

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

Petition No. 553/08

IN THE MATTER OF: Approval of ARR and determination of tariff for FY 2008-09.

AND

IN THE MATTER OF: Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd., Shakti Bhawan, 14, Ashok Marg, Lucknow

:Petitioner

Versus

1. U.P. Power Corporation Ltd., 7th Floor, Shakti Bhawan, 14, Ashok Marg, Lucknow.
2. Madhyanchal Vidyut Vitaran Nigam Ltd., Prag Narain Road, Lucknow.
3. Poorvanchal Vidyut Vitaran Nigam Ltd., 132 KV S/s, Bhikaripur Vidyut Nagar, Varanasi.
4. Paschimanchal Vidyut Vitaran Nigam Ltd., Victoria Park, Meerut.
5. Dakshinaanchal Vidyut Vitaran Nigam Ltd., Vidyut Bhawan, Gailana Road, Agra
6. Kanpur Electric Supply Co. Ltd., KESA House, 14/21, Civil Lines, Kanpur.
7. Noida Power Company Ltd., Commercial Complex, H-Block, Alpha-II, Sector, Greater Noida City.

:Respondents

ORDER

1 Background, Previous Order and the Petition:

1.1 Regulatory Background

The reforms in the power sector of Uttar Pradesh started with the enactment of Uttar Pradesh Electricity Reforms Act, 1999 (UP Act No. 24 of 1999, herein after referred to as the Reforms Act). Subsequently, Uttar Pradesh Electricity Reforms Transfer Scheme, 2000 (hereinafter referred to as the Transfer Scheme) was notified 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 State Electricity Board (UPSEB) was unbundled into three different entities, 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.

Uttar Pradesh Power Corporation Limited (UPPCL) was vested with the responsibility of transmission and distribution of electricity. Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) was vested with the responsibility of generation and sale of electricity from the thermal generating stations acquired by it through Transfer Scheme. Similarly, Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL) was vested with the responsibility of generation and sale of electricity from the hydro generating assets of erstwhile UPSEB.

The power sector in India went through major change with the enforcement of the Electricity Act 2003 w.e.f. 10th June 2003. This Act repealed all the erstwhile Electricity Acts viz.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).

EA 2003 specified in sub-section (3) of section 185 read with the schedule of enactments that the provisions of Uttar Pradesh Electricity Reforms Act, 1999, not inconsistent with EA 2003, shall apply.

Section 61 of EA 2003 requires the State Electricity Regulatory Commission to specify 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 power conferred under 181 read with the provisions of the section 61 of EA 2003, UPERC notified the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2004 (hereinafter referred to as Generation Regulation) effective from 18.6.05, the date of notification. The Commission further made 1st Amendment to the said regulations extending the generation Regulations up to 31.3.09. In this amendment the norms are also specified for determination of tariff for the year 2008-09.

1.2 Previous Tariff Order

The Commission has determined the tariff of generating stations of the petitioner for year 2005-06, 2006-07 & 2007-08 vide Order dt.26.3.07 passed in Pet. no. 264/05 revised, 365/06 and 435/07.

The determination of Gross Fixed Asset (GFA) was the major exercise undertaken by the Commission in the above mentioned petitions and it held that the data submitted on 15.2.07 was found more consistent with total GFA reflected in audited books of accounts and decided that for future consideration,

the said GFA shall be base and would not be subject to review as the petitioner had already been provided reasonable opportunities to submit reliable data for tariff determination. Accordingly the total GFA as on 31.03.2005 was Rs. 6706.49 Crores.

The Commission also decided for Obra A, Obra B, Panki & Harduaganj, where the vintage is more than 25 years that the weighted average rate of depreciation shall be arrived at without considering the cost of capital spares. In case of Anpara A, Anpara B & Parichha, in which case the vintage has not exceeded 25 years, the cost of capital spares shall be considered for arriving at weighted average rate of depreciation. In consideration of the same, the Commission approved depreciation @ 3.54 % for all generating stations except for Anpara A, Anpara B, Parichha & Parichha Extn. In case of Anpara A & B, Parichha and Parichha Extn. stations, depreciation @ 3.56% was taken. The Commission also held not to allow truing up of depreciation in future as reasonable opportunity had already been provided to the Petitioner to put-up correct and reliable information in which endeavour the petitioner had failed.

The Commission accepted total equity of the petitioner at Rs. 1798.55 Cr. as on 31.3.05. In its submission of 15th Feb 2007, the Petitioner had indicated additional capitalisation and corresponding debt and equity. But the Petitioner had failed to provide details of equity invested in capital assets in compliance to order dt. 14.11.06. The Commission accepted the additions for year 2005-06 and 2006-07 as the Petitioner had incurred expenditures but for 2007-08, the Petitioner was to submit justification. In case of Parichha Extn., the Commission considered the first unit of 210 MW in FY 2006-07 for tariff determination and therefore only 50% of the equity indicated by the Petitioner for the entire power station was admitted for the purpose of determination of tariff. Regulation 20 of the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations 2004 specifies that the equity employed for a

thermal power station should be considered at 30% of cost of fixed asset. If actual equity were more than 30%, then only 30% of asset value would be considered for the purpose of computation of return on equity. If actual equity employed is less than 30%, then the actual equity should be considered. The Commission approved equity of UPRVUNL accordingly at Rate of return of 14%.

The amount of loan, repayment, drawal, interest rate and interest of loan was another major exercise undertaken in the proceedings of these petitions. The Commission accepted the information submitted by the petitioner in that regard in its submission dt. 15.2.07. Since the Petitioner had not provided the details of repayment and drawal of each of the loan and other source-wise details, the Commission had, for the purposes of the tariff order, assumed that repayment shall be equal to the depreciation allowed for all generating stations except for Parichha Extn. However, for Parichha Extn, the loan repayment considered at actual as submitted by the Petitioner. The Petitioner had indicated the average rate of interest on loans ranging from 0.9% to 84% p.a. which was considered absurd and arbitrary. The Commission had earlier approved an interest rate of 12.5% on long-term loans, vide tariff order dt. 22.10.02 passed in the matter of ARR and Tariff petition of UPPCL for 2002-03, and the same was accepted by all interested parties. As the Petitioner had failed to provide correct information regarding the interest rate applicable to its loans, the Commission considered the interest rate at 12.5% proper for the computation of interest on loan. For Parichha Extn. actual interest rate was taken for calculation of interest. It was further held that for all future considerations, the said rate shall be considered. Accordingly, the interest on loan for the petitioner was determined for said three years.

O&M expenses were determined at rate specified in the generation Regulations. The computation of working capital and IWC was made as specified in the Regulations, 2004. The maintenance spares required data of capital cost as on

COD, which was not available. Hence, the Commission considered the value of GFA as on 31st March 2005, and FY 2004-05 as the base year for computation. An escalation of 4% has been considered on 1% of GFA to determine the ceiling level of maintenance spares

Plant load factor as projected by the petitioner for 2005-06 & 2006-07 were accepted, as the petitioner had already reached the level of generation. Since in Obra A, R&M of certain units was already under way as such the target PLF of Obra A was revised to 40% for year 2007-08 while for other generating stations, the target PLF remained as specified in the Generation Regulation. Other norms like auxiliary consumption, SHR & oil consumption were taken as specified in the Generation Regulations.

The Commission has made various observations on the submissions made by the petitioner which culminated into the following directions for future compliance by the petitioner:

1. The Petitioner is directed to submit the audited details of project cost in respect of Parichha Extn within fifteen days of the date of this tariff order. (Para 3.1)
2. The rates of depreciation for Anpara A & B, Parichha & Parichha Ext. shall be 3.56 % and in case of other generating stations, it shall be 3.54%. The Commission will not allow truing up of depreciation in future. (Para 3.2)
3. The Commission has, for the purposes of this tariff order, assumed that repayment shall 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 has been accepted. (Para 5.1)
4. The Commission considers the interest rate at 12.5% proper for the computation of interest on loan. For Paricha Extn actual interest rates shall be

taken for calculation of interest. For all future considerations, this rate shall be considered. (Para 5.1)

5. Inference is obvious from the aforesaid that the financial management of the company is not proper as the Petitioner does not even know the debt it has taken from the financial institutions and the interest and repayment schedules thereof. It has acquired huge liability on account of default in payment of principal and interest. The Petitioner has not initiated any action for realisation of its dues from the beneficiaries, which is costing it in terms of operational inefficiencies and default on loan liabilities. Besides above there is also absence of proper accounting of assets and new additions. The petitioner is advised to look into the affairs of the company and initiate to revamp its managerial & administrative set up suitably. (Para 5.2)

6. The Commission has allowed O&M expense according to the norm even if it amounts to approving higher than that sought for in case of any power station. This excess fund may be utilised by the Petitioner in case of other power stations, where it expects to incur more than normative O&M expenses. (Para 6.1)

7. These Regulations also specify that the rate of interest on working capital shall be on normative basis and shall be equal to short term PLR of State Bank of India as on 1st April 2005 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. (Para 7.1)

8. According to regulations, computation of maintenance spares required data of capital cost as on COD. This data was not available. Hence, the Commission has considered the value of GFA as on 31st March 2005, and FY 2004-05 as the base year for computation. An escalation of 4% has been considered on 1% of GFA to determine the ceiling level of maintenance spares. (Para 7.2.2)

9. According to the regulations the tax on income is directly recoverable from the beneficiaries. Hence, it is not considered for the purpose of computation of tariff. (Para 8)

10. The auxiliary consumption, SHR & oil consumption shall be as specified in the Generation Regulations. (Para 11.3)

11. The Petitioner is directed to monitor SHR on daily basis and do the needful to bring the same to the level as specified by the Commission. This will form the basis for arriving at monthly and yearly SHR. The Petitioner shall also submit information as required under appendix III of the generation regulations quarterly on an affidavit, the failure of which would be considered as non-compliance of order and regulations of the Commission. (Para 11.6)

12. For future, the Petitioner is directed to –

- a. Maintain monthly coal and oil consumption as fired based on daily shift wise consumption. Total Coal consumption shall include the transit and handling losses as specified in the generation regulations.
- b. Maintain landed cost of coal and oil in accordance with the format specified by the Commission in generation regulation.
- c. Collate (a) and (b) to arrive at total cost of fuel for the month.
- d. The fuel cost arrived at in (c) shall be verified by Cost Accountant for the purpose of fuel price adjustment.
- e. The bill of Fuel Price Adjustment shall invariably include a certificate that the Cost Accountant has duly certified the coal price.
- f. All the above data shall be submitted to the Commission on quarterly basis.

(Para 11.7)

13. For future the Petitioner is directed to –

- a. Measure GCV of coal as fired on daily basis collecting sample in every shift. This will form the basis for arriving at monthly and yearly SHR.
- b. Maintain monthly data of GCV of coal and oil as fired.
- c. GCV shall be verified by a certified test agency once in fifteen days. The test result shall be compared with the test result of the power station for the corresponding month.
- d. The bill of Fuel Price Adjustment shall invariably include a certificate that the Cost Accountant has verified weighted average of GCV from daily records.
- e. All the above data shall be submitted to the Commission on quarterly basis along with the copies of certificates of the test agencies.

(Para 11.8)

14. For billing purposes, total energy charge shall be equal to the rate of energy charge multiplied by actual energy sent out and on implementation of ABT in the State, it shall be the rate of energy charge multiplied by scheduled energy sent out. (Para 11.9)

The Commission regrets that the petitioner had not reported compliance to any of above directions.

1.3 The Petition

This petition, no. 553/2008, has been filed by petitioner under section 62 of the Electricity Act 2003 for determination of tariff of its generating stations for FY 2008-09 on 28th July 2008. The petitioner further made additional submission vide letter no. 393 dt.5.8.08 in respect to IWC and O&M expenses. Further additional submissions were made vide letter no. 484 dt. 15.9.08 in respect to O&M expense, PLR, escalation index & Aux. consumption.

The Commission finds that the petitioner has filed this petition with all references, submissions & prayers made to the Review Petition no. 555/2008 filed by it for review of norms of operation (target availability, PLF, Station heat rate, Aux. consumption, capacity charges, prime lending rate, escalation factor for O&M besides additional prayer for allowing bills of pollution cess, statutory payments, impact of 6th pay commission & financing charges) specified for year 2008-09 in UPERC (Terms & Conditions of Generation Tariff) (1st Amendment) Regulations, 2007 (hereinafter called the Amendment Regulations). Therefore, this petition is a petition in consequence of the said review petition. The Commission has disposed off the review petition vide its order dated 13th October 2008 and did not accept the prayer for review of norms, the relevant portion of order is reproduced:

"4. It may be recalled that the Commission proposed a draft amendment to UPERC (Terms & Conditions of Generation Tariff) Regulations 2004 and invited comments and, among others the present Petitioner also made submissions. After hearing the interested parties the Commission passed order dated 17.03.2008 and based on that order and draft amendment, UPERC (Terms & Conditions of Generation Tariff) (First Amendment) Regulations 2007 was made in exercise of power conferred under section 181 read with section 61 of EA 2003. The above first amendment was actually an extension of the principal Regulation up to 31.03.2009 and in no way a new Regulation although it provides certain remedies to the Generating Companies which were not available them earlier. The Petitioner has not been able to satisfy the Commission that the

provisions made are not implementable. Even if it is assumed that there could be some difficulty in giving effect to these provisions, the Petitioner would invoke Regulation 12 of UPERC (Terms & Conditions of Generation Tariff) Regulations 2004 which reads that, "if any difficulty arises in giving effect to these regulations, the Commission may, of its own motion or otherwise by an order and after giving a reasonable opportunity to those likely to be effected by such order, make such provision, not inconsistent with these regulations, as may appear necessary for removing the difficulty." Therefore, in absence of difficulty expressed in such way, we are constrained to provide any relief to the Petitioner.

The Petitioner had earlier sought review of operation norms specified in the Regulations on similar grounds in tariff Petitions No.264/2005 (revised), 365/2006 and 435/2007 disposed of by the Commission by order dated 26.3.2007. In these petitions, the Commission did not accept the prayer of revision of norms and determined tariff based on norms specified in the Regulations in view of the order dated 29.12.2006 passed in Petition No.426/06 filed by the same Petitioner seeking for relaxation in the norms of operation.

