



**COMMISSION'S ORDER**  
**ON**  
**GENERATION TARIFF FOR**  
**HARYANA POWER GENERATION CORPORATION LIMITED**  
**FOR FY 2007-08**

**May 8, 2007**

**HARYANA ELECTRICITY REGULATORY COMMISSION**

**BAY No. 33-36, SECTOR - 4, PANCHKULA - 134 109**

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**HERC ORDER**

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**HARYANA POWER GENERATION CORPORATION LTD.**

**FOR FY 2007- 08**

**CASE No: HERC / PRO-5 OF 2006**

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**PANCHKULA**

**HARYANA ELECTRICITY REGULATORY COMMISSION**  
**BAY No.33-36, SECTOR - 4, PANCHKULA – 134 109**

**CASE NO: HERC / PRO - 5 OF 2006**

**DATE OF ORDER: May 8, 2007**

In the matter of application filed by Haryana Power Generation Corporation Limited (HPGCL) for approval of generation tariff for FY 2007-08 to FY 2009 -10.

**Present:**

<b>Shri. Bhaskar Chatterjee</b>	<b>Chairman</b>
<b>Er. T.R. Dhaka</b>	<b>Member</b>
<b>Shri. T.S. Tewatia</b>	<b>Member</b>

**On behalf of  
HPGCL:**

Smt. Jyoti Arora	Managing Director
Shri J.C.Kinra	COO
Shri D.C. Arya	Financial Advisor / Hq.
Shri. Vikas Gupta	Sr. Accounts Officer

**On behalf of  
HVPNL:**

Shri. P.K. Das	Managing Director
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**On behalf of  
HERC Staff:**

Shri. Surjeet Singh	Secretary
Shri. Balbir Singh	Director / Technical
Smt. Saroj Deswal	Director / Tariff
Shri. Sanjay Varma	Joint Director / Tariff
Smt. Surbhi Jain	Dy. Director / Accounts
Shri. Rajesh Monga	Law Officer / Registrar

**ORDER**

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# **1 PROCEDURAL ASPECTS OF THE FILING**

## **1.1 Preamble**

The Haryana Electricity Regulatory Commission (HERC) is guided by sub - section 1 (a) of section 86 and sub - section 1(a) of section 62 of the Electricity Act, 2003 (EA, 2003) for determination of tariff in the case of intra-state generating company viz. Haryana Power Generation Corporation Limited (HPGCL).

## **1.2 Applicability of the Electricity Act 2003 in Haryana**

In exercise of the powers conferred by clause (d) of section 172 of the Electricity Act 2003 (the Act), the Government of Haryana vide its notification no. 1/4/2003 -1 Power dated 8/09/2003 declared that all the provisions of the Act except Section 121 which has not been enforced by the Central Government vide notification no. S.O 699 (E) dated 10/6/2003 shall not apply in the State of Haryana for a period of six months from the appointed date i.e. 10/6/2003. Thus, the Act came into force in the State of Haryana w.e.f. 10/12/2003.

## **1.3 Tariff Filing Directive**

HERC vide memo no. 1229/PS/Chairman dated 22/09/2006, directed HPGCL to file generation tariff application by 31st October 2006, for its consideration and approval. In compliance to the Commission's directive, HPGCL vide memo no. HPGC/FIN/Reg-226/2319 dated 20/11/2006, filed multi – year proposed tariff (FPT) for FY 2007-08 to FY 2009 -10.

The Commission reviewed the FPT and sought clarification / additional information on a number of issues including rate of depreciation, cost of short term borrowings, delivered cost of coal and performance of Faridabad Thermal Power Station (FTPS) and older powerhouses at Panipat (PTPS).

## 1.4 Public Proceedings

To conform to the provisions of sub section (2) of section 64 of the Act, HPGCL published its tariff application in an abridged form in two newspapers with wide circulation in Haryana. One each in Hindi and English, inviting objections from the general public and interested organisations. HPGCL, by way of public notice, informed the general public about the salient features of the FPT, sources of availability of the relevant documents and an invitation to the public / interested organisations to file their objections, if any, by 28<sup>th</sup> December 2006. The public notice appeared in the following newspapers:

**Table 1.1 Public Notice by HPGCL**

Name of Newspaper	Language	Date of Publication
The Indian Express	English	28/11/2006
Dainik Bhaskar	Hindi	28/11/2006

The Commission issued a public notice on 9<sup>th</sup> February 2007 informing the public & interested persons / organisations, that a public hearing is scheduled for 21<sup>st</sup> February 2007 at 11.30 A.M in the conference hall of the HERC in respect of determination of generation tariff. The last date for filing objections was determined as 5.00 P.M. on 19<sup>th</sup> February 2007. The public notice was issued in the newspapers mentioned in table 1.2.

**Table 1.2 Public Notice by HERC**

Name of Newspaper	Language / Edition	Date of Publication
Times of India	English / Chandigarh	9/02/2007
Dainik Bhaskar	Hindi / Chandigarh	9/02/2007

In response to the public notice issued by the petitioner i.e. HPGCL and subsequently by the Commission, no objections / suggestions or comments were received from any interested person / organisation or any other stakeholder.

## 1.5 Public Hearing

The Commission conducted public hearing on 21<sup>st</sup> February 2007. The Chairman HERC invited HPGCL to make their general presentation

and directed them to reply to the specific issues raised during the hearing. The Managing Director of HPGCL made the presentation and orally responded to several objections raised by the HERC staff. COO HPGCL and FA cum CAO HPGCL too dealt with the technical and commercial issues respectively.

## **1.6 State Advisory Committee (SAC)**

The Commission, in its consultative process, convened meeting of the SAC on 16/03/2007 at 11.30 A.M. in its conference hall, to have benefit of the views of the members of the SAC on different issues pertaining to determination of HPGCL's generation tariff.

The SAC members in general opined that the performance of HPGCL powerhouses ought to conform to the norms of operation laid down by Central Electricity Regulatory Commission (CERC). They were in favour of fixing annual targets in respect of various performance parameters of the generating units not covered by the CERC regulations in order to maintain pressure on HPGCL for achieving the desired norms. On the issue of coal lost in transit, the members were of the view that the transit loss of coal at FTPS and PTPS were on the higher side compared to the neighbouring states. They suggested that **HPGCL may appoint a coal agent on Punjab pattern with appropriate incentive and penalty to reduce transit loss of coal to the national non-pithead benchmark of 0.8%** from the existing level of 3.5 to 4% which is an avoidable burden on the electricity consumers of Haryana.

