2019, as admitted by the Commission after prudence check at the time of truing up.
- (ii) The generating company shall make an application, as per Appendix II to these regulations, for carrying out truing up exercise in respect of the generating station or any of its units or block of units thereof by 31.10.2019.
- (iii) The generating company shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred duly audited and certified by the auditors.  
Provided the Commission may appoint a separate independent auditor who, under the supervision of the Commission, shall undertake technical and financial audit of the generating station at any time
- (iv) The Commission shall also carry out truing up of tariff of generating stations based on the performance of following controllable parameters:
  - (a) Gross Station Heat Rate;
  - (b) Secondary Fuel Oil Consumption;
  - (c) Auxiliary Energy Consumption; and
  - (d) Re-financing of Loan
- (v) The Commission shall carry out truing up of tariff of generating stations based on the performance of following uncontrollable parameters:
  - (a) Force Majeure;
  - (b) Change in Law; and
  - (c) Primary Fuel Cost
- (vi) The financial gains by a generating company on account of controllable parameters shall be shared between generating company and the beneficiaries. The financial gains computed as per following formulae in case of generating station on account of operational parameters contained in Regulation(4) (a) to (c) of Generation Regulation 2014 shall be shared in the ratio of 80:20 between generating company and the beneficiaries:  
Net Gain = (ECRN– ECRA) x Scheduled Generation
- (vii) The financial gains and losses by a generating company on account of uncontrollable parameters shall be passed on to beneficiaries of the generating company.



- (viii) Where after the truing up the tariff recovered exceeds the tariff approved by, the Commission under these regulations the generating company shall refund to the beneficiaries, the excess amount so recovered along with simple interest at the rate equal to the Bank Rate prevailing as on 1st April of the respective Year.
- (ix) Where after the truing up the tariff recovered is less than the tariff approved by the Commission under these regulations the generating company shall recover from the beneficiaries, the under-recovered amount along with simple interest at the rate equal to the Bank Rate, prevailing as on 1st April of the respective Year.
- (x) The amount under-recovered or over-recovered, along with simple interest at the rate equal to the Bank Rate as on 1st April of the respective Year, shall be recovered or refunded by the, generating company, in six equal monthly installments starting within three months from three months from the date of the tariff order issued by the Commission after the truing up exercise

## 12. APPROVED TARIFF AND ARR – AT A GLANCE

### True up Summary

(Rs. In Crores)

SL NO	NAME OF POWER STATIONS	2011-12			2012-13		
		Earlier Approved in True Up order dated 14.11.2013 Order	Approved	Difference	Earlier Approved in True Up order dated 14.11.2013 Order	Approved	Difference
1	ANPARA 'A'	212.11	212.20	0.09	232.03	234.34	2.32
2	ANPARA 'B'	520.82	520.50	(0.32)	579.09	507.66	(71.43)
3	OBRA 'A'	169.61	168.32	(1.29)	121.96	176.57	54.61
4	OBRA 'B'	285.75	291.93	6.18	355.21	303.95	(51.26)
5	PANKI	130.90	135.92	5.02	114.23	140.92	26.69
6	HARDUAGANJ	119.14	23.01	3.87	81.87	101.66	19.79
7	PARICHHA	82.75	88.19	5.44	116.17	90.71	(25.46)
8	PARICHHA EXTN.	329.66	322.58	(7.08)	335.99	323.59	(12.42)
9	HARDUAGANJ EXTN.	201.88	140.43	(61.45)	593.01	315.36	(277.65)
10	PARICHHA EXTN. STAGE-II	-	-	-	266.31	144.83	(121.48)



SL NO.	NAME OF POWER STATIONS	2013-14		
		Earlier Approved in True Up order dated 14.11.2013 Order	Approved	Difference
1	ANPARA 'A'	239.44	243.72	4.32
2	ANPARA 'B'	688.15	558.21	(129.94)
3	OBRA 'A'	143.05	179.00	35.95
4	OBRA 'B'	366.79	329.06	(37.74)
5	PANKI	118.52	148.21	26.69
6	HARDUAGANJ	172.98	102.80	(70.18)
7	PARICHHA	120.10	89.24	(30.86)
8	PARICHHA EXTN.	335.60	325.13	(10.49)
9	HARDUAGANJ EXTN.	649.89	483.08	(166.81)
10	PARICHHA EXTN. STAGE-II	602.25	399.51	(204.73)

### MYT Tariff

(Cost inRs. per unit)

SL NO.	NAME OF POWER STATIONS	2014-15			2015-16		
		FIXED COST	VAR. COST	TOTAL	FIXED COST	VAR. COST	TOTAL
1	ANPARA 'A'	0.67	1.87	2.54	0.69	1.87	2.56
2	ANPARA 'B'	1.02	1.62	2.65	0.80	1.62	2.43
3	OBRA 'A'	1.76	1.60	3.35	1.79	1.60	3.39
4	OBRA 'B'	0.65	1.52	2.18	0.67	1.52	2.19
5	PANKI	1.37	3.45	4.81	1.40	3.45	4.85
6	HARDUAGANJ	1.46	3.47	4.93	1.49	3.47	4.96
7	PARICHHA	1.04	3.90	4.94	1.05	3.90	4.95
8	PARICHHA EXTN.	1.37	3.21	4.58	1.35	3.21	4.57
9	HARDUAGANJ EXTN.	2.04	2.67	4.72	2.01	2.67	4.68
10	PARICHHA EXTN. STAGE-II	1.89	3.21	5.10	1.86	3.21	5.07