Prayer of the Petitioner in Petition No.426/06 for relaxation in the norms of operation was turned down by the Commission observing , "... A perusal of data of actual performance submitted in this petition suggests that the performance of the plants has been allowed a free fall in respect to one or more than one operating parameters in the preceding years. If the prayer is allowed, it would amount to rewarding the inefficiency and uneconomical use of National resources. The realization of bills is essential for ensuring smooth conduct of business. This is the duty of the petitioner to realize bills instead of agreeing with the UPPCL to waive surcharge on bills and delete the provisions of rebate and surcharge from the power purchase agreements, the contention which was not accepted by the Commission in Petition No. 338/2006 vide order dated 24.05.2006. The non payment of dues by the beneficiaries might be brought before the Commission under Regulation - 25 but the petitioner has never agitated this issue until it filed tariff petitions for year 2005-06 and 2006-07. In view of above, we find that the petitioner had been extremely complacent in conduct of its business on commercial principles and has even failed to address to the basic issues which came its way in discharge of duties and functions. Such failures, if continued, may attract the provisions of U/S 142 of the Act-2003."

Further this Petitioner had also sought relaxation in target availability, PLF, SHR, specific oil consumption and auxiliary consumption in the matter of "Suo-Moto Order dated 6th March 2009 in Petition No. 553/08

proceedings on amendments in Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulation, 2004" and the Commission vide order dated 17.03.2008 had turned down the prayer.

*5. It may be observed from the averments made in the petition that the petitioner has admitted that the performance of the plant had deteriorated due to failure of regular maintenance for want of adequate funds resulting into increased outages of the units. The Commission desired to know, in the hearing, the receivables UPPCL owed to the petitioner but the representative of the petitioner present could not inform the same. The Commission has power to remove difficulties if any difficulty arises in giving effect to the Regulations and make such provisions that are not inconsistent with the Regulations. The paucity of funds, irregular maintenance, deferment of planned maintenance of units, high consumption of coal and oil due to increased frequent stoppage of units and absence of renovation and modernization of the plants can not be termed as the difficulties which arose in giving effect to the Regulations. These are the basic functions of the petitioner for which it has been created. **Therefore we are not inclined to provide any relief by way of relaxation of any of the operating parameters specified in the first amendment to the Regulations. However, the Commission is not averse to consider difficulty, if any, being experienced by the Petitioner in achieving the operational norms at the time of determination of tariff.***

So far as issue of higher O&M expenses due to large number of employees in the plants inherited by the Petitioner from UPSEB is concerned, the Commission shall look into the matter while determining the tariff 2008-09. Similarly the issue of PLR, water cess, finance charges, Bank charges and the Regulatory Fee shall also be examined and appropriate orders made in the tariff petition which has already been filed by this petitioner for FY 2008-09.

We have no information if the recommendations of 6th Pay Commission has been implemented by the Petitioner as such the prayer in this regard is premature for consideration."

Therefore, in view of the above order passed in Pet. no. 555/08, all the references of the Review Petition made in Pet. no. 553/08 have been deemed removed and the Tariff Petition for FY 2008-09 is considered

to have been filed in deviation to Regulations and the order dt. 26.3.07. Hence this petition shall be dealt in accordance with the provisions of Generation Regulation, 1st Amendment Regulations, Order dt. 26.3.07 & Order dt. 13.10.08.

1.4 Notices and submissions

- (a) The Commission served notice on the petitioner and the respondent for filing reply and rejoinder vide notice dt. 30.7.08. A notice for fixing hearing on 17th September 2008 was served on the parties to the petition on 1st Sept 08.
- (b) Uttar Pradesh Power Corporation Limited (UPPCL) submitted its comments on the tariff Petition filed by UPRVUNL vide its letter no. 1012/RAU/Tariff/UPRVUNL(08-09) dated 15.09.2008. The petitioner did not file rejoinder.
- (c) The Commission heard the parties on 17.9.2008 and passed interim order dt.20.10.08 directing petitioner to submit certain information.
- (d) The petitioner has further made the following submissions:
 - (i) Submission on details of O&M expense for calculation of base O&M and clarification on pollution cess, alongwith balance sheets from year 1999-2000 to 2005-06, following the hearing in the petition on 17.9.08, vide petitioner letter no. 545 dt.15.10.08. It may be mentioned that the copy of the balance sheet for year 2006-07 has been provided with the petition.
 - (ii) Reply to queries made in order dt. 20.10.08, vide letter no.608 dt.7.11.08.
 - (iii) Photocopies of Plantwise trial balances for 2007-08 in respect to all generating station of UPRVUNL alongwith photocopy of provisional

balance sheet for year 2007-08 on 19.12.08. vide letter no. 731
dt.19.12.08

1.5 The Petitioner has replied to the queries raised in the Order dated 20.10.2008 (Passed on the hearing held on 17th September 2008) and submitted subsequent information by 19.12.2008. Hence, we proceed for determination of the tariff.

Determination of tariff

2 Generating Assets of UPRVUNL

2.1 Existing Generating stations

Uttar Pradesh Rajya Vidyut Nigam Limited has eight generating stations viz. Anpara A, Anpara B, Obra A, Obra B, Panki, Harduaganj, Parichha and Parichha Extension. The petitioner states under note to table-1 of the petition that the units no. 2 & 4 of Harduaganj have been deleted w.e.f 27.6.08 while unit no.1 & 6 on 8.2.07. No information in respect to deletion or deration of units in Panki and Obra A has been provided.

UPPCL in its letter dt. 15.9.08 has stated that 155 MW in Harduaganj generating station has been decommissioned and derated capacity of the station is 220 MW as such the capacity charges should be reduced accordingly.

As per information gathered from transfer scheme vide notification no. 348/p-1/01-24 dt. 25.1.01; in respect to Obra A - unit no.1 stood deleted, unit no. 2,3,4,5 derated to 40 MW each and unit no. 6,7,8 remained derated to 94 MW each as on 14.1.00. As per discussion with CE(Comm.) of the Petitioner, it was informed that the unit no. 3,4,5 of this power station were deleted w.e.f.

16.9.08. In respect to Panki, unit no.1 & 2 of 32 MW each were transferred while unit no.3&4 existed derated to 105 MW each as on 14.1.00 as per transfer scheme. As per order dt. 26.3.07, unit no. 1&2 of Panki existed deleted (without specific date of deletion provided in the concerned petitions). Therefore, these units of Panki are considered to have been deleted w.e.f. 1.4.05. Regarding Harduaganj, as per the transfer scheme, unit no-2 stood deleted and Unit no.1 existed derated at 40 MW on 14.1.00.

In consideration of above information, the installed and derated or deleted capacities of these stations at various dates are as here under.

Table 2.1.1 – Power Stations of UPRVUNL

Power Station	Unit No.	COD	Installed capacity (MW)	Derated Capacity (MW)	Date of Deration or Deletion
Anpara A	1	1-Jan-87	210	210	
	2	1-Aug-87	210	210	
	3	1-Apr-89	210	210	
Cap. Since 14.1.00			630	630	
Anpara B	1	1-Mar-94	500	500	
	2	1-Oct-94	500	500	
Cap. Since 14.1.00			1000	1000	
Obra A	1	15-Aug-67	50	0	As on 14.1.00
	2	11-Mar-68	50	40	Derated on 14.1.00.
	3	13-Oct-68	50	40	
	4	16-Jul-69	50	40	Deleted on 16.9.08
	5	30-Jul-71	50	40	Derated on 14.1.00.
	6	4-Oct-73	100	94	
	7	14-Dec-74	100	94	
	8	1-Jan-76	100	94	
Cap. Since 14.1.00			550	442	
Cap. Since 16.9.08				322	
Obra B	9	15-Mar-80	200	200	
	10	6-Mar-79	200	200	
	11	14-Mar-78	200	200	
	12	29-May-81	200	200	

Power Station	Unit No.	COD	Installed capacity (MW)	Derated Capacity (MW)	Date of Deration or Deletion
	13	29-Jul-82	200	200	
Cap. Since 14.1.00			1000	1000	
Panki	1	1-Oct-67	32	0	Deleted on 1.4.05
	2	1-Jul-68	32	0	
	3	29-Jan-77	110	105	Derated on 14.1.00.
	4	29-May-77	110	105	
Cap. Since 14.1.00 Cap. Since 1.4.05			284	274 210	
Harduagunj	1	21-Apr-68	50	0	Deleted on 8.2.07
	2	23-Jan-69	50	0	Deleted on 14.1.00
	3	1-Mar-72	55	55	
	4	18-Sep-72	55	0	Deleted on 27.6.08
	5	14-May-77	60	60	
	6	26-Oct-77	60	0	Deleted on 8.2.07
	7	1-Aug-78	110	105	Derated on 14.1.00.
Cap. Since 14.1.00 Cap. Since 8.02.07 Cap. Since 27.6.08			440	375 275 220	
Parichha	1	31-Mar-84	110	110	
	2	25-Feb-85	110	110	
Cap. Since 14.1.00			220	220	
Parichha Extn.	1	24-Nov-06	210	210	
	2	1-Dec-07	210	210	
			420	420	
Total Installed Capacity As on 1.4.2008 As on 31.3.2009			4544		
			4197		
			4022		

2.2 New Projects

The Petitioner has claimed that the Petitioner will Commission the following new projects.

Parichha TPS Extension (2 X 250 MW) Stage - II

Proposed Project is under state sector. Expected date of commission for Unit I is July 2009 and Unit II is November 2010.

Harduaganj TPP Extension (2 X 250 MW)

Proposed Project is under state sector. Expected date of commission for Unit I is October 2009 and Unit II is February 2010.

Anpara D (2 X 500 MW)

Proposed Project is under state sector. Expected date of commission for Unit I is April 2011 and Unit II is July 2011.

Obra Extension (2 X 500 MW)

Proposal has been submitted to Cabinet for approval. Expected date of commission for Unit I is March 2012 and Unit II is July 2012.

Meja Thermal Power Station (2 X 660 MW)

Project is joint venture with NTPC. Project is likely to be commissioned in 12th plan.

3 Fixed Assets and Depreciation Including Advance Against Depreciation

The basis of tariff determination for FY 2008-09 shall be the principles and guidelines specified in Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations 2004 and 1st amendment thereof and said orders dt. 26.3.07 & Order dt. 13.10.08.

3.1 Gross Fixed Assets

In interim order dt.20.10.08, the Commission noted that GFA for 2008-09 is Rs.10304 Cr. while that as per regulations, it comes out to Rs.10245.96 Cr. and required the petitioner to explain the difference of Rs.58.04 Cr. The petitioner has stated in its reply, vide letter dt.7.11.08, that in order dt. 26.3.07 the closing balance of year 2007-08 was approved at Rs.8508.76 Cr. At that time the account of 2006-07 were not audited and now GFA based on audited accounts for 2006-07 and provisional accounts for 2007-08 has been computed. The petitioner has concluded that the difference in GFA estimates is because the Commission is taking GFA base from tariff order dt. 26.3.07 and the petitioner is taking actual GFA as per accounts as on 31.3.08.

The petitioner has submitted balance sheets as aforesaid and thereafter submitted Provisional Annual Audit Report for FY 2007-08, vide its letter no. 731/UNL/CE(Comm)/ARR 2008-09 dated 19th December 2008. The petitioner is claiming additional capitalisation for FY 2007-08 and FY 2008-09 as below:

Table 3.1.1 Additional Capitalisation claimed in Petition

Rs in Crores			
Thermal Power Station	Additional Capitalisation during FY 2007-08 (as per reply to queries made in order dated 20.10.08)	Additional capitalization as per trial balance sheet for FY 2007-08	Additional Capitalisation during FY 2008-09
Anpara A	21.88	11.91	128.03
Anpara B	13.15	13.15	22
Obra A	42.06	42.06	521.07
Obra B	0	0	567.1
Panki	11.66	0.09	0
Harduaganj	-0.72	-0.16	224.9
Parichha	-2.56	-2.56	224.9
Parichha Extn	873.69	873.70	49.2
HQ	-0.8	-0.80	0
Total	958.36	937.38	1737.2

The Additional Capitalisation for FY 2005-06 and FY 2006-07 has been verified with Annual Audited Reports for respective years. The Commission finds that the Additional Capitalisation claimed by the Petitioner for the FY 2007-08 in the Petition does not tally with the Provisional Annual Audited Report submitted by UPRVUNL as such, the Commission has considered Additional Capitalisation from plantwise-trial balances provided by the Petitioner which matches the value of Provisional Annual Audited Report for FY 2007-08.

The Commission decides to allow the capital additions for year 2006-07 and 2007-08 (on the basis of balance sheet) although the petitioner has not given the details of capital additions as directed in order dt. 26.3.07. The non-compliance of directions by the petitioner shall be dealt with separately. So far as additional capitalisation for year 2008-09 is concerned, the Commission can allow it only when the assets are

commissioned. The petitioner is directed to approach the Commission for additional capitalisation by a separate petition after assets are commissioned and expenditure certified by the statutory auditor.