## **2 ANALYSIS OF THE TARIFF FILING & COMMISSION'S ORDER**

The Commission recognises the significance of multi-year tariff and hence the instant filing for three financial years beginning FY 2007-08. However, as the Commission is in the process of finalising tariff regulations i.e. terms and conditions for determination of tariff as mandated by the Act, it would be appropriate to arrive at financial and technical parameter trajectory after due deliberations with all the stakeholders specially with respect to FTPS Units I to III and PTPS Units I to VI given their vintage and O&M practices. Thus, the Commission, for disposing of the instant petition, has considered and determined generation tariff for FY 2007-08 only.

The major items of expenditure and the operating parameters proposed by HPGCL for generation tariff determination and HERC approvals of the same are discussed in the paragraphs that follow.

### **2.1 Installed capacity & capacity addition**

The installed capacity of HPGCL plants as reported by them in their generation tariff application for FY 2007-08 is as per table 2.1.

**Table 2.1 Installed Capacity**

Particulars	Installed Capacity	Date of Commissioning
Faridabad Thermal Power Station (3X55 MW) 60 MW units de-rated to 55 MW by CEA W.E.F 11/01/1990 due to technical constraints	55 MW Unit No.1	22/11/1974
	55 MW Unit No.2	06/03/1976
	55 MW Unit No.3	01/04/1981
Panipat Thermal Power Station, Panipat (4X110 MW + 2X210 MW + 2X250 MW)	Stage-1	
	110 MW Unit No.1	01/11/1979
	110 MW Unit No.2	27/03/1980
	Stage – II	
	110 MW Unit No.3	01/11/1985
	110 MW Unit No.4	11/01/1987
	Stage – III	
	210 MW Unit No.5	28/03/1989
Stage – IV		
210 MW Unit No.6	31/03/2001	
Stage – V		
250 MW Unit No .7	28/09/2004	
250 MW Unit No .8	28/01/2005	

Western Yamuna Canal Hydro Project Bhudkalan (Yamunanagar) (6X8 MW and 2X7.2 MW)	<b>Power House A</b> 8 MW Unit No 1 8 MW Unit No 2 <b>Power House B</b> 8 MW Unit No 1 8 MW Unit No 2 <b>Power House C</b> 8 MW Unit No 1 8 MW Unit No 2 <b>Power House D</b> 7.2 MW Unit No 1 7.2 MW Unit No 2	29/05/1986 13/06/1986 15/05/1987 01/06/1987 27/03/1989 18/04/1989 16/04/2004 12/05/2004
Micro Hydro Power station, Kakroi	0.3 MW	Oct 1988
<b>Grand Total</b>	<b>1587.7 MW</b>	(As on 31/03/2007)
DCR TPP I	300 MW	COD 19/11/2007
DCR TPP II	300 MW	COD 19/02/2008

## 2.2 Performance of HPGCL Stations

The performance of HPGCL, over the years is presented in table 2.2.

**Table 2.2 Performance of HPGCL (1998-99 to 2006-07)**

Particulars	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07 (upto Jan 07)
Installed Capacity (MW)	863.3	863.3	863.3	1073.3	1073.3	1073.3	1587.7	1587.7	1587.7
PLF (%)	49.24	53.24	49.73	60.80	66.44	74.91	69.46	67.00	79.31
Auxiliary Consumption (%)	12.04	11.70	11.80	11.11	10.56	10.47	11.04	10.08	9.74
Coal Consumption (Gms/kWh)	838	803	816	789	770	764	784	741	722
Oil Consumption (ml/kWh)	12.70	6.38	5.97	3.29	3.19	3.35	3.97	3.74	1.87
Gross Gen (MUs)	3784	3811	3551	5082	5965	6745	6624	8923	9102
Station Heat Rate (Kcal/kWh)	-	-	3505	3432	3365	3318	3287	3074	2887
Transit Loss of Coal (%)	-	-	-	6.58	6.48	4.19	4.23	4.79	3.23

The Commission is concerned about the fact that despite adequate capital and operating expenditures allowed by it including FPA (Fuel Price Adjustment) based on enhanced cost of coal & fuel oil and actual GCV (Gross Calorific Value) of coal, crucial parameters such as SHR, PLF, Auxiliary Power Consumption, Coal and Oil consumption, specially in the case of PTPS (Units I to VI) and FTPS (Units I to III), did not show any substantive improvement.

## 2.3 HPGCL proposed Generation tariff for FY 2007-08

The unit wise cost of generation proposed by HPGCL for FY 2007-08 are presented in table 2.3:

**Table 2.3 HPGCL Proposed Cost of Generation (FY 2007- 08)**

	PTPS					FTPS	DCR TPP	WYC & Kakroi (Hydro)
	Unit I-IV	Unit V	Unit VI	Unit VII	Unit VIII	Unit I-III	Unit I & II	
Fuel Cost per unit (Rs/kWh)	2.38	1.80	1.67	1.67	1.67	3.18	1.79	0
Fixed Cost (Rs Million)	1504.23	697.77	1760.32	1772.86	1772.86	654.23	1401.89	292.86

- Variable Cost as per Annexure B/1a of FPT.
- Fixed Cost as per Annexure B-12 of FPT.

HPGCL proposed two-part tariff as envisaged by the National Tariff Policy and also a requirement under Availability Based Tariff (ABT). The details are discussed in the paragraphs that follow.

### Capacity Charges (Fixed Cost):

The guidelines for filing of application for determination of tariff by generation companies have not been issued by the HERC under Section 61 of the Act. In the absence of any guidelines HPGCL has proposed the tariffs on two-part basis. HPGCL has considered plant availability' of 80% as per the provisions of CERC notification dated 25<sup>th</sup> March 2004 for recovery of full capacity charges for PTPS Units V to VIII. For old units i.e. PTPS I to IV and FTPS I to III PLF have been recokoned as per the plant availability of the respective units.

HPGCL has submitted that the billing & payment of capacity charges, incentive, rebate and late payment surcharge may be adopted in accordance with the CERC Regulations dated 26/03/2004 as mentioned in the paragraphs that follows: -

### Billing & Payment:

Billing and payment of capacity charges may be allowed on a monthly basis.

**Incentive:**

Incentive shall be payable at a flat rate of 25 Paise / kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to the target Plant Load Factor (PLF).

**Rebate:**

For payment of bills of capacity charges and energy charges through letter of credit on presentation a rebate of 2% may be allowed. If the payments are made by a mode other than through a letter of credit but within a period of one month of presentation of the bills, a rebate of 1% may be allowed.

**Late Payment Surcharge:**

In case the payment of bills of capacity charges & energy charges by the beneficiaries is delayed beyond a period of 60 days from the date of billing a late payment surcharge at the rate of 1.25% per month is proposed to be levied.

**Fuel Price Adjustment**

Fuel Price Adjustment (FPA) on account of variation in the value and Gross Calorific Value (GCV) of coal and fuel oil has been proposed to be claimed by HPGCL from UHBVNL and DHBVNL as per the formula of FPA prescribed by the HERC (on a quarterly basis) on its own as per the provisions of Para no. 22 (iii) of CERC Regulations dated 26<sup>th</sup> March 2004.