SL NO.	NAME OF POWER STATIONS	2016-17			2017-18		
		FIXED COST	VAR. COST	TOTAL	FIXED COST	VAR. COST	TOTAL
1	ANPARA 'A'	0.72	1.87	2.59	0.67	1.87	2.54
2	ANPARA 'B'	0.65	1.62	2.27	0.67	1.62	2.29
3	OBRA 'A'	1.81	1.60	3.41	1.77	1.60	3.37
4	OBRA 'B'	0.69	1.52	2.21	0.71	1.52	2.23
5	PANKI	1.44	3.45	4.89	1.48	3.45	4.93
6	HARDUAGANJ	1.47	3.47	4.94	1.52	3.47	4.99
7	PARICHHA	1.06	3.90	4.96	1.07	3.90	4.98
8	PARICHHA EXTN.	1.35	3.21	4.56	1.35	3.21	4.56
9	HARDUAGANJ EXTN.	1.99	2.67	4.66	1.96	2.67	4.64
10	PARICHHA EXTN. STAGE-II	1.84	3.21	5.05	1.82	3.21	5.03
11	Provisional Tariff Anpara 'D'	1.89	1.44	3.33			

SL NO.	NAME OF POWER STATIONS	2018-19		
		FIXED COST	VAR. COST	TOTAL
1	ANPARA 'A'	0.67	1.87	2.53
2	ANPARA 'B'	0.69	1.62	2.31
3	OBRA 'A'	1.83	1.60	3.43
4	OBRA 'B'	0.73	1.52	2.26
5	PANKI	1.47	3.45	4.92
6	HARDUAGANJ	1.57	3.47	5.04
7	PARICHHA	1.10	3.90	5.00
8	PARICHHA EXTN.	1.34	3.21	4.56
9	HARDUAGANJ EXTN.	1.94	2.67	4.61
10	PARICHHA EXTN. STAGE-II	1.80	3.21	5.02



### Annual Revenue Requirement

(Cost in Rs. per unit ARR in ₹ Cr. Energy in MU)

SL NO.	NAME OF POWER STATIONS	2014-15			2015-16		
		Ex-bus Energy S/O	Total Cost	ARR	Ex-bus Energy S/O	Total Cost	ARR
1	ANPARA 'A'	4292.25	2.54	1090.24	4302.05	2.56	1102.16
2	ANPARA 'B'	7055.09	2.65	1866.46	7071.19	2.43	1715.46
3	OBRA 'A'	1070.65	3.35	359.13	1073.09	3.39	364.01
4	OBRA 'B'	6328.22	2.18	1647.96	6342.67	2.19	1391.44
5	PANKI	1161.52	4.81	559.27	1164.18	4.85	564.48
6	HARDUAGANJ	840.86	4.93	414.33	842.78	4.96	418.20
7	PARICHHA	1290.74	4.94	638.05	1293.69	4.95	640.32
8	PARICHHA EXTN.	2845.86	4.58	1303.05	2852.36	4.57	1302.87
9	HARDUAGANJ EXTN.	3387.93	4.72	1597.83	3395.67	4.68	1590.42
10	PARICHHA EXTN. STAGE-II	3387.93	5.10	1728.15	3395.67	5.07	1722.67

SL NO.	NAME OF POWER STATIONS	2016-17			2017-18		
		Ex-bus Energy S/O	Total Cost	ARR	Ex-bus Energy S/O	Total Cost	ARR
1	ANPARA 'A'	4292.25	2.59	1110.95	4292.25	2.54	1090.78
2	ANPARA 'B'	7055.09	2.27	1604.41	7055.09	2.29	1616.52
3	OBRA 'A'	1070.65	3.41	365.22	1070.65	3.37	361.12
4	OBRA 'B'	6328.22	2.21	1400.81	6328.22	2.23	1413.55
5	PANKI	1161.52	4.89	568.05	1161.52	4.93	572.75
6	HARDUAGANJ	840.86	4.94	415.03	840.86	4.99	419.18
7	PARICHHA	1290.74	4.96	640.28	1290.74	4.98	642.17
8	PARICHHA EXTN.	2845.86	4.56	1298.78	2845.86	4.56	1297.31
9	HARDUAGANJ EXTN.	3387.93	4.66	1579.20	3387.93	4.64	1570.68
10	PARICHHA EXTN. STAGE-II	3387.93	5.05	1712.53	3387.93	5.03	1705.51