As a consequence of reorganisation of erstwhile UPSEB, GoUP transferred the above mentioned generating stations to the petitioner on 14.1.00 at a single value of gross asset which was later apportioned by the petitioner to the capacity of each generating station transferred to it. Thereafter, as said before, three generating stations of the petitioner had undergone deletion of its unit (s) at different points of time. As such it has become necessary that the effect of such deletion of capacity should be captured in gross fixed assets of the petitioner. For this purpose, the Commission has taken proportionate cost Boiler, Turbine and Generator (submitted by the Petitioner in Form 12 of tariff petition) of these generating stations to account for the effect of deleted units. However, cost of auxiliaries, Balance of Plant (BoP) and other common facilities has not been considered because they still remain common to existing operational units. In the Previous years, these deletions have not been considered for determination of Gross Fixed Asset. Therefore, to account for the effect of deletion of Units in 2008-09, adjustment has been made by reduction in Gross Fixed Asset in previous year. The reduction in GFA due to deletion of units, at different points of time, as determined by the Commission is as follows:

Table 3.1.2 Reduction of GFA due to deletion of Units**Rs in Crores**

Thermal Power Station	Total MW after deletion, if any	MW Deleted	Total BTG Cost (Form 12)	Per MW BTG cost	Reduction of GFA due to deletion of Units
Anpara A	630	0	26.12	0.041	0.00
Anpara B	1000	0	32.2	0.032	0.00
Obra A					
As on 14.1.00	442	0	46.76	0.106	0.00
w.e.f. 16.9.08	322	120			12.70
Obra B	1000	0	60	0.060	0.00
Panki					
As on 14.1.00	274	0	29.77	0.109	0.00
w.e.f. 1.4.05	210	64			6.95
Harduaganj					
As on 14.1.00	375	0	21.56	0.057	0.00
w.e.f. 1.4.08	275	100			5.75
w.e.f. 27.6.08	220	55			3.16
Parichha	220	0	15.24	0.069	0.00
Parichha Extn	420	0	987.92	2.352	0.00

In consideration of above mentioned observations and decisions, The approved GFA as on date 31.03.2009 is as follows:

Table 3.1.3 GFA Approved by the Commission

Rs in Crores

Description	Anpara A	Anpara B	Obra A	Obra B	Panki	Hardua-ganj	Parichha	Parichha Extn	HQ	Total
GFA Balance as on 1.04.2005	780.08	4705.12	183.10	414.24	160.98	250.10	211.51	0.00	1.48	6706.61
Additional Capitalisation during FY 2005-06	10.80	4.20	0.18	0.41	0.13	20.76	11.80	0.00	0.00	48.28
Additional Capitalisation during FY 2006-07	5.99	0.02	0.07	0.05	11.14	3.44	2.13	831.57	0.58	854.99
Additional Capitalisation during FY 2007-08	11.91	13.15	42.06	0.00	0.09	-0.16	-2.56	873.70	-0.80	937.38
GFA Balance as on 31.3.2008	808.78	4722.49	225.41	414.7	172.34	274.14	222.88	1705.27	1.26	8547.26
Additional Capitalisation during FY 2008-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reduction of GFA due to deletion of Units	0.00	0.00	12.70 ^a	0.00	6.95	5.75 ^d 3.16 ^e	0.00	0.00	0.00	28.56
GFA Balance as on 31.3.2009	808.78	4722.49	225.41^b 212.72^c	414.7	165.38	268.39^f 265.23^g	222.88	1705.27	1.26	8518.70

Note: a - w.e.f. 16.9.08, b - from 1.4.08 to 15.9.08, c - from 16.9.08 to 31.3.09, d - w.e.f. 1.4.08, e - w.e.f. 27.6.08, f - 1.4.08 to 26.6.08, g - 27.6.08 to 31.3.09

In the tariff petition submitted by UPRVUNL, it is observed that despite the Commission has frozen the GFA values as on 31.03.2005, a discrepancy in the value of GFA for Obra A and Obra B Thermal Power plants has been observed. In the previous tariff order the value of GFA for Obra A and Obra B have been taken as Rs 183.10 Crores and Rs 414.24 Crores respectively but the petitioner in its tariff petition submitted the values of GFA for Obra A and Obra B as Rs 113 Crores and Rs 484 Crores respectively. Petitioner is hereby directed to submit clarification on affidavit with in fifteen days of issuance of this Tariff Order.

The Commission has allowed the Additional Capitalisation for FY 2007-08 based on Provisional Annual Audited Report and the Petitioner is directed to submit plant wise details of Additional Capitalisation for FY 2007-08 on affidavit supported by Audited Annual Report to the Commission.

True Up:

The Commission while approving the GFA for FY 2008-09, observed that the Petitioner had not submitted the Audited Annual Accounts earlier. However, it is understood that the preparation of Annual Audited Account is cumbersome process and will take some time. **Considering the above fact, the Commission decide to allow true up for Additional Capitalisation for FY 2008-09, provided that the petitioner submits the Annual Audited Accounts for the FY 2008-09 within two years. Further, the petitioner is directed to check the authenticity of Annual audited accounts by conducting due diligence before submission of the same to the Commission.**

The Commission will allow the Additional Capitalisation only after full satisfaction of data provided in Annual Audited report and all the related components such as equity, return on equity, Interest on loan etc will be treated accordingly.

The petitioner is directed to ensure to submit Annual Audited Accounts for a particular financial year within next two years for true up. Failure to submit data within the said period shall extinguish its right for true up.

3.2 Depreciation

The petitioner has claimed a depreciation of Rs. 341.51 Cr. for year 2008-09 based on computation made in Form 12 of the petition taking rates of depreciation as specified by the Commission in the Generation Regulation for different class of assets. The Petitioner has not provided any details for Cost of Land for Obra A and Parichha Extension Thermal Power Station. The computation has been made taking gross block as on 1.4.08 and capital additions projected for the year 2008-09 inclusive of the capital spares despite the direction of the Commission in previous Tariff Order dt.26.3.07 as reproduced below:

"It is also noted that the generating stations of the Petitioner have been commissioned for more than 25 years except for Anpara A, Anpara B, Paricha & Paricha Ext. power stations. The initial spares are consumed in first 5 years and their cost recovered through depreciation. Therefore, in case of plants, which have lived up their useful life up to 25 years, depreciation on capital spares cannot be allowed. In view of this, the Commission decides that for Obra A, Obra B, Panki & Harduaganj, where the vintage is more than 25 years, the weighted average rate of depreciation shall be arrived at without considering the cost of

capital spares. In case of Anpara A, Anpara B & Paricha , in which case the vintage has not exceeded 25 years, the cost of capital spares shall be considered for arriving at weighted average rate of depreciation. In consideration of foregoing, the Commission approves depreciation @ 3.54% (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) for all generating stations except for Anpara A, Anpara B, Paricha & Paricha Extn. In case of these stations depreciation at 3.56% shall be taken. The Commission will not allow truing up of depreciation in future as reasonable opportunity had already been provided to the Petitioner to put-up correct and reliable information and it has failed to provide the same within reasonable time."

The Commission directed the petitioner to explain the difference in the depreciation claimed and the depreciation derived at rate determined by the Commission in order dt.26.3.07, vide order dt.20.10.08. The petitioner in its reply, vide letter dt.7.11.08, has stated that depreciation has been computed by applying the prescribed rate of depreciation on opening balance of GFA and additional capitalisation during FY-08-09 has been assumed at mid of the year while the Commission in its tariff order dt. 26.3.07 has computed depreciation by applying average rate of depreciation as break up of assets under different asset classes for each of the generating station was not available. The difference in depreciation has been attributed to the same.

The Commission, while determining GFA, has taken the gross block as approved on 1.4.05 and allowed additional capitalisation in 2005-06, 2006-07 & 2007-08. The additional capital expenditure incurred in year 2008-09 shall be allowed after commissioning of assets. The Petitioner shall file petition for allowing additional capitalisation.

Since, the Commission has allowed capital expenditure to be capitalised in 2005-06 , 2006-07 & 2007-08, the years for which the tariff has already been determined in tariff order dt. 26.3.07, the

Commission shall continue to consider the rate of depreciation decided in that order. Accordingly, depreciation rate for Obra A, Obra B, Harduaganj and Panki generating stations shall be taken as 3.54% and in case of Anapara A, Anapara B, Parichha and Parichha Extension, it shall be 3.56% for 2008-09. However, the effect of adjustment for deletion of units in the previous years shall be considered for calculation of depreciation. For year 2008-09, depreciation shall be calculated as decided in order dt. 26.3.07. In case of additional capital expenditure during 2008-09, depreciation shall be calculated in Form 12 of the Generation Regulation.

In view of above decision, the following table summarises the depreciation approved by the Commission for the financial year 2008-09.

Table 3.2.1 Approved Depreciation

Rs in Crores					
Thermal Power Station	GFA as on 1.04.2008	Additional Capitalisation during FY 2008-09	Adjustment for deletion of Units)	GFA as on 1.04.2009	Depreciation during FY 2008-09 (Approved)
Anapara A	808.90	0.00	0.00	808.90	28.80
Anapara B	4723.19	0.00	0.00	4723.19	168.15
Obra A	225.44	0.00			7.86
From 1.4.08 to 15.9.08 (168 days)			0.00	225.44	
From 16.9.08 to 31.3.09 (197 days)			-12.70	212.75	
Obra B	414.76	0.00	0.00	414.76	14.68
Panki	172.36	0.00	-6.95	165.41	5.98
Harduaganj	274.18	0.00			9.56
From 1.4.08 to 26.6.08 (87 days)			-5.75	268.43	
From 27.6.08 to 31.3.09 (278 days)			-3.16	265.27	

Thermal Power Station	GFA as on 1.04.2008	Additional Capitailsati on during FY 2008-09	Adjustmen t for deletion of Units)	GFA as on 1.04.2009	Depreciation during FY 2008-09 (Approved)
Parichha	222.91	0.00	0.00	222.91	7.94
Parichha Extn	1705.52	0.00	0.00	1705.52	60.72
Total	8547.26	0.00	-28.56	8518.70	303.68

3.3 Advance Against Depreciation

The tariff regulation specifies that advance against depreciation (AAD) to be computed as:

AAD = Loan repayment amount as per regulation 21(i) subject to a ceiling of 1/10th of the loan amount as per regulation 20 minus depreciation as per schedule.

Provided that AAD shall be permitted only if cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. Provided further that AAD in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

However, the Petitioner has not claimed any amount as AAD in its tariff applications for FY 2008-09. Hence the Commission considers zero AAD for Fiscal Year 2008-09.

4 Equity and Return on Equity

4.1 Equity

The petitioner in para 2.1.3 of the petition states that the Commission in tariff order dt.26.3.07 had approved equity base at Rs.2132.92 Crores for year 2004-05. The equity base for 2005-06 is stated Rs.2494.81 Cr. The Petitioner further

states that it has received Rs 429 Crores as equity for FY 2006-07, Rs. 1,033 Crores as equity in FY 2007-08 and the budgeted equity for FY 2008-09 is Rs 2,000 Crores. Out of which Rs. 217.90 Crores in FY 2006-07, Rs. 827 crores in FY 2007-08 and Rs. 1,659.80 is towards projects under construction and the rest is towards equity on projects which have already been commissioned. The petitioner calculates the equity for year 2008-09 at Rs. 2917.76 Cr.

The Petitioner has listed equity received from Government of Uttar Pradesh toward existing plant as below for FY 2006-07, FY 2007-08 and FY 2008-09.

Particulars	GO Details/ Head of Account	Amount (Rs Cr)
EQUITY FOR 2006-07		
GoUP Equity for Anpara A	1060/24-1/2026-4040/P-1/04 DATED 03-04-2006	6.43
GoUP Equity for Anpara A	197/24-1/2006 4040/P/1-04 DATED 22-02-2006	4.00
GoUP Equity for Obra A	1056/06/01 2006-24-5 LOAN 93/TC-11 DATED 18-05-2006	19.22
GoUP Equity for Obra A	329/24-1-07-1057/P-1-06	10.00
GoUP Equity for Obra B	1058/24-1-2006 DATED 07-04-2006	80.00
GoUP Equity for Obra B	3513/24-1/2005-5 LOAN/93-TC DATED 24-02-2006	15.00
GoUP Equity for Parichha Extn	1061/1-2006-24-12(UN)/2001 TC DATED 03-04-2006	66.45
GoUP Equity for CREP Works	119/24-P-1/2006	10.00
	TOTAL	211.10
EQUITY FOR 2007-08		
GoUP Equity for Obra B	1110/24-1/07-1058/P-1/06 DATED 09-05-07	40.00
GoUP Equity for Obra B	2396/24-1/07-1058/P/06 DATED 24-08-07	55.00
GoUP Equity for Obra B	3892/24-1/07-1058/P-1/06 DATED 28-12-07	55.00
GoUP Equity for Harduaganj	2399/24-1-2007-07 DATED 17-09-2007	16.00
GoUP Equity for CREP Works	3609/24-1/07-119/P-1/06 DATED 28-12-2007	7.50
GoUP Equity for CREP Works	16/24-1/08-119/P-1/2006 DATED 29-12-2007	13.50
GoUP Equity for CREP Works	946/24-1/2008-119/P-1/06 DATED 25-03-2008	19.00
	TOTAL	206.00
EQUITY FOR 2008-09		
GoUP Equity for Anpara A	4801-02-190-05-30	23.00
GoUP Equity for Anpara B	4801-02-190-14-07-30	22.00
GoUP Equity for Obra A	4801-02-190-14-05-30	60.00
GoUP Equity for Obra B	4801-02-190-06-30	72.00
GoUP Equity for Harduaganj	4801-02-190-14-06-30	60.00
GoUP Equity for Parichha	4801-02-190-14-04-30	60.00
GoUP Equity for CREP Works	4801-02-190-04-30	43.20
	TOTAL	340.20

The Commission in interim order dt.20.10.08 required the petitioner to clarify the high equity claimed by it. The petitioner in its reply vide letter dt. 7.11.08, has submitted that equity base has been arrived at as per the financial statements and the equity received from GoUP. The petitioner considers opening equity for year 2005-06 as to Rs. 2132.92 Cr. with additions of Rs. 361.89 Cr. during 05-06, Rs.211.10 Cr. during 06-07, Rs.206.00 Cr. during 07-08 and Rs.340.20 Cr. during 08-09 less Rs.334.35 Cr. equity for liquidation of dues to arrive at the equity for year 08-09 as Rs.2917.76 Cr.

The Commission in its order dt. 26.3.07 has extensively dealt with the amount of equity under Reg.20 of the Generation Regulations and accordingly determined the equity upto 31.3.05 as Rs.1798.54 Cr. Since the Commission has allowed additional capital expenditure incurred in year 05-06, 06-07 & 07-08 and accordingly determined the GFA of the petitioner in this petition as such the principle of determination of equity expounded (not being repeated for sake of brevity) in the Generation Regulation and order dt.26.3.07 shall be applied in this petition also. Further, no equity addition during year 08-09 is being considered as the capital additions during this year has not been allowed in GFA of the petitioner.

In Consideration of above, the equity in plant of Petitioner as on 31.3.2008 is derived by Commission as below:

Table 4.1.1 Equity as on 31.3.2008

Thermal Power Station	Rs. in Crores				
	Equity as on 31.3.2005	Equity Addition in FY 2005-06	Equity Addition in FY 2006-07	Equity Addition in FY 2007-08	Equity as on 31.3.2008
Anpara A	220.71	3.24	1.80	3.57	229.32
Anpara B	1268.59	1.26	0.01	3.95	1273.80
Obra A	30.16	0.05	0.02	12.62	42.85
Obra B	114.16	0.12	0.02	0.00	114.30
Panki	40.1	0.04	3.34	0.03	43.51
Harduaganj	71.78	6.23	1.03	0.00	79.04
Parichha	53.04	3.54	0.64	0.00	57.22
Parichha Extn	0	0.00	166.31	174.74	341.05
Total	1798.54	14.48	173.17	194.90	2181.09

4.2 Return on Equity

Regulation 21 (iii) of Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations 2004 specifies that the Return on Equity (RoE) employed for a thermal power station shall be considered at 14%. The equity for 08-09 shall be computed based on equity as on 31.3.08 arrived at in the foregoing para and considering equity additions during 08-09 as nil for reasons cited earlier.