**2.4 Tariff Objective**

The Commission issued a number of directives in its previous order(s) dated 14/05/2004, 2/05/2005 and 23/05/2006. However, it has been noted that quite a few directives have not been implemented or partly implemented. A list of directives issued by the Commission but not yet

fully complied by HPGCL or requiring continuing compliance is given at **Annexure-1**.

While determining generation tariff, the Commission has taken into consideration the FPT dated 20/11/2006, additional information / clarifications sought by the Commission or otherwise, oral submission / presentation made by HPGCL at the time of public hearing on 21/02/2007. The Commission has attempted to balance the interest of the utility as well as the consumers while determining the generation tariff for FY 2007-08.

The Commission is conscious of the fact that much needed power generation in the state cannot be sustained if the generation company is not financially viable and operationally sound. Thus, the generation business ought to conform to technical and commercial norms and be attractive enough for new investments, both domestic as well as foreign, in order to bridge the demand - supply gap requiring huge capital outlays.

With the above-mentioned objective, the Commission in its order dated 14/05/2004, directed HPGCL to get energy audit of its generating units conducted and implement the recommendations thereafter. A number of measures have been taken by HPGCL with respect to Air Pre Heater Performance, Coal Mill Performance, Furnace Radiation Loss, HP & LP Heater Performance etc. However, problems of poor coal quality & high transit loss and poor raw water quality still remains to be addressed. **The Commission expects that HPGCL will make earnest efforts to implement the recommendations of the Central Electricity Authority (CEA) and monitor its impact on overall efficiency of the various units so as to bring them at par with the national norms.**

## **2.5 Intra - state ABT.**

In response to the Commission's directive in its FY 2005-06 and FY 2006-07 generation tariff order(s), HPGCL has submitted that

Infrastructural facilities, both hardware & software, have been installed at the Energy Centre - Panchkula. Generation Schedule on 15 minutes basis for the next 24 Hours (day ahead basis) is being furnished to HVPNL on a daily basis & the same is being adhered to as far as possible subject to unforeseen conditions. Backing down of PTPS & FTPS units are also being resorted to by HVPNL during high grid frequency period while efforts are made to generate maximum power during low frequency period & during peak hours. The Commission has noted the preparedness of HPGCL for introducing intra-state ABT.

## **2.6 Plant Load factor (PLF)**

The PLF is largely influenced by the grid conditions as well as operators capabilities. In view of stable grid conditions after synchronisation of the Northern Grid with the other regional Grids, adequate provision for capital spares, optimal dispatch by the load centre, reasonable quality of coal at PTPS (including use of high quality imported coal), better O&M personnel and practices HPGCL has shown improvement in the PLF of its powerhouses except FTPS. Thus, the Commission has kept these factors in mind while determining PLF of various units for FY 2007-08.

The Commission, in its previous order(s) considered the unit-wise lowest PLF achieved by HPGCL for its various generating units during the last 6 years as the basis for reckoning PLF for arriving at the station wise gross generation. The Commission notes with concern that no improvement in PLF has been envisaged by HPGCL for FY 2007-08. **Thus, in line with the national norms, as adopted in the previous orders, the Commission allows PLF of 80% for all HPGCL thermal units including DCR TPP (Yamuna Nagar) except PTPS (unit I-IV) and FTPS (unit I-III).**

In respect of PTPS (Unit I-IV), the Commission approved PLF of 55% (as against 65% in terms of original filing) for FY 2006-07 in view of HPGCL's submission vide letter dated 6/03/2006 stating that PTPS

units I & III will not be available for five months each on account of refurbishment & replacement of LP rotor. **The Commission notes with concern that shut down of PTPS unit I for refurbishment in FY 2006-07 was not availed and has now been scheduled w.e.f. 1/04/2007.** Despite the fact that no major R&M were undertaken during FY 2006-07 (except PTPS Unit II during FY 2005-06) the PLF upto January 2007 averaged 65.32%. It is observed from the recent data i.e. November 2006 to January 2007 that all the units (except Unit III in August & December 2006) at PTPS with respect to PLF are performing at an average of about 73.13%.

The Commission reiterates that HPGCL need to take the aberration of PLFs in respect of PTPS (I to IV) from attainable levels i.e. over 80% in all seriousness and accord high priority to the recommendations of CEA in its Energy Audit Reports to improve upon the PLFs. It is observed from the recent data that these units have achieved 72.34% in December 2006 (Unit I), 87.02% in December 2006 (Unit II), 92.68% in September 2006 (Unit III) and 85.24% in August 2006 (Unit IV), thus there should be no reasons why these units cannot achieve higher PLF on a sustainable basis. The Commission has been allowing adequate R&M expenditures as well as return on equity so as to build up necessary spares and take up timely R&M measures to sustain and improve upon the PLF.

Keeping in view the latest performance of PTPS (I to IV) upto January 2007 and the fact that duly refurbished PTPS I will be available for 7 months & PTPS II has already been refurbished, the Commission allows an overall PLF of 70% for the purpose of determining generation target for FY 2007-08. **The Commission directs that planned shut down schedule as intimated to the Commission with corresponding capital expenditure (both loan and equity) must be adhered to. These units, after intensive R&M and annual overhauling, must operate at a PLF of over 80%.**

In respect of FTPS (unit I to III), PLF of 62% was determined by the Commission in its FY 2006-07 order, which was marginally higher than about 60% achieved in FY 2004-05. The PLF attained by FTPS was 54.47% during FY 2005-06 and 43.67% during FY 2006-07 (upto January). HPGCL vide memo no. HPGC/FIN/Reg-226/163 dated 20/02/2007 submitted that it has calculated tariff by taking performance parameters of FTPS on the basis of parameters approved by HERC in its Generation tariff order for FY 2006-07. However, HPGCL requested for being allowed performance parameters in respect of FTPS on actual basis. Keeping in view the PLF of other thermal stations of same size, vintage and technology in the country and the fact that the Haryana Government has already decided in principle that the Faridabad Units will be scrapped by 2011–12 resultantly no major R&M is being carried out on these units during FY 2007-08, **the Commission for the purpose of determining FTPS generation target for FY 2007-08 allows PLF of 45%**. The Commission, however, does not agree with the contention of HPGCL to deregulate these units for the purpose of generation business. The Commission would like to take a final view on this issue while finalising the regulations on terms and conditions for determination of generation tariff.

The Cumulative Utilisation Factor (CUF) for estimating generation target for FY 2007-08 in respect of 62.7 MW hydro electric stations at Yamuna Nagar & Kakroi, wherein the generation capacity ranges from 0.3 MW (3 units) Kakroi, 8 MW each (6 units of Power House A, B & C) and 7.2 MW each (2 units of Power House D), has been considered at 55%.