SL NO.	NAME OF POWER STATIONS	2018-19		
		Ex-bus Energy S/O	Total Cost	ARR
1	ANPARA 'A'	4292.25	2.53	1087.31
2	ANPARA 'B'	7055.09	2.31	1629.37
3	OBRA 'A'	1070.65	3.43	367.58
4	OBRA 'B'	6328.22	2.26	1428.43
5	PANKI	1161.52	4.92	571.40
6	HARDUAGANJ	840.86	5.04	423.44
7	PARICHHA	1290.74	5.00	645.15
8	PARICHHA EXTN.	2845.86	4.56	1296.33
9	HARDUAGANJ EXTN.	3387.93	4.61	1562.75
10	PARICHHA EXTN. STAGE-II	3387.93	5.02	1699.08

**Weighted Average per unit Tariff of UPRVUNL (Rs. /kWh)**

SL NO.	NAME OF POWER STATIONS	2014-15		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
1	ANPARA 'A'	4690.98	1090.24	
2	ANPARA 'B'	7446.00	1866.46	
3	OBRA 'A'	1189.61	359.13	
4	OBRA 'B'	7008.00	1647.96	
5	PANKI	1290.66	559.27	
6	HARDUAGANJ	939.51	414.33	
7	PARICHHA	1445.40	638.05	
8	PARICHHA EXTN.	3127.32	1303.05	
9	HARDUAGANJ EXTN.	3723.00	1597.83	
10	PARICHHA EXTN. STAGE-II	3723.00	1728.15	
				<b>3.24</b>

SL NO.	NAME OF POWER STATIONS	2015-16		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
1	ANPARA 'A'	4701.69	1102.16	
2	ANPARA 'B'	7463.00	1715.46	
3	OBRA 'A'	1192.32	364.01	
4	OBRA 'B'	7024.00	1391.44	
5	PANKI	1290.66	564.48	



SL NO.	NAME OF POWER STATIONS	2015-16		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
6	HARDUAGANJ	941.66	418.20	
7	PARICHTHA	1448.70	640.32	
8	PARICHTHA EXTN.	3134.46	1302.87	
9	HARDUAGANJ EXTN.	3731.50	1590.42	
10	PARICHTHA EXTN. STAGE-II	3731.50	1722.67	
				<b>3.12</b>

SL NO.	NAME OF POWER STATIONS	2016-17		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
1	ANPARA 'A'	4690.98	1110.95	
2	ANPARA 'B'	7446.00	1604.41	
3	OBRA 'A'	1189.61	365.22	
4	OBRA 'B'	7008.00	1400.81	
5	PANKI	1290.66	568.05	
6	HARDUAGANJ	939.51	415.03	
7	PARICHTHA	1445.40	640.28	
8	PARICHTHA EXTN.	3127.32	1298.78	
9	HARDUAGANJ EXTN.	3723.00	1579.20	
10	PARICHTHA EXTN. STAGE-II	3723.00	1712.53	
11	ANPARA D	7446.00	2403.51	
				<b>3.12</b>

SL NO.	NAME OF POWER STATIONS	2017-18		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
1	ANPARA 'A'	4690.98	1090.78	
2	ANPARA 'B'	7446.00	1616.52	
3	OBRA 'A'	1189.61	361.12	
4	OBRA 'B'	7008.00	1413.55	
5	PANKI	1290.66	572.75	
6	HARDUAGANJ	939.51	419.18	
7	PARICHTHA	1445.40	642.17	
8	PARICHTHA EXTN.	3127.32	1297.31	



True up FY 12-14 and Multi Year Tariff of UPRVUNL for FY 15-19

SL NO.	NAME OF POWER STATIONS	2017-18		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
9	HARDUAGANJ EXTN.	3723.00	1570.68	
10	PARICHHA EXTN. STAGE-II	3723.00	1705.51	
				<b>3.09</b>

SL NO.	NAME OF POWER STATIONS	2018-19		
		Gross Generation(MU)	ARR (Rs. Cr)	Weighted Average per unit cost
1	ANPARA 'A'	4690.98	1087.31	
2	ANPARA 'B'	7446.00	1629.37	
3	OBRA 'A'	1189.61	367.58	
4	OBRA 'B'	7008.00	1428.43	
5	PANKI	1290.66	571.40	
6	HARDUAGANJ	939.51	423.44	
7	PARICHHA	1445.40	645.15	
8	PARICHHA EXTN.	3127.32	1296.33	
9	HARDUAGANJ EXTN.	3723.00	1562.75	
10	PARICHHA EXTN. STAGE-II	3723.00	1699.08	
				<b>3.10</b>



## 10. IMPLEMENTATION OF ORDER

This order shall be reckoned to have come into effect from 01.04.2014 and shall remain effective till 31.03.2019 for the Multi Year Tariff period of F.Y. 2014-15 to FY 2018-19. UPRVUNL is entitled to raise the bills as per the tariff order under provisions of UPERC (Terms & Conditions of Generation Tariff) Regulations, 2014.

(Suresh Kumar Aggarwal)  
Member

(Indu Bhushan Pandey)  
Member

(Desh Deepak Verma)  
Chairman

Place: Lucknow

Dated: 29<sup>th</sup> April 2016