GFA has been given negative adjustment while calculating depreciation in respect of Obra A, Harduaganj and Panki TPS to account for the deletion of units but no equity deletion is being considered because equity, attributable to balance of the plant, remains employed in the generating stations and also for the fact that loan is also outstanding on the petitioner's generation stations.

Based on above decisions, the following table summarises the Equity and corresponding Return on Equity approved by the Commission for FY 2008-09.

Table 4.2.1 Return on Equity approved by the Commission

Rs. in Crores						
Thermal Power Station	Capital Cost as on 31.3.2009	Equity as on 31.3.2008	Equity Addition in FY 2008-09	Equity upto 31.3.2009	Equity as % of Capital Cost as on 31.03.2009	Return on Equity @14%
Anpara A	808.90	229.32	0	229.32	28.35%	32.10
Anpara B	4723.19	1273.80	0	1273.80	26.97%	178.33
Obra A	212.75	42.85	0	42.85	20.14%	6.00
Obra B	414.46	114.30	0	114.30	27.56%	16.00
Panki	165.65	43.51	0	43.51	26.30%	6.09
Harduaganj	265.27	79.04	0	79.04	29.80%	11.07
Parichha	222.91	57.22	0	57.22	25.67%	8.01
Parichha Extn	1705.52	341.05	0	341.05	20.00%	47.75
Total	8525.77	2181.09	0	2181.09	25.60%	305.35

5 Loans and Interest on Long-Term Loans

5.1 Gross Loans taken and Outstanding

The Petitioner has submitted the details of actual loan taken in Form 8 and outstanding loan at the beginning of the FY 2008-09 in Form 13 & 13-A. The Commission has observed that submissions made in these forms are at variance.

The following table summarises the submission made by Petitioner for Gross Loan taken as per Form 8 of the Petition application.

Table 5.1.1 Gross Long Term Loan taken as on 31st March 2008

Rs in Crores

Source of Loan	According to application for FY 2008-09
Public Bonds	216.36
IDBI	0.00
PFC	500.01
CEA	0.00
LIC	0.00
GoUP	219.09
HUDCO	40.00
Total	975.46

Petitioner also submitted that PFC Loan is project specific and these loans have been added to the corporate loans and allocated to the generating stations to arrive at the total loans and same has been shown in Form 13 & 13A of Petition, as a summarised below.

**Table 5.1.2 Loan outstanding as on 1st April 2008
(Claimed in Petition in Form 13 & 13-A)**

Rs in Crores

Thermal Power Station	Outstanding as on 1.4.2008 (Form 13)	Outstanding as on 1.4.2008 (Form 13-A)	Weighted avg. rate of interest for 08-09 (Form 13 & 13-A)
Anpara A	130.89	122.64	13.06
Anpara B	688.16	688.16	13.24
Obra A	109.83	95.20	2.41
Obra B	246.67	207.27	1.48
Panki	33.66	32.98	13.01
Harduaganj	70.46	70.46	6.27
Parichha	45.29	43.39	4.90
Parichha Extn	1404.00	1154.04	12.66
Total	2728.06	2414.14	

Although the petitioner has calculated weighted avg. rate of interest and interest of loan in Form 13 & 13-A but nowhere in Forms 13, the rates of interest on loans have been mentioned in respect to any of the loan mentioned under Form 8 therefore, in absence of the said information, the weighted rate of interest arrived in Form 13&13A can not be relied upon for calculation of interest on loan. The Commission in order dt. 20.10.08 observed that the rate of interest on loan taken in this petition was at variance to that considered in order dt. 26.3.07 and required the petitioner to explain the reason because that rate had been frozen by the Commission for all future considerations. The petitioner in its reply, vide letter dt.7.11.08, has stated that interest rate cycle is linked with inflation and the Generating Regulation provides that interest on loan would be provided on actuals and for the purpose of tariff determination for year 2008-09, the interest rate has been taken as PLR of SBI as benchmark rate and loan balances are as per audited financial statements and provisional financial statements for 2006-07 and 2007-08 respectively. It further states that the loans of the licensee are on floating rate of interest however LIC loan is at fixed interest rate of 11.89%. **Generation Regulations provides for taking actual contracted interest rate but not for benchmarking of interest rates based on PLR as done by the Petitioner. The above submission has added dimensions and philosophy to work out the rate of interest which is not acceptable to the Commission.**

It is further observed that the value of the Interest cost claimed by the Petitioner in the Para 2.1.1 of the Tariff Petition is not in conformity with the figures indicated in the Form 13-A of the Petition. The Petitioner has claimed total Rs 308.74 Crores of Interest Cost in the Tariff Petition while the Interest cost

derived from the value indicated in Form 13-A of Tariff Petition is Rs 274.92 Crores. The interest costs as per para 2.1.1 and Forms 13A are as below:

Table 5.1.3 Plantwise Interest Cost (Para 2.1.1)

Rs in Crores	
Thermal Power Station	Interest Payable during FY 2008-09
Anpara A	21.12
Anpara B	84.55
Obra A	5.44
Obra B	9.21
Panki	4.09
Harduaganj	8.53
Parichha	5.50
Parichha Extn	170.31
Total	308.74

Table 5.1.4 Plant wise Interest Cost (Form 13-A)

Rs. in Crores					
Thermal Power Station	Outstanding as on 1.4.2008	Additional Loan taken during FY 2008-09	Loan Repaid during FY 2008-09	Outstanding as on 31.3.2009	Interest Payable during FY 2008-09
Anpara A	122.64	79.05	17.24	184.45	20.05
Anpara B	688.16	0	99.29	588.87	84.54
Obra A	95.20	242.31	10.76	326.75	5.08
Obra B	207.27	760	17.18	950.09	8.62
Panki	32.98	0	4.53	28.45	4.00
Harduaganj	70.46	140	9.15	201.31	8.52
Parichha	43.39	140	6.18	177.21	5.40
Parichha Extn	1154.04	0	117.00	1037.04	138.70
Total	2414.14	1361.36	281.33	3494.17	274.92

It may be noted , from the above table, that additional loan due to capital addition during 08-09 is Rs.1361.36 Cr. while capital additions during 08-09 have been projected at Rs.1737.2 Cr. Similarly, loans as per forms 13A for year

2005-06 is Rs 444.40 Crores against capital additions of Rs. 48.28 Cr which is incoherent.

In light of aforementioned inconsistencies, the Commission is unable to accept the submission of the petitioner made in respect to interest cost and would like to revisit the order dt.26.3.07.

The findings and decision of the Commission in respect to gross loan, outstanding, interest and interest on loan is contained under para 5.1 of order dt.26.3.07, the relevant portion is reproduced as below:

*" In spite of repeated reminders and number of opportunities provided to the Petitioner, it failed to submit the details pertaining to its loans and interest. There were too many contradictions and discrepancies. Under such circumstances it was impossible for the Commission to determine the amount of loan outstanding and interest payable on the basis of data submitted by the Petitioner in petitions of FY 2005-06 through FY 2007-08. This points out the lackadaisical and callous approach of the Petitioner in its submissions to the Commission. **The Petitioner has further provided loan amount, repayment, drawal, and calculation of interest on loan in Annexure-2 of letter no.356/UPRVUNL/SE (Comm)/tariff petition dt.15.2.07 after due reconciliation of data submitted earlier in these petitions. As this was the final submission after due diligence and reasonable care taken by the Petitioner, the Commission accepts the same.***

Since the Petitioner has not provided the details of repayment and drawal of each of the loan and other source-wise details, the Commission has, for the purposes of this tariff order, assumed that repayment shall 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 has been accepted.

*In its submission made through letter no.384/UPRVUNL/CE(Com)/tariff dated 5th March 2007, the Petitioner has further provided fresh computation of loans, repayments and interest. In this submission the Petitioner has indicated that average rate of interest on loans, which ranges from 0.9% to 84% pa. This, in the opinion of the Commission is absurd and arbitrary. **The Commission has earlier approved an interest rate of 12.5% on long-term loans vide tariff order dt. 22.10.02 passed in the matter of ARR and Tariff petition of UPPCL for 2002-03 and the same was accepted by all interested Order dated 6th March 2009 in Petition No. 553/08***

parties. As the Petitioner has failed to provide correct information regarding the interest rate applicable to its loans, the Commission considers the interest rate at 12.5% proper for the computation of interest on loan. For Paricha Extn. actual interest rates shall be taken for calculation of interest For all future considerations, this rate shall be considered."

Based on above decisions, the Commission determined the outstanding loan as on 31.3.08 as Rs. 2571.61 vide table 5.1.7 of order dt. 26.3.07 and interest calculated at rate 12.5% on all generating stations except for Parichha Ext. where actual interest on loan has been considered. It may be seen in the said order that above rates shall be considered for all future consideration. It may be noted from Para 5.1 of Order dt. 26.3.07 that all year-wise additions in loans had duly been taken into account before arriving at figure of outstanding loans of Rs. 2571.61 Cr. as on 31.3.08 as such additions in loans are not being duplicated due to capital additions considered in GFA. Eventually, loan outstanding as on 1.4.08, as per Form-13A, is less than that calculated in Order dt. 26.3.07. **Therefore, the Commission decides, in light of above, to take the outstanding loan as on 31.3.08 as determined in order dt.26.3.07 as opening balance on 1.4.08 for determination of interest cost at rates finalised in order dt. 26.3.07. It may be clarified that the principle of calculation of normative loan has not been applied by the Commission because no additional capitalisation for year 2008-09 has been considered in this petition however it will be applied while considering additional capitalisation for the same year.**

Following table summarises approved Loan and Interest on loan for FY 2008-09:

Table 5.1.5 Approved Loan and Interest for FY 2008-09**Rs in Crores**

Thermal Power Station	Outstanding as on 1.4.2008	Additional Loan taken during FY 2008-09	Loan Repaid during FY 2008-09	Outstanding as on 31.3.2009	Interest Payable during FY 2008-09
Anpara A	113.88	0	28.80	85.08	12.44
Anpara B	513.42	0	168.15	345.27	53.67
Obra A	68.82	0	7.86	60.96	8.11
Obra B	437.50	0	14.68	422.82	53.77
Panki	45.42	0	5.98	39.44	5.30
Harduaganj	33.37	0	9.56	23.81	3.57
Parichha	42.95	0	7.94	35.01	4.87
Parichha Extn	1316.25	0	60.72	1255.53	114.19
Total	2571.61	0	303.68	2267.93	255.92

For any additional loan taken during 08-09 for additional capital expenditure; interest rate & repayment shall be considered at actual for each generating station. Weighted average rate of interest shall be calculated on the basis of such interest rates and the 'rates of interest' taken for calculation of interest cost in this order. The petitioner must ensure to supply relevant information in respect of loans when it approaches the commission for additional capitalisation or determination of tariff for 2009-10 on wards.

6 Operation and Maintenance Expenses

6.1 Norms of O&M Expenses

In the UPERC (Terms and Conditions of Generation Tariff) Regulations, 2004 and its Amendment dated 19th March, 2008, the Commission has specified the ceiling norms of O&M expenses for FY 2008-09 for all the thermal power stations. In the

present petition, it is found that the Petitioner chose to make its own considerations while applying for O&M expenses for its thermal power stations.

In the hearing held on 17.9.08, Petitioner requested Commission to allow escalation rate of 10% on O&M norms fixed by Commission for the FY 2008-09 in view of increase in Wholesale Price Index instead of 5% escalation rate fixed by Commission in Amended Regulations issued on 19th March 2008.

To this Commission issued order dated 13.10.2008. The relevant portion of the order dt.13.10.08 states, **“So far as issue of higher O&M expenses due to large number of employees in the plants inherited by the Petitioner from UPSEB is concerned, the Commission shall look into the matter while determining the tariff 2008-09.”**

Vide Para 2.1.4 of this Petition, the petitioner is seeking O & M for the year 2008-09 by escalating the O & M norms of financial year 2007-08 @ 10 % for Anpara A, Anpara B, Obra B and Parichha Extension. O & M for Obra A at Rs. 15.73 Lac/MW, Panki at Rs. 30.11 Lac/MW , Harduaganj at Rs. 22.32 Lac /MW and Parichha at Rs. 25.11 Lac/MW are being claimed . The overall O & M claimed is Rs. 15.11 Lac / MW as a whole.

O&M expenses claimed by the Petitioner for the FY 2007-08 and FY 2008-09 in Form 18 are as below.

Table 6.1.1 O&M Expenses claimed in Petition (Form 18)

Thermal Power Station	Rs. in Crores	
	O&M expense (provisional) FY 2007-08	O&M expense (projected) FY 2008-09
Anpara A	82.6	81.08
Anpara B	102.07	115.72
Obra A	86.63	69.51
Obra B	113.16	138.05
Panki	81.89	63.23
Harduaganj	86.03	49.10

Thermal Power Station	O&M expense (provisional) FY 2007-08	O&M expense (projected) FY 2008-09
Parichha	78.48	55.24
Parichha Extn	21.89	54.05
Total	652.75	625.98

The Petitioner has submitted history of O & M expences to substantiate its claim of O & M and the escalation index vide letter No. 484 dated 15.09.2008. The Petitioner has further submitted balance sheets in support of its claim for O&M and pollution cess vide their letter dated 15.10.2008. The provisional audited accounts for 2007-08 have also been submitted in its letter dated 19.12.2008.

UPPCL has submitted in reply, vide letter dated 15.09.2008, that O&M expenses as well as rate of escalation specified by the Commission in notification dated 19.03.2008 should be allowed to the Petitioner.

The Petitioner assigns "inadequate funds" as the basic cause for its inability to operate its TPS in line with the bench mark values mentioned in the Generation Regulation and its amendment. As per balance sheets, receivables from UPPCL from FY 2003 to FY 2008 indicate that the arrears have swollen about three times from Rs. 1242.90 Crores in FY 2003 to Rs. 3414.47 Crores at the ending of FY 2008. The Commission feels that the technical performance of UPRVUNL should not suffer due to non payment of dues by UPPCL/ Discoms.