Table 2.4 provides a summary of the highest level of PLF achieved in the last 7 years in the case of PTPS Unit I to V and FTPS Unit I to III while in all other cases viz. PTPS Unit VI to VIII the reference points are their respective year of Commissioning. HPGCL's proposal for FY 2007-08 and HERC approval of PLFs for FY 2007-08 for various generating units are presented below.

Table 2.4 Plant Load Factor (PLF)

Stations	Highest PLF in last 7 years	HPGCL's proposal for FY 2007- 08	HERC's Approval for FY 2007-08
PTPS (%) (Unit i to IV)	72.45	63	70
PTPS (%) (Unit V)	95.75	80	80
PTPS (%) (Unit VI)	92.21	80	80
PTPS (%) (Unit VII)	93.07	80	80
PTPS (%) (Unit VIII)	90.64	80	80
FTPS (%) (Unit I - III)	67.32	45 (revised)	45
DCR TPP (Yamunanagar) Units I & II)	-	80	80

## 2.7 Auxiliary Power Consumption

The performance of HPGCL as per the FPT and the presentation made during the public hearing with regards to auxiliary power consumption reveals a steady improvement from 11.80% in FY 2000-01 to 9.74% in FY 2006-07 (upto January 2007) for HPGCL as a whole as against 9.77% approved by the Commission. However, as the Commission determines station wise tariff the station wise performance is not very satisfactory i.e. 11.55% PTPS (unit I-IV), 9.38% PTPS (unit V) and 14.9% FTPS (unit I-III). Auxiliary consumption above 9% for 200 MW and above 11% for less than 200 MW units is viewed as inappropriate management of auxiliaries. The levels of auxiliary energy consumption do correlate to higher levels of performance. Thus, the Commission while determining the target level of auxiliary consumption for FY 2007-08 has kept the higher levels of performance in respect of PTPS Units I to IV in mind. **HPGCL is directed to monitor running hours of all auxiliary motors vis-a-vis running hours of generating units to find out if any motor is kept running when not required and also carry out energy audit of auxiliary motors in respect of rated consumption at applicable load vis-à-vis actual power drawn by the motors and take remedial measures wherever required.**

Table 2.5 presents the lowest level of auxiliary power consumption achieved in the last 7 years in the case of PTPS (unit I to V) and FTPS (unit I to III) while in all other cases viz. PTPS Unit VI to VIII the reference point is their respective year of Commissioning. HPGCL's

proposals for FY 2007-08 and HERC approvals of auxiliary power consumption are presented in table 2.5:

**Table 2.5 Auxiliary Power Consumption (%)**

Stations	Lowest Achieved in past 7 years	HPGCL's Proposal for FY 2007-08	HERC's Approval for FY 2007-08
PTPS (Units I to IV)	11.05	11.0	11.0
PTPS (Unit V)	8.83	9.0	9.0
PTPS (Unit VI)	8.94	9.0	9.0
PTPS (Units VII)	8.40	9.0	9.0
PTPS (Units VIII)	7.60	9.0	9.0
FTPS (Units I-III)	12.69	12.5	12.5
DCR TPP I & II	NA	9.5	9.5
WYC & Kakroi	NA	0.5	0.5

The Commission has considered auxiliary energy consumption in respect of PTPS Units V to VIII and WYC & Kakroi as per national norms and DCR TPP (I & II) as per stabilisation norm.

## 2.8 Specific Fuel Oil Consumption (SFC)

Specific fuel consumption is an area where HPGCL has shown remarkable improvement during FY 2006-07. However, keeping in view the exigencies with respect to grid conditions, wet coal, quality of coal and site conditions, the Commission has considered a reasonable margin over what has actually been achieved by HPGCL in FY 2006-07 (upto january).

Grid conditions and technology inherent to the plants largely influences the level of SFC. The performance of HPGCL as per the FPT and the presentation made during the public hearing with regards to SFC reveals a steady improvement from 5.97 ml/kWh in FY 2000-01 to 1.87 ml/kWh in FY 2006-07 (upto January) for HPGCL as a whole. The station wise performance except FTPS also reflects substantial improvement. The lowest average specific fuel oil consumption during last 7 years for PTPS (I to IV) upto January 2007 is 3.05 ml / kWh. In view of the fact that the station can achieve better performance, the Commission approves the specific fuel oil consumption as 3.0 ml / kWh for PTPS (I to IV) for FY 2007-08 and 4.0 ml/kWh in the case of FTPS

(Unit I-III) considering the vintage factor and recent performance i.e. 8.78 ml/kWh upto January 2007. In all other cases including DCR TPP (I&II) the Commission has considered the national norm (stabilisation norm in respect of DCR TPP).

The recent performance and the national norms have been taken into consideration while approving the specific fuel oil consumption for FY 2007-08. The table 2.6 presents the lowest level of specific fuel oil consumption in the last seven years in the case of PTPS unit I to V and FTSP unit I to III, while in all other cases viz. PTPS (unit VI, VII & VIII) the reference point is their respective year of Commissioning. HPGCL's proposals for specific fuel oil consumption and Commission's approvals thereto are presented in the table below.

**Table 2.6 Specific Oil Consumption (ml / kWh)**

Stations	Lowest Achieved in past 7 years	HPGCL's Proposal for FY 2007-08	HERC's Approval for FY 2007-08
PTPS (Units I to IV)	3.05	4.25	3.0
PTPS (Unit V)	1.02	2.0	2.0
PTPS (Unit VI)	0.53	2.0	2.0
PTPS (Unit VII)	0.84	2.0	2.0
PTPS (Unit VIII)	1.08	2.0	2.0
FTSP (Units I-III)	3.12	4.0	4.0
DCR TPP (I & II)	NA	4.5	4.5

HPGCL needs to take all possible corrective measures including those recommended by CEA in its Energy Audit Report to rein in SFC at PTPS (Unit I to IV) and FTSP (Unit I to III) to 2ml/kWh or lower.

## 2.9 Station Heat Rate (SHR)

The Station Heat Rate (SHR) of the existing generating units of HPGCL excluding the recently commissioned PTPS unit VII & VIII are much higher than the norms adopted for the central generating thermal stations. The average SHR in respect of PTPS (I to IV) showed some improvement from 3411 Kcal/kWh in FY 2005-06 to 3334 Kcal/kWh in FY 2006-07 (upto January 2007). The Commission recognises the fact that SHR despite regular O&M deteriorates with time. However, the deviation of the heat rate established by the Energy Audit from the

respective design values, even after allowing reasonable margin to account for normal operation vis-à-vis test conditions including some aberrations in the PLF are far in excess.

The CEA in its communiqué dated 10/01/2006 to the Commission with reference to the energy audit carried out by them at PTPS and FTSP has observed that “Station must take efforts to bring down the unit heat rate to at least in the range of 10% deviation from the design value gradually and their efforts to operate at design heat rate would be highly appreciated as this will result in saving coal & environmental benign”.