The prudence of Petitioner claimed is to be examined by comparison, first by escalating the norms of O&M @ 10% and second by computing O&M expenses on the basis of average of the audited figures of last five years provided in form 18, escalated @ 4% for two years and escalation rate of 5% for FY 2008-09 excluding the unduly inflated figures (spikes) in case of all TPS except Anpara-A, Anpara-B, Parichha and Parichha Extension.

Based on above decision, the claim of the Petitioner in comparison to test result are shown in the following table:

Table 6.1.2 O&M Norms Comparisons

Thermal Power Station	O & M Norm (Rs in Lakh/MW)			
	As per Regulation (Escalation Rate 10%)	As per Petition	As per Analysis based on Data submitted in Form 18 (Removing Spikes)	As Approved by the Commission
Anpara A	12.87	12.87	13.99	12.87
Anpara B	11.57	11.57	8.51	11.57
Obra A	13.81	15.73	13.07	15.73
Obra B	13.81	13.81	14.82	13.81
Panki	13.61	30.11	31.69	30.11
Harduaganj	13.81	22.32	35.61	22.32
Parichha	13.61	25.11	25.74	25.11
Parichha Extn	12.87	12.87	5.47	12.87

It may be observed from the above table that the claim of O&M in the Petition mostly -lies in between the test figures. The Commission considers it appropriate to approve the same for the year 2008-09 for Anpara A, Obra B, Panki, Haduaganj & Parichha . In case of Anapara B, Obra A and Parichha extension, the vales of O&M claim is higher than the O&M figures arrived from analysis of Form 18. Therefore, in order to give enough latitude for proper maintenance the figures of O&M claimed in the Petition have been approved. In this way, the Commission has approved higher O&M for the generating stations of the petitioner, particularly in comparison to the O&M norms escalated by 10%, to felicitate proper maintenance in view of the shortfall of funds experienced by the Petitioner due to non-payment of dues by the

Respondents with the hope that these generating stations would thrive for efficiency in operation and good performance.

In light of the decision aforementioned, following table summarises the amount of O&M expenses approved by the Commission.

Table 6.1.3 O&M Expenses approved for FY 2008-09

Rs. in Crores

Thermal Power Station	Installed Capacity (MW)	Derated Capacity (MW)	O & M Norm (Rs in Lakh/MW)	O&M Expense as Considered by UPRVUNL	Approved O&M Expense
Anpara A	630	630	12.87	81.08	81.08
Anpara B	1000	1000	11.57	115.70	115.70
Obra A	550		15.73	69.53	59.34
From 1.4.08 to 15.9.08 (168 days)		442			<i>32.00</i>
From 16.9.08 to 31.3.09 (197 days)		322			<i>27.34</i>
Obra B	1000	1000	13.81	138.10	138.10
Panki	284	210	30.11	63.23	63.23
Harduaganj	440		22.32	49.10	53.03
From 1.4.08 to 26.6.08 (87 days)		275			<i>14.63</i>
From 27.6.08 to 31.3.09 (278 days)		220			<i>37.40</i>
Parichha	220	220	25.11	55.24	55.24
Parichha Extn	420	420	12.87	54.05	54.05
Total	4544			626.04	618.78

The O&M expenses approve as above for FY 2008-09 shall be used for computation of Interest on Working capital.

6.2 Additional O&M Expenses

The Commission has dealt with charges such as Finance & Bank Charges, water cess, payment to pollution board, Regulatory Fee and impact of sixth pay Commission as a additional O&M expenses .

UPPCL in letter dt.15.9.08 has stated that all taxes and duties paid in actual should be allowed in tariff.

6.2.1 Finance & Bank Charges

In the Petition, UPRVUNL admitted that the Finance charges, guarantee fees and bank charges are uncovered in regulation and these costs are incidental to raising of debt.

The Petitioner in its review petition has requested the Commission to allow finance and bank charges for determination of tariff. In this context the relevant portion of the Commission Order dated 13.10.2008 is reproduced as ***"Similarly the issue of PLR, water cess, finance charges, Bank charges and the Regulatory Fee shall also been examined and appropriate orders made in the tariff petition which has already been filed by this petitioner for FY 2008-09"***

The Petitioner has claimed Finance and Bank charges for FY 2008-09 as below.

**Table 6.2.1 Finance and Bank Charges for FY 2008-09
(Claimed in Petition)**

Rs in Crores	
Thermal Power Station	Finance/ Bank Charges for FY 2008-09 (Petition)
Anpara A	1.67
Anpara B	9.67
Obra A	0.32

Order dated 6th March 2009 in Petition No. 553/08

Thermal Power Station	Finance/ Bank Charges for FY 2008-09 (Petition)
Obra B	0.99
Panki	0.38
Harduaganj	0.56
Parichha	0.45
Parichha Extn	3.49
Total	17.53

It is observed by the Commission that UPRVUNL received the loans under transfer scheme by Government in year 2000. Since these loans are corporate loans, the finance and banking charges are paid by UPRVUNL. The Commission hereby allows the Finance and Banking charges as claimed by petitioner, however, Parichha Extension is not been considered for the purpose because its actual completion cost is available which includes Financial/Bank charges.

The Approved Finance & Bank Charges for FY 2008-09 is as below.

Table 6.2.2 Approved Finance and Bank Charges for FY 2008-09

Rs in Crores

Thermal Power Station	Finance/ Bank Charges for FY 2008-09
Anpara A	1.67
Anpara B	9.67
Obra A	0.32
Obra B	0.99
Panki	0.38
Harduaganj	0.56
Parichha	0.45
Parichha Extn	0.00
Total	14.04

The above amount shall be recovered as additional amount along with O & M expenses.

6.2.2 Water Cess, Payment to Pollution Board and Regulatory Fee

In the tariff Petition, UPRVUNL has sought recovery of 'duties, taxes payable to Government or local authorities (like Pollution Cess, rates and taxes including Fringe Benefit Tax, Forest Cess) and fees payable to UPERC as separate pass through in tariff as these are payments being statutory in nature and imposed by law, and covered under Generation Regulation.

The Petitioner has submitted the projection of such taxes and statutory payments as below.

Table 6.2.3 Statutory Payment & taxes projected by Petitioner

Thermal Power Station	Derated Capacity (MW)	Pollution Cess	Rates & Taxes	Rs. in Crores		Total
				FBT	UPERC	
Anpara A	630	4.87	0.03	0.15	0.04	5.09
Anpara B	1000	7.73	0.05	0.23	0.06	8.07
Obra A	442	3.41	0.02	0.10	0.03	3.56
Obra B	1000	7.73	0.05	0.23	0.06	8.07
Panki	210	1.62	0.01	0.05	0.01	1.69
Harduaganj	220	1.70	0.01	0.05	0.01	1.77
Parichha	220	1.70	0.01	0.05	0.01	1.77
Parichha Extn	420	3.24	0.02	0.10	0.03	3.39
Total	4142	32.00	0.20	0.96	0.25	33.41

The Commission allows recovery of Pollution Cess liabilities, rates and taxes and fees payable to the Commission on actual basis and same shall be recovered as additional O&M.

6.2.3 Impact of Sixth Pay Commission

The Petitioner has praying the Commission to permit additional expenditure in the establishment cost that might arise due to adoption of the recommendations of the Sixth Pay Commission for the financial year 2008-09. UPRVUNL also requested the Commission to revise the O&M norms for future years to accommodate the changed establishment cost base.

UPPCL has submitted in letter dt.15.9.08 that actual expenditure should be considered for computation of tariff

The Commission allows the impact of Sixth Pay Commission in addition to O&M expenses approved in this order, at actuals, whenever incurred.

NOTE: The amount recoverable under 6.2.1, 6.2.2 & 6.2.3 shall not accounted for the purpose of interest on working capital.

6.3 Total O&M Expenses

Total O&M Expenses comprising of O&M Expenses as approved by the Commission in para 6.1 and additional O&M expenses as described in para 6.2 ara as below:

Table 6.3.1 Total O&M Expenses

Rs in Crores

Thermal Power Station	O&M Expenses	Finance & Bank Charges	Statutory payments & Taxes	Total O&M charges
Anpara A	81.08	1.67	5.09	87.84
Anpara B	115.70	9.67	8.07	133.44
Obra A	59.34	0.32	3.56	63.22

Thermal Power Station	O&M Expenses	Finance & Bank Charges	Statutory payments & Taxes	Total O&M charges
Obra B	138.10	0.99	8.07	147.16
Panki	63.23	0.38	1.69	65.30
Harduaganj	52.03	0.56	1.77	54.36
Parichha	55.24	0.45	1.77	57.46
Parichha Extn	54.05	0.00	3.39	57.44
Total	618.78	14.04	33.41	666.23

7 Interest on Working Capital

7.1 Norms of Working Capital

The Commission has specified the methodology of computation of working capital in Regulation 21(v) of UPERC (Terms and Conditions of Generation Tariff) Regulations, 2004.

These regulations also specify that the rate of interest on working capital shall be on normative basis and shall be equal to short term PLR of State Bank of India as on 1st April 2005 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later.

The regulations also specify that interest on working capital shall be considered on normative basis irrespective of actual drawal of working capital loan by the generating company.

7.2 Computation of Working Capital and Interest on Working Capital

The Petitioner computed each of the elements forming part of working capital. However, the Commission could not reconcile those computations from the

Petitioner's submissions. Therefore, the Commission has computed the working capital requirement of the Petitioner FY 2008-09 according to the norms specified in regulation.

7.2.1 Rate of Interest on Working Capital

The petitioner has taken 12.75 % rate of interest for interest on working capital. In its submission vide letter dated 15.9.2008, the petitioner has informed that PLR of SBI as on 1.4.2008 was 12.25 % later revised to 12.75 % w.e.f 9.4.2008 and further revised upwards at later dates. It is prayed that rate of interest might be taken as 12.75 % in relaxation to norms specified in the regulations. The petitioner was directed in order dated 20.10.2008 to submit the proof of the PLR being 12.75 % w.e.f. 9.4.2008. In its reply dated 7.11.2008, the desired proof has been submitted which is a copy of the notice of SBI downloaded from its website.

In the Order dated 13.10.2008, the Commission opined that the issue of PLR will be examined and appropriate orders will be made in the tariff petition filed by petitioner for FY 2008-09.

The rate of interest changed from 9.4.2008 and moved onward as such it would be in the interest of the petitioner to consider this rate and as such **the Commission allows an Interest Rate of 12.75% for computation of Interest of Working Capital for FY 2008-09.**

7.2.2 Maintenance Spares

The provision in the Regulation 6(c) of Generation Regulation (First Amendment) issued on 19th March 2008 is reproduced as **"Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation"**.

The Commission observed in respect to maintenance spares order dated 26.3.2007, "According to regulations, computation of maintenance spares required data of capital cost as on COD. This data was not available. Hence, the Commission has considered the value of GFA as on 31st March 2005, and FY 2004-05 as the base year for computation. An escalation of 4% has been considered on 1% of GFA to determine the ceiling level of maintenance spares.

In line with the above decision, the Commission has considered the value of GFA as on 31st March 2005, and FY 2004-05 as the base year for computation and applied an escalation rate of 6% on 1% of GFA to determine the ceiling level of maintenance spares in this order.

The following table summaries Working Capital computed by the Commission and normative interest thereof for the FY 2008-09.

Table 7.2.1 Approved Interest on Working Capital for FY 2008-09**Rs in Crores**

Thermal Power Station	Working Capital (Petition)	Normative Working Capital (Approved)	Interest on Working Capital (Petition)	Interest on Working Capital (Approved)
Anpara A	142.01	137.48	18.11	17.53
Anpara B	310.77	308.64	39.62	39.35
Obra A	120.57	116.85	15.37	14.90
Obra B	264.23	302.86	33.69	38.61
Panki	88.44	88.02	11.28	11.22
Harduaganj	73.46	71.19	9.37	9.08
Parichha	82.83	89.27	10.56	11.38
Parichha Extn	222.67	210.99	28.39	26.90
Total	1304.98	1325.29	166.38	168.97

8 Tax on Income

The UPERC (Terms and Conditions of Generation Tariff) Regulations, 2004 specifies that tax on income of the generating company from its core business shall be an admissible expense to be considered as part of fixed cost. However, the mechanism of recovery shall be through a Tax Escrow Account to be maintained by the each beneficiary of the generating assets. This account has to be maintained in a scheduled bank and an amount equivalent to two month's liability, as informed by generating company prior to commencement of financial year, has to be maintained in such account. The generating company shall be liable to withdraw the amount for settling the tax liability according to the procedure specified in the regulations.

According to the regulations the tax on income is directly recoverable from the beneficiaries. Hence, it is not considered for the purpose of computation of tariff.

9 Availability of UPRVUNL Power Stations

UPRVUNL has submitted data of projected plant availability under in table 18 of Para 2.3 of the petition after having recognized, in Table 17, the normative target availability specified by the Commission in the Generation Regulation. The target availability for Obra A, B and Paricha TPS has been taken in Table 18 which are lower than specified by the Commission taking plea of the review petition. The Commission, in order dt.13.10.08 passed in review Pet.no.555/08, have rejected the plea for relaxation in norms holding, *"Therefore we are not inclined to provide any relief by way of relaxation of any of the operating parameters specified in the first amendment to the Regulations. However, the Commission is not averse to consider difficulty, if any, being experienced by the Petitioner in achieving the operational norms at the time of determination of tariff."*

Therefore, in view of above decision of the Commission, no relaxation in target availability is being considered in this petition.

9.1 Norms and Methodology of Computation of Availability

The UPERC (Terms and Conditions of Generation Tariff) Regulations, 2004, as amended from time to time, specifies target availability of all thermal power stations in the state of Uttar Pradesh for recovery of full capacity (fixed) cost. The regulations also specify that if availability achieved is less than the target availability as set out in the regulations, the generating station/unit shall be eligible for only pro-rata quantum of total fixed cost.

The methodology specified for computation of availability in Generation Regulation is as mentioned below:

'Availability' in relation to a thermal generating station for any period means the average of the daily average declared capacities (DCs) for all the days during that period expressed as a percentage of the installed capacity of the generating

station minus normative auxiliary consumption in MW, and shall be computed in accordance with the following formula:

$$\text{Availability (\%)} = \frac{10000 \times \sum_{i=1}^N \text{DC}_i}{\{ N \times \text{IC} \times (100 - \text{AUX}_n) \}} \%$$

where,

IC = Installed Capacity of the generating station in MW,

DC_i = Average declared capacity for the ith day of the period in MW,

N = Number of days during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation;

In case of non-availability of unit(s) due to Renovation & Modernization, the effective capacity left after discounting capacity of such unit(s) in R&M, shall be considered for the purpose of calculation of plant availability.

As discussed before, Obra A, Harduaganj & Panki TPS have undergone deletion or deration of capacity of its generating units, the effect of which has been considered for determination of capacity charges. Hence, for the purpose of availability, the capacity of the aforesaid generating stations shall be taken as determined by the Commission under Para 2.1 in Table 2.1.1 at relevant dates.

9.2 Projected Availability and Eligibility of Fixed Cost Recovery

The Petitioner has projected the plant availability based on Review Petition for FY 2008-09 as per para 2.3 of the Petition as below:

Table 9.2.1 Projected Availability

Thermal Power Station	Projected Availability in FY 2008-09 (Petition)
Anpara A	80%
Anpara B	80%
Obra A	60%
Obra B	65%
Panki	70%
Harduaganj	50%
Parichha	60%
Parichha Extn	80%

The Plant availability target for the FY 2008-09 for the thermal power station under UPRVUNL have been laid down in Regulation 4(a) of Generation Tariff Regulation (First Amendment), 2007 as below:

Table 9.2.2 Target Availability (%) by Commission

Thermal Power Station	Target Availability
Anpara A	80%
Anpara B	80%
Obra A	74%
Obra B	80%
Panki	70%
Harduaganj	50%
Parichha	70%
Parichha Extn	80%

The Commission observes that in case of Obra A, Obra B and Parichha Thermal Power Plants, projected availability is lower than the target set by Commission in its revised regulations which is not acceptable.

The Commission directs UPRVUNL to comply with the regulations and strive to achieve availability at the level specified in Regulations for recovery of full fixed cost. The Commission also expects that for the stations whose projected plant availability is higher than the target availability specified in the regulations will be maintained at that level in coming years.

In view of the above, the Commission approves availability of the power stations of UPRVUNL as below:

Table 9.2.3 Target Vs Projected Availability for FY 2008-09

Thermal Power Station	Projected Availability in FY 2008-09 (Petition)	Target Availability approved for FY 2008-09
Anpara A	80%	80%
Anpara B	80%	80%
Obra A	60%	74%
Obra B	65%	80%
Panki	70%	70%
Harduagunj	50%	50%
Parichha	60%	70%
Parichha Extn	80%	80%

10 Total Capacity Charge (Fixed Cost)

10.1 Approved Capacity Charges for FY 2008-09

The following table summarises the Capacity Charge (Fixed Cost) recoverable by the UPRVUNL as determined and approved by the Commission.

Table 10.1.1 Approved Capacity Charges for FY 2008-09

Rs. in Crores

Thermal Power Station	Interest on Loan	Depreciation including AAD	Return on Equity	O & M Expenses	Interest on Working Capital	Total Fixed Charges (Approved)	Total Fixed Charges (Proposed)
Anpara A	12.44	28.80	32.10	81.08	17.53	171.95	188.26
Anpara B	53.67	168.15	178.33	115.70	39.35	555.20	612.87
Obra A	8.11	7.86	6.00	59.34	14.83	96.14	133.44
Obra B	53.77	14.68	16.00	138.10	38.10	261.17	271.87
Panki	5.30	5.98	6.09	63.23	11.22	91.83	91.24
Harduaganj	3.57	9.56	11.07	52.03	9.04	85.27	102.07
Parichha	4.87	7.94	8.01	55.24	11.38	87.44	100.07
Parichha Extn	114.19	60.72	47.75	54.05	26.90	303.61	335.04
Total	255.92	303.68	305.35	618.78	168.97	1652.70	1834.87

Actual recovery of fixed charges shall be according to the actual availability achieved by the concerned power station. It is re-emphasised that availability shall be strictly computed according to the methodology specified in the tariff regulations.

10.2 Critical Review of Total Capacity Charges of UPRVUNL

There are significant differences between the costs claimed by the Petitioner and that approved by the Commission. The difference is observed due to high claims by the Petitioner on account of interest on loan, depreciation, O&M cost, Interest on Working Capital & Return on Equity. Petitioner has also claimed Bank & Finance Charges for computation of fixed cost which is not allowed by the Commission.

The following summary table will highlight the difference between fixed cost claimed by Petitioner and allowed by the Commission.

Table 10.2.1 Total Capacity Charges (Fixed Charges) of UPRVUNL

Rs. in Crores		
Thermal Power Station	UPRVUNL	UPERC
Anpara A	188.26	171.95
Anpara B	612.87	555.20
Obra A	133.44	96.21
Obra B	271.87	261.17
Panki	91.24	91.83
Harduaganj	102.07	85.31
Parichha	100.07	87.44
Parichha Extn	335.04	303.61
Total	1834.87	1652.70
Difference	182.17	

It is necessary to examine the reasons of huge gap between the claims of the Petitioner and the fixed costs determined by the Commission. The difference in each component of the fixed cost is dealt one by one as below:

Interest on Loan

The Petitioner has considered its outstanding Loan as on 1.4.2008 as Rs 2414.14 Crores while the Commission for the purpose of computation of Interest on Loan

has used outstanding loan as on 31.3.2008 as approved in the order dated 26.03.2007. Further, in absence of Audited Annual report for FY 2008-09, the Commission has not allowed any Loan addition in FY 2008-09 and has considered the loan repayments same as depreciation for the Year. Accordingly, Loan outstanding has been arrived as on 31.3.2009 as Rs. 2267.93 Crores while the Petitioner has claimed loan outstanding as on 31.3.2009 as 3494.17 Crores as per form 13-A of the petition.

The Petitioner has indicated that weighted average rate of interest on loans ranging from 1.49% to 13.24% PA without indicating the source-wise rate of interest. As allowed in its previous tariff order the Commission has considered the Interest rate of 12.5% for computation of Interest on Loan for all power stations except Parichha Extension. For Parichha Extension an interest rate of 8.88% has been considered by the Commission.

Also discrepancy has been observed in the value of Interest cost claimed by the Petitioner in the Para 2.1.1 of the Tariff Petition filed by UPRVUNL and the figures indicated in the Form 13-A of the Petition. The Petitioner has claimed Rs 308.74 Crores of Interest Cost in the Tariff Petition while the Interest cost derived from the value indicated in Form 13-A of Tariff Petition is Rs 274.92 Crores. For the purpose of comparison, the Commission is taking value of Interest on Loan as submitted by the Petitioner in Form 13-A.

All the above factors have resulted in the difference in the value of Interest of Loan claimed by the Petitioner and that allowed by the Commission.

The table below summarises the comparison of Interest on Loan claimed by the Petitioner and approved by the Commission for FY 2008-09.

Table 10.2.2 Interest on loan for FY 2008-09**Rs. in Crores**

Thermal Power Station	UPRVUNL	UPERC
Anpara A	20.05	12.44
Anpara B	84.54	53.67
Obra A	5.08	8.11
Obra B	8.62	53.77
Panki	4.00	5.30
Harduaganj	8.52	3.57
Parichha	5.40	4.87
Parichha Extn	138.70	114.19
Total	274.92	255.92
Difference	19.0	

Depreciation including AAD

The Petitioner has claimed depreciation on Capital Spares for the power stations which are more than 25 years old despite the directions laid out in Previous Tariff Order. Further, the Petitioner has not provided any details for Cost of Land for Obra A and Parichha Extension Thermal Power Station in Form 12 of the Tariff Petition. The Commission has consider the rate of depreciation decided in order dt 26.3.2007. Accordingly, depreciation rate of 3.54% has been taken for Obra A, Obra B, Harduaganj and Panki generating stations and in case of Anapara A, Anpara B, Parichha and Parichha Extension, a depreciation rate of 3.56% has been taken. Further, the effect of adjustment for deletion of units in the previous years has been considered for calculation of depreciation. The Commission has allowed the same depreciation rate as allowed for Power station in the previous Tariff Order while the Petitioner has claimed higher Depreciation rates. All these factors resulted in higher Depreciation claimed by Petitioner for FY 2008-09.

Further, in absence of Audited Annual Account, the Commission has also not considered the Additional Capitalisation for FY 2008-09 and depreciation thereof which has otherwise been included in the claim of the Petitioner.

The table below summarises the comparison of Depreciation against ADD claimed by the Petitioner and approved by the Commission for FY 2008-09.

Table 10.2.3 Depreciation including AAD for FY 2008-09

Rs. in Crores		
Thermal Power Station	UPRVUNL	UPERC
Anpara A	31.86	28.80
Anpara B	171.90	168.15
Obra A	14.93	7.86
Obra B	27.67	14.68
Panki	6.64	5.98
Harduaganj	14.13	9.56
Parichha	12.02	7.94
Parichha Extn	62.36	60.72
Total	341.51	303.68
Difference	37.83	

Return on Equity

In the matter of Return of Equity, Commission observed that the Petitioner has claimed equity addition without submitting any details for investment and commissioning thereof of such Asset and related Audited Account. Thus, considering the above factors, Commission did not allow any Equity addition for FY 2008-09. The Commission has computed the normative equity addition on the basis the Additional Capitalisation in respective year. Hence, considerable difference in the Return of equity claimed by the Petitioner and that allowed by the Commission has emerged.

The table below summarises the comparison of Return on Equity claimed by the Petitioner and approved by the Commission for FY 2008-09.

Table 10.2.4 Return on Equity for FY 2008-09

Rs. in Crores

Thermal Power Station	UPRVUNL	UPERC
Anpara A	35.49	32.10
Anpara B	191.44	178.33
Obra A	28.21	6.00
Obra B	62.80	16.00
Panki	5.72	6.09
Harduaganj	20.39	11.07
Parichha	16.39	8.01
Parichha Extn	48.05	47.75
Total	408.49	305.35
Difference	103.14	

O&M Expenses

On request of the Petitioner, the Commission has relaxed the norms of O&M as specified in the Generation Regulations. The Commission applied two types of prudence tests to examine the genuineness of the claim of O&M in the Petition. The first test was to escalate the O&M @ 10% to arrive at the figures of O&M for FY 2008-09. Second set of the figures of O&M were computed on the basis of average O&M audited figures of last five years, escalated @ 4% for two years and escalation rate of 5% for FY 2008-09 excluding unduly inflated figures (spikes) in case of all TPS except Anpara-A, Anpara-B, Parichha and Parichha Extension. The difference in the value of O&M cost claimed by the Petitioner and that approved by the Commission is due to lower O&M cost arrived for Obra A TPS taking into account the effect of deletion/ duration of capacity of the Plant. For Obra A, the Petitioner has determined O&M Expenses at installed capacity

i.e. 550 MW while the Commission has considered capacity of the plant after deletion/ deration of units.

The table below summarises the comparison of O&M expenses claimed by the Petitioner and approved by the Commission for FY 2008-09.

Table 10.2.5 O&M Expenses for FY 2008-09

Thermal Power Station	Rs. in Crores	
	UPRVUNL	UPERC
Anpara A	81.08	81.08
Anpara B	115.70	115.70
Obra A	69.53	59.34
Obra B	138.10	138.10
Panki	63.23	63.23
Harduaganj	49.10	52.03
Parichha	55.24	55.24
Parichha Extn	54.05	54.05
Total	626.04	618.78
Difference	7.26	

Interest on Working Capital

Interest on Working Capital is dependent on other components of fixed cost. The excessive claim made by the Petitioner on account of interest on loan, depreciation, O&M expenses & Return on Equity has resulted into increase in the requirement of working capital and Interest on Working Capital thereof. It was noted that the values corresponding to components of working capital were not in accordance with Generation Regulation. In case of Obra A & Obra B, the claim of the Petitioner varies from that computed by the Commission apparently because the Commission has derived the Working Capital considering both Obra A & Obra B Thermal Power Stations as Non-pit head Stations i.e. taking coal stock for 1.5 months instead of 1 month considered by the Petitioner.

The Commission has considered the cumulative effect of above factors which have resulted into higher value of the Working Capital and consequently higher Interest on Working Capital thereof.

The table below summarises the comparison of Interest on Working Capital claimed by the Petitioner and approved by the Commission for FY 2008-09.

Table 10.2.6 Interest on Working Capital for FY 2008-09

Thermal Power Station	Rs. in Crores	
	UPRVUNL	UPERC
Anpara A	18.11	17.53
Anpara B	39.62	39.35
Obra A	15.37	14.90
Obra B	33.69	38.61
Panki	11.28	11.22
Harduaganj	9.37	9.08
Parichha	10.56	11.38
Parichha Extn	28.39	26.90
Total	166.38	168.97
Difference	-2.59	

Comparison of approved Fixed Costs for previous years

The comparison in the fixed cost approved by the Commission for FY 2008-09 with that allowed in previous years i.e. from FY 2004-05 to FY 2007-08 is as below:

Table 10.2.7 Comparison of fixed cost allowed in previous Tariff Order
Rs. in Crores

Thermal Power Station	Capacity charges approved by the Commission				
	2004-05	2005-06	2006-07	2007-08	2008-09
Anpara A	131.20	160.80	162.41	163.68	171.95
Anpara B	574.39	590.16	574.25	557.29	555.20
Obra A	59.71	77.49	85.82	110.96	96.21
Obra B	200.29	174.78	177.36	184.66	261.17
Panki	42.03	48.96	50.33	52.45	91.83
Harduaganj	57.60	77.02	81.69	84.82	85.31
Parichha	55.05	51.36	52.68	53.18	87.44
Parichha Extn			45.41	280.85	303.61
Total	1120.27	1180.57	1229.95	1487.89	1652.70

The above comparison suggests that the total fixed charges allowed by the Commission have increased over the years.

11 Energy Charges

11.1 Plant Load Factor

The Petitioner has submitted the Plant Load Factors of its various stations for FY 2008-09 as shown in the following table.

Table 11.1.1 Plant Load Factor

Thermal Power Station	Plant Load Factor for FY 2008-09 (Petition)
Anpara A	80%
Anpara B	80%
Obra A	50%
Obra B	60%
Panki	65%
Harduaganj	40%
Parichha	50%
Parichha Extn	80%

The Petitioner has projected above PLFs based on operating parameters submitted by it in review petition which has already been turned down by the Commission vide order dated 13.10.2008. The projections indicate that UPRVUNL has failed in putting up any significant effort to improve generation at Obra A, Obra B and Parichha Thermal Power Plant.

UPPCL in its letter dt.15.9.08 has submitted that normative parameters such as target availability, target PLF, auxiliary consumption, station heat rate, specific fuel oil consumption should be as approved by the Commission for 08-09 in its notification dt.19.3.08.