The design value in the case of PTPS (unit I-IV) ranges between 2460 – 2526 Kcal / kWh considering a 10% deviation the desirable heat value as per CEA should have ranged between 2706 – 2778 Kcal / kWh. The actual performances of these stations have been way below the desired heat value. In FY 2007-08 (upto January 2007) the average Station Heat Rate (SHR) reported for PTPS unit I-IV was 3334 Kcal / kWh (the values ranged from 3325 to 3347 Kcal / kWh). Keeping in view that PTPS Unit I will be refurbished during FY 2007-08 with performance guarantee of 2018 Kcal/kWh of turbine heat rate & 86% boiler efficiency as per work order dated 1/8/2006 placed by HPGCL on BHEL and some more improvement in SHR of PTPS unit II – IV, the Commission has considered SHR of 3200 Kcal/kWh in respect of PTPS unit I-IV.

The Commission, in its Generation tariff order of FY 2006-07, considered SHR of 2700 & 2500 Kcal/kWh in respect of PTPS V & VI respectively. HPGCL vide its memo no. HPGC/FIN/Reg-226/163 dated 20/02/2007 submitted that SHR of 2500 Kcal/kWh for Unit VI, PTPS, determined by the Commission for FY 2006-07 could not be achieved and remained at 2756 Kcal/kWh upto January 2007 and 2851 Kcal/kWh in FY 2005-06, thus the Commission may revise target SHR from 2500 to 2700 Kcal/kWh i.e. equal to SHR of PTPS Unit V.

The SHR is largely influenced by efficiency of the boilers and turbines; make – up requirements and O&M practices. Lack of R&M and overall good O&M practices over a prolonged period has hastened the deterioration in SHR of PTPS (Unit I to IV), PTPS (Unit V & VI) and FTPS. It is a matter of great concern to us that PTPS Unit V & VI failed to achieve the SHR targets set by the Commission in FY 2005-06 and FY 2006-07. HPGCL seems to have eschewed its responsibility by stating “Unit VI SHR as allowed by HERC could not be achieved”. The CEA vide memo no. CEA/TETD-TT/2003/N-6 dated 25<sup>th</sup> April 2005, after conducting energy audit tests of these units, recommended, “a gross unit heat rate of 2460 Kcal/kWh (80% PLF) for 210 MW kwu type units installed at Panipat. The only possible correction in heat rate shall be applied for part load operation @2.5 Kcal/kWh for every 1% variation in PLF upto the target PLF for these units”. It is pertinent to note that in FY 2006-07 (upto January 2007) both PTPS units V & VI have been operating at over 90% PLF and hence the cushion for ‘part load operation’ is also not applicable. **Thus, HPGCL is directed to undertake a detailed analysis including energy audit of these units and submit a report to the Commission within three months from the date of this order along with time-bound remedial measures to improve upon the SHR of these units.** However, considering the performance of these units and the fact that PTPS (unit V & VI) machines are more or less of similar vintage and performance the Commission has considered SHR of 2600 Kcal/kWh for estimating fuel cost in respect of PTPS Unit V & VI in FY 2007-08. **The Commission would like to monitor the performance of these machines during the later part of the year and accordingly set improved norms during the next rate case.**

In the case of FTPS (unit I-III) the average design value of SHR is 2787 Kcal/kWh (values ranges between 2727 – 2847 Kcal / kWh). Thus these Stations are capable of achieving an average heat value of 3185 Kcal / kWh at 45% PLF. As against this the reported actual during FY

2006-07 (upto 28/02/2006) in the case of FTPS (unit I-III) was 4200 Kcal / kWh (values ranging from 4167 Kcal / kWh to 4250 Kcal / kWh).

The Commission has been allowing SHR of 3970 Kcal/kWh in respect of FTPS (unit I-III) i.e. the lowest value reported in FY 1999-2000. The station has shown some improvement over the years as SHR improved from 4354 Kcal/kWh in FY 2001-02 to 4186 Kcal/kWh in FY 2004-05 and is currently (FY 2006-07 upto January 2007) at 4281 Kcal/kWh level. The improvement reported over the years is marginal and erratic. In the light of the recent performance of these units, its failure to meet the target of 3970 Kcal/kWh set by HERC since its first Generation tariff order of FY 2004-05 and the fact the FTPS powerhouses have completed their normal useful life, and as submitted by HPGCL in its reply filed vide memo no. HPGC/FIN/Reg-205/415 dated 21/03/2006, are likely to be phased out by 2011-12, the Commission has pegged the SHR of FTPS (Unit I-III) at 4000 Kcal/kWh.

In case of PTPS units VII–VIII and DCR TPP unit I-II, the Commission has considered SHR of 2500 & 2600 Kcal/kWh respectively in accordance with the national norms.

As the Commission has been allowing all the justifiably incurred capital & operating costs, it expects sustained improvement in the operating parameters including the SHR. The table 2.7 presents the lowest value of SHR in the last 7 years in case of PTPS units I to IV & FTPS units I to III, while in all other cases viz. PTPS units VI to VIII the reference point is their respective year of commissioning, HPGCL's proposal for FY 2007-08 and HERC approval thereto are presented in table 2.7 below.

**Table 2.7 Station Heat Rate (K.cal / kWh)**

Station	Lowest Achieved in past 7 years	HPGCL Proposal for FY 2007-08	HERC Approval for FY 2007-08
PTPS (Units I-IV)	3334	3450	3200
PTPS (Unit V)	2764	2700	2600
PTPS (Unit VI)	2756	2700 (revised)	2600
PTPS (Unit VII)	2501	2500	2500
PTPS (Unit VIII)	2499	2500	2500
FTPS (Units 1-III)	4186	3970	4000
DCR TPP (I&II)	NA	2600	2600

**Note:** In the case of DCR TPP (Unit I&II) the Commission has considered the stabilisation norm of 2600 Kcal/kWh.

### 2.10 Energy / Variable Charge

The Energy / variable charge has been calculated based on the Commission's approved parameters for FY 2007-08.