The Generation Regulations defines Plant Load Factor as:

'Plant Load Factor' or 'PLF' for a given period, means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$\text{PLF(\%)} = 10000 \times \sum_{i=1}^N \text{SG}_i / \{ N \times \text{IC} \times (100 - \text{AUX}_n) \} \%$$

where,

IC = Installed Capacity of the generating station in MW,

SG_i = Scheduled Generation in MW for the ith time block of the period,

N = Number of time blocks during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation;

The Petitioner shall calculate PLF on the basis of the said formula.

In case of non-availability of unit(s) due to Renovation & Modernization, the effective capacity left after discounting capacity of such unit(s), shall be considered for the purpose of calculation of plant load factor.

As discussed before, Obra A, Harduaganj & Panki TPS have undergone deletion or deration of capacity of its generating units, the effect of which has been considered for determination of capacity charges. Hence, for the purpose of PLF, the capacity of the aforesaid generating stations shall be taken as determined by the Commission under Para 2.1 in Table 2.1 at relevant dates.

The PLF (%) specified in Regulation 4(d) of First Amendment to Generation Regulation for consideration of incentives is as below:

**Table 11.1.2 Plant Load Factor (%)
(As per regulation for incentive)**

Thermal Power Station	Plant Load Factor for FY 2008-09 (Regulation)
Anpara A	80%
Anpara B	80%
Obra A	65%
Obra B	75%
Panki	65%
Harduaganj	40%
Parichha	60%
Parichha Extn	80%

11.2 Approved Plant Load Factor

In view of order dt.13.10.08, already discussed at various places, the Commission does not consider relaxation in PLF and fixed target for 08-09 as follows:

Table 11.2.1 Approved Plant Load Factor

Thermal Power Station	Plant Load Factor for FY 2008-09 (Petition)	Plant Load Factor for FY 2008-09 (Approved)
Anpara A	80%	80%
Anpara B	80%	80%
Obra A	50%	65%
Obra B	60%	75%
Panki	65%	65%
Harduagunj	40%	40%
Parichha	50%	60%
Parichha Extn	80%	80%

The petitioner shall be eligible for incentives only if the achieved PLFs for the power station is higher than PLFs specified by the Commission above for FY 2008-09.

11.3 Gross Generation

The Gross Generations for Thermal Power Station for the FY 2008-09 at approved level of Plant Load Factor is as follows:

Table 11.3.1 Gross Generation (MU) for FY 2008-09

Thermal Power Station	Derated Capacity (MW)	Gross Generation (MU) (Approved)
Anpara A	630	4415
Anpara B	1000	7008
Obra A		
w.e.f. 1.4.2008 (168 days)	442	1158.39
w.e.f. 16.9.2008 (197 days)	322	989.57
Obra B	1000	6570
Panki	210	1196
Harduagunj		
w.e.f. 1.4.2008 (87 days)	275	229.68
w.e.f. 27.6.2008 (278 days)	220	587.14
Parichha	220	1156
Parichha Extn	420	2943

11.4 Auxiliary Consumption

The Petitioner has projected the auxiliary consumption of its power stations of its own choice, in Table 19 of Para 2.3 of the petition, as per review petition which has been rejected by the Commission vide order dated 13th October 2008. These projections are in variance from the norms approved by the Commission in Regulation 4(J) of the Generation Regulations (First Amendment), 2007.

The Petitioner is seeking 12% auxiliary consumption in Obra-A, Obra-B, Harduaganj, Panki and Parichha. The Auxiliary consumption of Anpara A, B (8.5% & 7.00% respectively) and Parichha Extn. (9%) are as per 1st Amendment to the Generation Regulation.

UPPCL in its letter dt.15.9.08 has submitted that normative parameters such as target availability, target PLF, auxiliary consumption, station heat rate, specific fuel oil consumption should be as approved by the Commission for 08-09 in its notification dt.19.3.08.

In order dt.13.10.08, the Commission also observed that it was not averse to consider difficulty, if any, being experienced by the petitioner in achieving the operational norms at the time of determination of tariff. The Commission is aware of consumption of increased quantity of input due to high energy loss in auxiliaries in comparison to that on bench mark values, but petitioner's failure to carry out timely maintenance, which has actually led to higher auxiliary consumptions in the plants, can also not be ignored. The petitioner attributes the failure of maintenance to non availability of adequate funds due to defaults in payment by the Respondents. In such situation, the Commission is of the view that impact of inefficiency in Obra-A, Obra-B, Harduaganj, Panki and Parichha should be shared by the Petitioner and the Respondents. Half of the increased auxilliary consumption,

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above the benchmarks, shall be borne by the Respondents for their failure in timely payment and the rest half shall be afforded by the petitioner for not being diligent in realising its revenue.

In view of the above decision, Auxiliary Consumption as approved by the Commission is given below:

Table 11.4.1 Auxiliary Consumption for FY 2008-09

Thermal Power Station	Auxiliary Consumption (%) (Petition)	Auxiliary Consumption (%) (Regulation)	Auxiliary Consumption (%) (Approved)	Auxiliary Consumption (MU) (Approved)
Anpara A	8.5	8.5	8.5%	375
Anpara B	7.0	7.0	7.0%	491
Obra A	12.0	10.0	11.0%	236
Obra B	12.0	9.0	10.5%	690
Panki	12.0	10.0	11.0%	132
Harduagunj	12.0	11.0	11.5%	94
Parichha	12.0	11.0	11.5%	133
Parichha Extn	9.0	9.0	9.0%	265

11.5 Ex – Bus Energy Sent Out

The ex-bus energy sent out has been computed after considering the auxiliary consumption approved by the Commission in the foregoing para as below:

Table 11.5.1 Ex-bus Energy Sent Out

Thermal Power Station	Ex Bus Energy Sent Out (MU) (Approved)
Anpara A	4040
Anpara B	6517
Obra A	1912
Obra B	5880
Panki	1064
Harduagunj	723
Parichha	1023
Parichha Extn	2678

11.6 Station Heat Rate

The Commission observed that the Petitioner has projected, in Table 19 of Para 2.3 of the petition, higher Station Heat Rate (SHR) for Obra A, B, Panki, Harduganj & Parichha TPS as per its review petition which has been rejected by the Commission vide order dated 13th October 2008. These projections are in and has variance from the norms approved by the Commission in Regulation 4(J) of the Generation Regulations (First Amendment), 2007.

UPPCL in its letter dt.15.9.08 has submitted that normative parameters such as target availability, target PLF, auxiliary consumption, station heat rate, specific fuel oil consumption should be as approved by the Commission for 08-09 in its notification dt.19.3.08.

In order dt.13.10.08, the Commission also observed that it was not averse to consider difficulty, if any, being experienced by the petitioner in achieving the operational norms at the time of determination of tariff.

The Commission is aware of increased quantity of fuel input due to higher Station Heat Rate with respect to the bench mark values mentioned in the Regulation. Therefore the Commission in order to compensate UPRVUNL for its losses, due to hard cost on enhanced quantity of fuel, thinks it proper to allow the Station Heat Rate for Obra-A, Obra-B, Harduganj and Panki as proposed by the Petitioner for FY 2008-09 instead of the values mentioned in the Regulations, 2004 and its amendment on the grounds of non-payment by the Respondents but without sharing so that the Petitioner does not suffer losses on fuel purchase.

In view of the above decision, Station Heat Rate as approved by the Commission is as below:

Table 11.6.1 Gross Station Heat Rate for FY 2008-09

Thermal Power Station	Station Heat Rate (Kcal/KWh) (Petition)	Station Heat Rate (Kcal/KWh) (Regulation)	Station Heat Rate (Kcal/KWh) (Approved)
Anpara A	2500	2500	2500
Anpara B	2450	2450	2450
Obra A	3000	2850	3000
Obra B	2900	2700	2900
Panki	3100	2950	3100
Harduaganj	3450	3300	3450
Parichha	3100	3100	3100
Parichha Extn	2500	2500	2500

In Previous tariff order, UPERC has laid down certain directions for UPRVUNL which has been reproduced below;

"The Petitioner is directed to monitor SHR on daily basis and do the needful to bring the same to the level as specified by the Commission. This will form the basis for arriving at monthly and yearly SHR. The Petitioner shall also submit information as required under appendix III of the generation regulations quarterly on an affidavit, the failure of which would be considered as non-compliance of order and regulations of the Commission."

Commission observed that the Petitioner has not furnished above details as directed by the Commission which is serious matter of non compliance.

The petitioner is hereby again directed to follow the directions laid down in the previous tariff without delay.

11.7 Specific Oil Consumption

Specific Oil Consumption has been approved according to the norms set out in Regulation 4(h) of the Generation Tariff Regulations (First Amendment), 2007 as below:

Table 11.7.1 Approved Specific Consumption for FY 2008-09

Thermal Power Station	Specific Oil Consumption (ml/KWh)
Anpara A	2.0
Anpara B	2.0
Obra A	4.0
Obra B	2.5
Panki	2.5
Harduagunj	4.5
Parichha	3.0
Parichha Extn	2.0

11.8 Price of Fuel

The Petitioner states in the petition that it has taken simple average of actual cost coal & oil of the preceding three months for the purpose of calculation of energy charges. The Respondents have not objected to it. As such, the Commission has relied on the data submitted by the Petitioner for the price of coal and secondary oil.

Further, in form 19-I of the Petition, the Commission has observed computation error in determination of Total Transportation Charges in respect of Parichha and Parichha Extension Thermal Power Plants. For these power stations, the petitioner has claimed Price of Coal as Rs 2185 per MT while the Commission has computed it as Rs 2175 per MT after rectifying the computational error.

The Commission has considered the following costs for determination of energy charges:

Table 11.8.1 Price of Secondary Oil for FY 2008-09

Thermal Power Station	Price of Oil (Rs/KL) (Approved)
Anpara A	30191
Anpara B	30191
Obra A	28954
Obra B	29072
Panki	35591

Thermal Power Station	Price of Oil (Rs/KL) (Approved)
Harduagunj	26327
Parichha	29105
Parichha Extn	30093

Table 11.8.2 Price of Coal for FY 2008-09

Thermal Power Station	Price of Coal (Rs/MT) (Approved)
Anpara A	1011
Anpara B	1115
Obra A	1532
Obra B	1447
Panki	2167
Harduagunj	2227
Parichha	2175
Parichha Extn	2175

However, the Petitioner shall be entitled to recover/adjust any change in fuel cost according to the provisions set out in the Generation Regulations. Fuel price variation shall be claimed based on actual audited cost of fuel and GCV on month to month basis.

In previous tariff order, UPERC has laid down certain directions which have not been complied by the Petitioner at the time of filing of tariff petition for FY 2008-09. The petitioner is hereby again directed to;

- 1. Maintain monthly coal and oil consumption as fired based on daily shift wise consumption. Total Coal consumption shall include the transit and handling losses as specified in the generation regulations.**
- 2. Maintain landed cost of coal and oil in accordance with the format specified by the Commission in generation regulation.**

3. Collate (1) and (2) to arrive at total cost of fuel for the month.
4. The fuel cost arrived at in (3) shall be verified by Cost Accountant for the purpose of fuel price adjustment.
5. The bill of Fuel Price Adjustment shall invariably include a certificate that the Cost Accountant has duly certified the coal price.
6. All the above data shall be submitted to the Commission on quarterly basis.

11.9 Gross Calorific Value of Fuel

The Petitioner states in the petition that it has taken simple average of actual GCV of coal and oil of the preceding three months for the purpose of calculation of energy charges. The Respondents have not objected to it. The Commission has relied on the data submitted by the Petitioner for the GCV of coal and secondary oil. The Commission has considered the following GCV of coal and oil for determination of energy charges:

Table 11.9.1 GCV of Secondary Oil for FY 2008-09

Thermal Power Station	GCV of Oil (KCal/L) (Approved)
Anpara A	10500
Anpara B	10500
Obra A	10294
Obra B	10157
Panki	9437
Harduagunj	10055
Parichha	9828
Parichha Extn	9886

Table 11.9.2 GCV of Coal for FY 2008-09

Thermal Power Station	GCV of Coal (Kcal/Kg) (Approved)
Anpara A	3309
Anpara B	3525
Obra A	3328
Obra B	3513
Panki	3755
Harduagunj	3898
Parichha	3512
Parichha Extn	3512

Impact on cost of fuel due to any variation in GCV, during FY 2008-09, shall be adjusted on month-to-month basis and claimed from beneficiaries as fuel price variation.

In previous tariff order, UPERC has laid down certain directions which have not been complied by the Petitioner at the time of filing of tariff petition for FY 2008-09. The petitioner is hereby again directed to;

- 1. Measure GCV of coal as fired on daily basis collecting sample in every shift. This will form the basis for arriving at monthly and yearly SHR.**
- 2. Maintain monthly data of GCV of coal and oil as fired.**
- 3. GCV shall be verified by a certified test agency once in fifteen days. The test result shall be compared with the test result of the power station for the corresponding month.**

4. The bill of Fuel Price Adjustment shall invariably include a certificate that the Cost Accountant has verified weighted average of GCV from daily records.

5. All the above data shall be submitted to the Commission on quarterly basis along with the copies of certificates of the test agencies.

11.10 Determination of Rate of Energy Charge (REC)

Based on Auxiliary Energy Consumption, Station Heat Rate, Specific Secondary Fuel Oil Consumption, fuel cost and GCV as approved in the foregoing paragraphs; the Rate of Energy Charges has been computed according to Regulation 22 of UPERC (Terms and Conditions of Generation Tariff) regulations, 2004 and its amendment thereof.

For billing purposes, total energy charge shall be equal to the rate of energy multiplied by actual energy sent out and on implementation of ABT in the State, it shall be the rate of energy charge multiplied by scheduled energy.

The following tables summarises the variable cost (REC) approved by the Commission for the power stations of the Petitioner FY 2008-09.