**Table 2.8 PTPS Energy / Variable Charges for FY 2007-08**

Parameters	Derivation	PTPS							
		I	II	III	IV	V	VI	VII	VIII
Generation (Million Units)	A	675	675	675	675	1472	1472	1752	1752
Auxiliary Cons (%)		11	11	11	11	9	9	9	9
Generation (Ex-bus Million Units)	A1	601	601	601	601	1339	1339	1594	1594
Station Heat Rate (Kcal/kWh)	B	3200	3200	3200	3200	2600	2600	2500	2500
Specific Oil Consumption (MI/kWh)	C	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0
Calorific Value of Fuel Oil (Kcal/Ltr)	D	9991	9991	9991	9991	9991	9991	9991	9991
Calorific Value of Coal (Kcal/Kg)	E	3888	3888	3888	3888	3888	3888	3888	3888
Overall Heat (Gcal)	F= (A*B)	2160000	2160000	2160000	2160000	3826368	3826368	4380000	4380000
Heat From Oil (Gcal)	G= (A*C*D)/1000	20232	20232	20232	20232	29407	29407	35008	35008
Heat From Coal (Gcal)	H= (F-G)	2139768	2139768	2139768	2139768	3796961	3796961	4344992	4344992
Oil Consumption	I=G*1000/D=A*C	2025	2025	2025	2025	2943	2943	3504	3504
Coal Consumption (MT) 2% loss	J=(H*1000/E)/0.98	561584	561584	561584	561584	996515	996515	1140346	1140346
Cost of Oil per KL (Rs)	K	18127	18127	18127	18127	18127	18127	18127	18127
Cost of Coal per MT (inc LADT) Rs	L	2252	2252	2252	2252	2252	2252	2252	2252
Total Cost of Oil (Rs. Million)	M=K*I/10 <sup>6</sup>	37	37	37	37	53.35	53.35	63.52	63.52
Total Cost of Coal (Rs. Million)	N=J*L/10 <sup>6</sup>	1265	1265	1265	1265	2244	2244	2568	2568
Total Fuel Cost (Rs/Million)	O=M+N	1301	1301	1301	1301	2298	2298	2632	2632
Fuel Cost (Rs/kWh)	P=O/A1	2.17	2.17	2.17	2.17	1.72	1.72	1.65	1.65

**Table 2.9 FTSP & DCR I&II Energy / Variable Charges for FY 2007 - 08**

Parameters	Derivation	FTPS			DCR TPP		WYC & Kakroi
		I	II	III	I	II	
Generation (Million Units)	A	217	217	217	772	242	302
Auxiliary Cons (%)		12.5	12.5	12.5	9.5	9.5	0.50
Generation (Ex-bus Million Units)	A1	189.88	189.88	189.88	698.66	219.01	300
Station Heat Rate (Kcal/kWh)	B	4000	4000	4000	2600	2600	
Specific Oil Consumption (MI/kWh)	C	4.0	4.0	4.0	4.5	4.5	
Calorific Value of Fuel Oil (Kcal/ltr)	D	10000	10000	10000	9991	9991	

Calorific Value of Coal (Kcal/Kg)	E	3891	3891	3891	3888	3888
Overall Heat (Gcal)	$F = (A*B)$	868000	868000	868000	2007200	629200
Heat From Oil (Gcal)	$G = (A*C*D)/1000$	8680	8680	8680	34709	10880
Heat From Coal (Gcal)	$H = (F-G)$	859320	859320	859320	1972491	618320
Oil Consumption	$I = G*1000/D = A*C$	868	868	868	3474	1089
Coal Consumption (MT) 2.5% & 2% transit loss	$J = (H*1000/E)/0.975 \text{ \& } 0.98$	226511	226511	226511	517682	162278
Cost of Oil per KL (Rs)	K	28261	28261	28261	18127	18127
Cost of Coal per MT (inc LADT) Rs	L	2542	2542	2542	2252	2252
Total Cost of Oil (Rs. Million)	$M = K*I/10^6$	24.84	24.84	24.84	62.97	19.74
Total Cost of Coal (Rs. Million)	$N = J*L/10^6$	576	576	576	1166	365
Total Fuel Cost (Rs/Million)	$O = M+N$	601	601	601	1229	385
Fuel Cost (Rs/kWh)	$P = O/A1$	3.16	3.16	3.16	1.76	1.76

Note: Transit loss of coal for the limited purpose of estimating coal consumption for allowed levels of generation has been considered at 2% in case of PTPS and DCR powerhouses and 2.5% in case of FTPS

The Gross Calorific Value (GCV) of coal and fuel oil is based on the average value of the data submitted by HPGCL for the period FY 2006-07 (upto December 2006). The basic price of coal has been worked out after considering the weighted average of the latest invoiced rate i.e. December 2006, made available to the Commission. LADT and railway freight as per actual have been added to the basic rate to arrive at the cost (Rs / MT) of coal for FY 2007-08.

As per the coal transit loss reduction trajectory set by the Commission in its previous order 2% adjustment was required to be made for computing the actual volume of coal consumption as presented in table 2.8. The actual transit loss of coal as reported by HPGCL is of the order of 3.23% during FY 2006-07 (upto December 2006) for HPGCL as a whole, which is far in excess of the national norms of 0.8% for non-pithead (rail fed) powerhouses. HPGCL vide its memo no. HPGC/FIN/Reg-226/163 dated 20/02/2007 submitted that despite best efforts, HPGCL could reduce transit loss of coal from 6.58% in FY 2001-02 to 3.23% in FY 2006-07 (upto December 2006). The loss of coal in transit in case of FTPS is much more than PTPS as reported by HPGCL. HPGCL submitted that it has no control over coal transit loss and the railways do not take any responsibility and hence coal transit loss may be allowed as per actual i.e. @ 3.16% PTPS and 3.90% for FTPS. In view of the the ground realities, achievability and the facts placed before the Commission, 2% coal transit loss has been allowed in respect of PTPS and DCR TPP as per the annual coal loss reduction trajectory set out by the Commission in its previous order. However,

considering the fact that coal transit loss in the case of FTPS is on the higher side i.e. 3.9%, the Commission has pegged coal transit loss at 2.5% i.e. at previous years level, for the purpose of computing cost of coal in FY 2007-08. **The Commission directs HPGCL to take up the matter of transit loss of coal at the highest level and take all possible steps, (including consultation with other powerhouses in the region who have successfully brought down their coal transit loss) to reduce it to an acceptable level.**

The allowed energy charge(s) is subject to fuel price adjustment, if any, due to changes(s) in the price of coal /oil during FY 2007-08 and their respective Gross Calorific Value(s) with reference to the approved fuel cost and GCV indicated in table 2.8 & 2.9. The fuel price adjustments shall be made on a quarterly basis by HPGCL on the basis of GCV of coal / oil received and burnt and their respective landed cost(s) as per the CERC FPA formula including coal transit loss allowed by the Commission. **HPGCL shall not file any separate petition with the Commission for fuel price adjustment.** In case of any dispute, an appropriate application in accordance with the HERC (Conduct of Business) Regulation 2004, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

## **2.11 Fixed Cost**

The various elements of fixed cost namely operation and maintenance (O&M) charges; depreciation, interest and finance charges on loans, interest on working capital and return on equity are discussed in the paragraphs that follow.

## **2.12 Operation & Maintenance (O&M) Expenses**

The O&M charges comprise of Repair and Maintenance charges (R&M), Employees cost and Administrative expenses. Efficiencies are derived gradually over a long period of time; hence **R&M efforts**

**should start from day one after commissioning to address any shortfall in performance with reference to the design parameters.**

The guiding factor for working out O&M expenses should have been the actual level of such expenses incurred during the preceding three years for the existing stations escalated by an appropriate factor to account for inflation. However, in the absence of audited accounts of HPGCL for FY 2005-06, the O&M expenses approved by the Commission in its previous order have been considered for PTPS units I-V, FTPS unit I-III and WYC & Kakroi powerhouses. These have been escalated by 4% to account for inflation. For newer units of PTPS i.e. unit VI, VII & VIII and DCR TPP I & II the O&M expenses have been worked out as per the national norm proposed by HPGCL i.e. Rs.1.17 million per MW.

The O&M expenses claimed by HPGCL and allowed by the Commission are presented in table 2.10.

**Table 2.10 O&M Expenses for FY 2007-08**

	PTPS					DCR TPP	FTPS	WYC & Kakori
	Unit I-IV	Unit V	Unit VI	Unit VII	Unit VIII	Unit I&II	Unit I-III	
HPGCL Proposal for FY 2007-08 (Rs. mln)	645	307.88	245.70	292.50	292.50	169.25	464.01	86.52
HERC Approval for FY 2007-08 Rs mln	645	307.88	245.70	292.50	292.50	169.25	464.01	86.52

**The Commission notes with concern the inordinate delay in finalisation / audit of annual accounts and directs HPGCL to ensure timely closure and audit of accounts. The figures as per audited accounts would reveal the actual O&M expenses vis- a-vis the normative levels allowed.**

## **2.13 Depreciation**

Para 5.3 (C) of the Tariff policy issued by the Ministry of Power, GOI, on 6/01/2006 states that CERC may notify the rates of depreciation in

respect of Generation and Transmission assets. The rate of depreciation so notified would be applicable for the purpose of tariff as well as accounting. The CERC regulations on depreciation as contained in the CERC (Terms and Conditions of Tariff) Regulations 2004 – No L-7 / 25 (5) / 2003 – CERC dated 26/03/2004 provides for Advance Against Depreciation (AAD), which has been considered by the Commission while allowing depreciation based on CERC notified rates which is significantly lower than the rates specified by the Government of India, Ministry of Power vide its notification No. S.O. 266 (E) dated 23/01/1992 and as amended vide notification No. S.O. 266 (E) dated 29/03/1995, and hence the amount allowed as depreciation is also much lower than that amount proposed by HPGCL.

In the instant case the loan repayment during FY 2007-08 amounts to Rs. 3066.38 million which is higher than 1/10<sup>th</sup> of loans outstanding at the beginning of the FY 2007-08 i.e. Rs. 2811.37 million, thus the latter amount has been considered for working out AAD in line with CERC methodology. The AAD as per CERC methodology works out to Rs. 1534.09 million. The depreciation during FY 2007-08 has been estimated by the Commission as Rs. 1277.28 as against Rs. 2678.53 million claimed by HPGCL. Thus the AAD has been restricted to Rs. 1401.25 i.e. the difference between depreciation amounts as proposed by HPGCL and that allowed by the Commission as per the depreciation rates notified by the CERC. The Commission in its FY 2006-07 order directed HPGCL to examine the CERC rates as contained in Appendix II of their Regulations dated 26/03/2004 and also work out alternatives as to how the gap between depreciation amount available and loan repayments can be bridged in the absence of AAD as stipulated in the National Tariff Policy and submit the same within six months of the order. The report should have been submitted by November end. In reply to this directive HPGCL in the filing under consideration submitted, “The issue is being examined and the position shall be submitted by the end of December 2006”. The Commission observes that the directive remains uncomplished and HPGCL submitted the

instant filing based on the rates specified by GOI in 1992 as amended in 1995. **HPGCL is directed to submit their analysis without any further loss of time.**

HPGCL should ensure that the proposed repayments are made on time. In case it does not make the proposed repayments during FY 2007-08, any excess amounts allowed during the current year shall be recovered in the subsequent ARR with interest. The depreciation and AAD allowed for repayment of Capex loans should not be diverted and HPGCL should provide documentary support of payment in the next ARR. HPGCL is directed to file a compliance report on timely repayment of loan during 2006-07 by 30<sup>th</sup> April 2007.

HPGCL is also directed to submit a report showing year wise cumulative depreciation and instrument wise cumulative repayment of loans for capital works upto 31.3.2007 within 3 months of this order to ensure compliance of the 1<sup>st</sup> proviso to Regulation 56 (ii) b of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004.

The Commission, in line with the CERC regulations, has allowed AAD to be recovered as part of the fixed cost. HPGCL shall create an AAD reserve. In future, when depreciation amount exceeds loan repayment amount, the reserves shall be drawn down to meet depreciation requirement, thereby reducing the cost passed on to the consumers.

## **2.14 Interest and Finance Charges on Loan**

HPGCL has claimed Rs. 2,399 million as interest on long-term loans for FY 2007-08. The Commission examined the details of all the long-term loans including repayments and drawls and respective interest rates. Based on the loans arrived at as the difference between opening and closing balance during FY 2007-08 and the respective interest rates, **the Commission allows Rs. 2315.89 million as interest & finance charges on loans during FY 2007-08.**

## 2.15 Interest on Working Capital

Interest on working capital is computed on normative basis. The Commission computed the working capital requirement on the basis of following elements.

- i) Cost of coal stock for 2 months
- ii) Cost of oil stock for 2 months
- iii) O&M expenses for 1 month
- iv) Maintenance spares at 1% of the historical cost escalated @ 6% per annum.
- v) Receivable equivalent to 2 months of projected fixed and variable charges for FY 2007-08

On the normative working capital worked out on the basis of the above, interest is allowed @ 10% per annum in light of the fact that the prime lending rate of nationalised banks are hovering around 12% while HPGCL is able to raise short term resources at 200 basis points below the prime lending rates. **Resultantly, Rs. 842.91 million is allowed as interest on normative working capital as against Rs. 886.68 million projected by HPGCL.** The computation of normative working capital and interest thereon is presented in table 2.11:

**Table 2.11 Normative Working Capital FY 2007-08 (Rs. million)**

	PTPS					DCR TPP	FTPS	WYC & Kakroi
	Units I to IV	Unit V	Unit VI	Unit VII	Unit VIII	I & II	Units I-III	
Cost of Coal Stock for 2 months	843.33	374	374	428	428	255.21	288	0
Cost of Oil stock for 2 months	24.67	8.89	8.89	10.59	10.59	13.79	12.42	0
O&M expenses for one month	53.75	25.66	20.47	24.38	24.38	14.10	38.67	7.21
Spares 1% of historical cost escalated by 6% #	35.97	29.38	123.78	100.31	100.31	240	8.3	14.74
Receivables (2 months of Fixed & Variable charges allowed)	1103.45	488.52	610.79	675.16	675.16	487.42	391.76	41.72
Total Normative Working Capital	2061.16	926.45	1137.93	1238.43	1238.43	1010.52	739.15	63.67
Interest on working capital @ 10.0%	206.12	92.65	113.79	123.84	123.84	101.05	73.91	6.37