Table 11.10.1 Rate of Energy Charges for Anpara A and Anpara B

Particular	Unit	Anpara A		Anpara B	
		Petition	UPERC	Petition	UPERC
Capacity	MW	630	630	1000	1000
PLF		7008	80%	7008	80%
Gross Station Heat Rate	Kcal/kWh	2500	2500	2450	2450
Auxiliary Energy Consumption	%	8.5%	8.5%	7.0%	7.0%
Energy Generation - Gross	MU	4415	4415	7008	7008
Auxiliary Energy Consumption	MU		375		491
Ex-bus Energy Sent Out	MU	4040	4040	6517	6517
Specific Oil Consumption	ml/kWh	2.0	2.0	2.0	2.0
Wt. Avg. GCV of Oil	kCal/Lt	10500	10500	10500	10500
Price of Oil	Rs./KL	30191	30191	30191	30191
Wt. Avg. GCV of Coal	kCal/Kg	3309	3309	3525	3525
Price of Coal	Rs./MT	1011	1011	1115	1115
Heat Contribution from SFO	Kcal/kWh	21.0	21.0	21.0	21.0
Heat Contribution from SFO	MkCal		92716		147168
Oil Consumption	KL		8830		14016
Heat Contribution from Coal	Kcal/kWh	2479	2479	2429	2429
Heat Contribution from Coal	MkCal		2479		2429
Specific Coal Consumption	Kg/kWh	0.75	0.75	0.69	0.69
Coal Consumption	MMT		3.31		4.83
Total Cost of Oil	Rs. Cr.		26.66		42.32
Total Cost of Coal	Rs. Cr.		334.45		538.56
Total Fuel Cost	Rs. Cr.		361.11		580.88
Rate of Energy Charge from Secondary Oil	Paise/kWh	6.04	6.60	6.04	6.49
Rate of Energy Charge from Coal	Paise/kWh	75.75	82.79	76.85	82.63
Rate of Energy Charge ex-bus per kWh	Paise/kWh	89.39	89.39	89.13	89.13

Table 11.10.2 Rate of Energy Charges for Obra A

Particular	Unit	Obra A	
		Petition	UPERC
Capacity w.e.f. 1.4.2008 (167 days)	MW	442	442
Capacity w.e.f. 16.9.2008 (197 days)	MW		322
PLF		4380	65%
Gross Station Heat Rate	Kcal/kWh	3000	3000
Auxiliary Energy Consumption	%	12.0%	11.0%
Energy Generation - Gross	MU	1936	2148
Auxiliary Energy Consumption	MU	0	236
Ex-bus Energy Sent Out	MU	1704	1912
Specific Oil Consumption	ml/kWh	4.0	4.0
Wt. Avg. GCV of Oil	kCal/Lt	10294	10294
Price of Oil	Rs./KL	28954	28954
Wt. Avg. GCV of Coal	kCal/Kg	3328	3328
Price of Coal	Rs./MT	1532	1532
Heat Contribution from SFO	Kcal/kWh	41.2	41.2
Heat Contribution from SFO	MkCal		87951
Oil Consumption	KL		8544
Heat Contribution from Coal	Kcal/kWh	2959	2959
Heat Contribution from Coal	MkCal		2959
Specific Coal Consumption	Kg/kWh	0.89	0.89
Coal Consumption	MMT		1.90
Total Cost of Oil	Rs. Cr.		24.74
Total Cost of Coal	Rs. Cr.		290.94
Total Fuel Cost	Rs. Cr.		315.68
Rate of Energy Charge from Secondary Oil	Paise/kWh	11.58	13.01
Rate of Energy Charge from Coal	Paise/kWh	136.20	153.04
Rate of Energy Charge ex-bus per kWh	Paise/kWh	167.94	166.05

Table 11.10.3 Rate of Energy Charges for Obra B and Panki

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Particular	Unit	Obra B		Panki	
		Petition	UPERC	Petition	UPERC
Capacity	MW	1000	1000	210	210
PLF		5256	75%	5694	65%
Gross Station Heat Rate	Kcal/kWh	2900	2900	3100	3100
Auxiliary Energy Consumption	%	12.0%	10.5%	12.0%	11.0%
Energy Generation - Gross	MU	5256	6570	1196	1196
Auxiliary Energy Consumption	MU	0	690	0	132
Ex-bus Energy Sent Out	MU	4625	5880	1052	1064
Specific Oil Consumption	ml/kWh	2.5	2.5	2.5	2.5
Wt. Avg. GCV of Oil	kCal/Lt	10157	10157	9437	9437
Price of Oil	Rs./KL	29072	29072	35591	35591
Wt. Avg. GCV of Coal	kCal/Kg	3513	3513	3755	3755
Price of Coal	Rs./MT	1447	1447	2167	2167
Heat Contribution from SFO	Kcal/kWh	25.4	25.4	23.6	23.6
Heat Contribution from SFO	MkCal		166829		28210
Oil Consumption	KL		16425		2989
Heat Contribution from Coal	Kcal/kWh	2959	2875	3076	3076
Heat Contribution from Coal	MkCal		2875		3076
Specific Coal Consumption	Kg/kWh	0.82	0.82	0.82	0.82
Coal Consumption	MMT		5.38		0.98
Total Cost of Oil	Rs. Cr.		47.75		10.64
Total Cost of Coal	Rs. Cr.		777.67		212.32
Total Fuel Cost	Rs. Cr.		825.42		222.96
Rate of Energy Charge from Secondary Oil	Paise/kWh	7.27	8.12	8.90	10.00
Rate of Energy Charge from Coal	Paise/kWh	118.37	132.25	177.57	199.51
Rate of Energy Charge ex-bus per kWh	Paise/kWh	142.77	140.37	211.89	209.51

Table 11.10.4 Rate of Energy Charges for Harduaganj

Particular	Unit	Harduaganj	
		Petition	UPERC
Capacity w.e.f. 1.4.2008 (86 days)	MW	220	275
Capacity w.e.f. 27.6.2008 (277 days)	MW		220
PLF		3504	40%
Gross Station Heat Rate	Kcal/kWh	3450	3450
Auxiliary Energy Consumption	%	12.0%	11.5%
Energy Generation - Gross	MU	771	817
Auxiliary Energy Consumption	MU		94
Ex-bus Energy Sent Out	MU	678	723
Specific Oil Consumption	ml/kWh	4.5	4.5
Wt. Avg. GCV of Oil	kCal/Lt	10055	10055
Price of Oil	Rs./KL	26327	26327
Wt. Avg. GCV of Coal	kCal/Kg	3898	3898
Price of Coal	Rs./MT	2227	2227
Heat Contribution from SFO	Kcal/kWh	45.2	45.2
Heat Contribution from SFO	MkCal		36743
Oil Consumption	KL		3654
Heat Contribution from Coal	Kcal/kWh	3405	3405
Heat Contribution from Coal	MkCal		3405
Specific Coal Consumption	Kg/kWh	0.87	0.87
Coal Consumption	MMT		0.71
Total Cost of Oil	Rs. Cr.		9.62
Total Cost of Coal	Rs. Cr.		157.95
Total Fuel Cost	Rs. Cr.		167.57
Rate of Energy Charge from Secondary Oil	Paise/kWh	11.85	13.39
Rate of Energy Charge from Coal	Paise/kWh	194.51	219.78
Rate of Energy Charge ex-bus per kWh	Paise/kWh	234.49	233.17

Table 11.10.5 Rate of Energy Charges for Parichha & Parichha Extn

Particular	Unit	Parichha		Parichha Extn	
		Petition	UPERC	Petition	UPERC
Capacity	MW	220	220	420	420
PLF		4380	60%	7008	80%
Gross Station Heat Rate	Kcal/kWh	3100	3100	2500	2500
Auxiliary Energy Consumption	%	12.0%	11.5%	9.0%	9.0%
Energy Generation - Gross	MU	964	1156	2943	2943
Auxiliary Energy Consumption	MU		133		265
Ex-bus Energy Sent Out	MU	848	1023	2678	2678
Specific Oil Consumption	ml/kWh	3.0	3.0	2.0	2.0
Wt. Avg. GCV of Oil	kCal/Lt	9828	9828	9886	9886
Price of Oil	Rs./KL	29105	29105	30093	30093
Wt. Avg. GCV of Coal	kCal/Kg	3512	3512	3512	3512
Price of Coal	Rs./MT	2185	2175	2185	2175
Heat Contribution from SFO	Kcal/kWh	29.5	29.5	19.8	19.8
Heat Contribution from SFO	MkCal		34094		58199
Oil Consumption	KL		3469		5887
Heat Contribution from Coal	Kcal/kWh	3071	3071	2480	2480
Heat Contribution from Coal	MkCal		3071		2480
Specific Coal Consumption	Kg/kWh	0.87	0.87	0.71	0.71
Coal Consumption	MMT		1.01		2.08
Total Cost of Oil	Rs. Cr.		10.10		17.71
Total Cost of Coal	Rs. Cr.		219.88		452.11
Total Fuel Cost	Rs. Cr.		229.98		469.82
Rate of Energy Charge from Secondary Oil	Paise/kWh	8.73	9.87	6.02	6.61
Rate of Energy Charge from Coal	Paise/kWh	191.01	214.87	154.29	168.79
Rate of Energy Charge ex-bus per kWh	Paise/kWh	226.98	224.73	176.17	175.41

11.11 Adjustment of rate of energy charge (REC) on account of variation in price or heat value of fuels

As per Regulation 22 (ii) of UPERC (Terms & Conditions of Generation Tariff) Regulations, 2004, following provisions shall be applicable for adjustments of Rate of Energy Charge due to variation in price or GCV during FY 2008-09:

"Initially, Gross Calorific Value of coal and secondary fuel oil shall be taken as per actual of the preceding three months. Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal or secondary fuel oil received and burnt and landed cost incurred by the generating company for procurement of coal and secondary fuel oil."

12 Incentive

The Petitioner is seeking incentive on revised norms, the plea not accepted by the Commission in Order dt.13.10.08 as such no relaxation is being considered.

Incentive to all power stations are to be calculated according to Regulation 23 of UPERC (Terms and Conditions of Generation Tariff) Regulations, 2004 and Regulation 7 of Terms and Conditions of Generation Tariff (First Amendment) Regulation, 2007. **Incentive does not form a component of tariff. It would be recoverable only at the end of the year based on the PLF actually achieved by the concerned power station and according to guidelines set out in Regulation 23 subject to the provisions set out in section 11.1 of this order.**

13 Corporate Responsibility for Environment Protection (CREP)

The Petitioner has submitted that UPRVUNL is undertaking work under CREP amounting for Rs 532 Crores including Rs 152 Crores for Obra B. For FY 2008-09, UPRVUNL has proposed following works under CREP and claimed completion of such work by December 2008.

Sl. No.	Name of Work	Amount to be invested during 2008-09 (Rs. in Crores)
1	Installation of new ESP's of Parichha (2x110 MW) & Harduaganj (3,5&7 units)	97.00
2	Installation of new ESP's of (3x100 MW) Obra Thermal Power Station	35.00
3	Installation of effluent treatment plant for Obra Thermal Power Station	4.00
4	Installation of zero discharge system for Anpara Thermal Power Station	5.00
5	Installation of sewage treatment plant at Harduaganj	3.00
	TOTAL	144.00

The investment made under CREP shall be considered after commissioning of assets on filing a petition for additional capitalisation. Audited accounts must be ensured by the petitioner for the said purpose.

14 Billing & Payment of Capacity Charges and Energy Charges

Billing of capacity charges, determined in this Order shall be made on monthly basis as per Regulation 30 of the Generation Regulations in proportion to the shares in installed capacity. In case, the actual plant availability (*determined as per formula under Regulation 14(v) Generation Regulations*) is less than the target availability considered for recovery of full capacity charges, the capacity charges shall be prorated. The payment of capacity charges shall be according to Regulations 30(iv) of the Generation Regulations.

Order dated 6th March 2009 in Petition No. 553/08

Energy charge under Para 11.10 of this Order have been determined on the basis of cost and GCV of fuel at an average of the last three months submitted in the Petition for 2008-09 and the energy supplied shall be billed monthly at such rate. The Petitioner shall be entitled, in addition aforesaid energy charge, to adjust/recover any change in fuel cost due to change in cost of fuel and GCV on month to month basis as per formula provided under Regulation 22(1) and procedure specified in Regulations 22(ii & iii) of the Generation Regulations.

Incentive shall be recoverable at the end of the year based on actual PLF, if it is more than the target PLF consider by the Commission in this Order for year 2008-09.

15 Payment of Dues

The petitioner shall endeavour to realise dues from the Respondents and it may approach the Commission, for default in payments for necessary relief including proposal for Regulation of Supply associated with alternative sale potential of such regulated power under proviso 2 Regulation 25 of the Generation Regulations.

16 Non-compliance of Generation Regulations and Order dt.26.3.07

The petition has been filed with the major deviations from the terms & conditions of tariff and norms of operation specified by the Commission in the Generation Regulation and its 1st Amendment and tariff order dt.26.3.07. The petitioner made this tariff petition, a petition in consequence of the review petition. After the review petition was disposed of by order dt.13.10.08, the Commission could have decided to dismiss the tariff petition and directed the petitioner to file a fresh petition in compliance of the said orders and regulations. The Commission restrained from taking such decisions to save time which would have otherwise

wasted in starting the proceedings ab-initio. But at the end of the day of passing this order, we find that disposal of this petition has taken unexpected time in dealing with various issues that arose due to non-compliance of said regulations and the order. After order dt.26.3.07 passed, the Commission hope that tariff determination shall merely be a mechanical exercise, but to our regret, we have found that the petitioner has totally omitted to recognise the existence of the Generation Regulation and Order dt.26.3.07 and have preferred to adopt its own methodology for presenting the case for tariff determination. This is a glaring example of non-compliance of the said regulations and the order. Non-compliance of the Generation Regulations and order dt.26.3.07 has been discussed at various stages of this order and need not to be repeated. In light of above, the Petitioner is directed to explain the reasons for such non-compliance on an affidavit within a month of this order and show cause why a proceeding under section 142 of the EA 2003 is not initiated for such non-compliance.

17 Future Tariff Petitions

The Commission has observed huge inconsistencies in the submission made in the petitions filed for 2005-06, 2006-07, 2007-08 & this petition and it has become extremely difficult to deal with them in respect to each generating station in a single order, therefore, the Petitioner is directed to file petitions separate for each generating station in future, whether it be for determination of tariff or additional capitalisation. The Petitioner is also directed to file above petitions in strict compliance to the provisions of Generation Regulations, Order dt.26.3.07 and this order.

18 Implementation of Order

This order will come into effect from 1.4.2008 and the Petitioner is entitled to raise supplementary bills for over and under recovery of the amount already realised.

19 Disposal of the Petition

The petitions are hereby disposed of.

(R. D. Gupta)
Member

(P.N. Pathak)
Member

(Rajesh Awasthi)
Chairman

Lucknow, dated 6th March, 2009