# Capital spares allowed to facilitate minimum risk and outage time.

The Commission, in its FY 2006-07 order directed HPGCL to monitor its receivables and take steps to manage its receivables in a prudent way and in tune with its 'payables' so as to reduce the same. In reply to this direction HPGCL, in the filing under consideration, stated, "receivables are being monitored on day-to-day basis. The cumulative receivables are equivalent to 136 days as compared to working capital allowed for 60 days by the Commission". The Commission observes that HPGCL failed to address the concerns of the Commission i.e. "manage receivables in a prudent way". The above reply of HPGCL suggests that the normative working capital worked out without taking into consideration the payables, thus to that extent is not sufficient. The emphasis should have been on efforts to reduce the receivables. A perusal of the month wise data submitted for the period April 2006 to September 2006 shows the receivables increased from a level of Rs. 1026.68 million to Rs. 1190.78 million. The receivables against supply of power, which was Rs. 1213.78 million as on 31<sup>st</sup> March 2004 has shot up to Rs.5228.43 million as on 31<sup>st</sup> March 2005. The widening working capital gap in a rising short-term interest rate regime requires urgent corrective intervention.

## **2.16 Return on Equity (ROE)**

A return on equity is essential for compensating equity fund as it reflects the productivity of the ownership (or risk) capital employed in the company. In the case of HPGCL it is essential that they are able to generate resources internally to meet their unfunded liabilities inherited from the past, ensure financial viability and maintain operating efficiency.

A 12% return on equity, as proposed by HPGCL, is allowed by the Commission so that there is no hiatus in organic growth of the generation company by way of de-bottlenecking and modernisation of the existing units as well as generate some investible funds through internal sources, thereby reducing its dependence on the budgetary resources of the State Government to that extent.

HPGCL has claimed Rs. 1389.3 million @ 12% as return on equity for FY 2007-08. **The Commission based on average of FY 2007-08 opening and closing equity amount allows Rs. 1299.3 million @ 12% as proposed by HPGCL.**

## **2.17 Billing & Payments**

The Commission, at this stage is not considering HPGCL's proposal with respect to billing and payments, incentive, rebate and late payment surcharge. The Commission recognises this as essential element of tariff and shall consider the same while finalising the regulations on terms and conditions of determination of generation tariff.

## **2.18 Internal Audit**

In reply to the Commission's direction on strengthening internal audit HPGCL, in the instant filing, has replied, "The staff re – structuring exercise is being taken and additional posts are proposed to be provided to strengthen the internal audit". Thus the Commission's

directive, auditor's observation as well as cost auditors comment on the need to strengthen internal audit has, so far, gone unheeded. **HPGCL is advised to take necessary steps to strengthen its internal audit and inform the Commission accordingly.**

## 2.19 Human Resource Management

The Commission, in its FY 2006-07 order, directed HPGCL to undertake a detailed analysis of its human resources, assess its medium to long – term needs and submit a human resource management / development plan for consideration of the Commission within six months from the date of issue of this order. Instead of submitting a compliance report by November 2006, HPGCL, in the filing under consideration, has submitted a vague reply. **The Commission advises HPGCL that in future, it must submit reasons for non compliance within the stipulated time period along with a request for waiver duly flagging the time period within which the same shall be complied with.**

## 2.20 Fixed Expenses for FY 2007-08

A summary of the Commission's approval of fixed expenses is presented in table 2.12.

**Table 2.12 Fixed Expenses for FY 2007-08 (Rs. Million)**

	PTPS					DCR	FTPS	WYC & Kakroi
	Units 1-4	Unit 5	Unit 6	Unit 7	Unit 8	I&II	Units 1-3	
O&M Expenses	645.0	307.88	245.7	292.5	292.5	169.25	464.01	86.52
Depreciation	181.58	76.92	347.49	297.74	297.74	0.11	24.82	50.88
Interest on Term Loan	187.25	101.8	418.9	477.89	477.89	532.81	31.45	87.92
Interest on Working Capital	206.12	92.65	113.79	123.84	123.84	101.05	73.91	6.37
Return on Equity @ 12%	66.41	23.96	210.9	227.4	227.4	507.3	17.33	18.61
Fixed Cost	1286.36	603.18	1336.8	1419.38	1419.38	1310.52	611.53	250.78
Advance Against Depreciation	199.21	84.39	381.22	326.64	326.62	0.12	27.23	55.82
Total Fixed Cost	1485.57	687.57	1718.01	1746.02	1746.00	1310.64	638.76	306.12

### 3 CONCLUSION

The approved tariffs for FY 2007-08 are as under:

**Table 3.1 Approved Tariffs (FY 2007-08)**

	PTPS (Units I-IV)	PTPS (Unit V)	PTPS (Unit VI)	PTPS (Unit VII)	PTPS (Unit VIII)	DCR TPP (Unit I&II)	FTPS (Unit 1-3)	WYC & Kakroi
Energy Charges (Rs./kWh)	2.17	1.72	1.72	1.65	1.65	1.76	3.16	0
Fixed Charges (Rs./kWh)	0.62	0.51	1.28	1.10	1.10	1.43	1.12	1.02
Total Charges (Rs./kWh)	2.79	2.23	3.00	2.75	2.75	3.19	4.28	1.02

**The Commission directs that the generation tariffs approved by it for FY 2007- 08 be implemented with effect from 1<sup>st</sup> April 2007.**

HPGCL shall complete all procedural requirements to ensure implementation from the stipulated date. The order shall, unless amended or revoked by the Commission, continue to be in force.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 8<sup>th</sup> day of May 2007.

Date: 8 May 2007

Place: Panchkula

**T. S. Tewatia**  
**(Member)**

**T. R. Dhaka**  
**(Member)**

**Bhaskar Chatterjee**  
**(Chairman)**

## **ANNEXURE – 1: LIST OF DIRECTIVES NOT FULLY IMPLEMENTED**

The Commission has issued a number of directives to HPGCL in its previous orders on Generation Tariff for FY 2004-05, FY 2005-06 and FY 2006-07. HPGCL has not yet fully complied with many directives. All such directives are given below.

1. The Commission directs HPGCL to take all possible steps to progressively reduce the transit loss of coal to nationally acceptable level as it amounts to an avoidable burden on the electricity consumers of Haryana (Para 4.11 Pg. 27, FY 2004-05 order).
2. The Commission directs HPGCL to clear the backlog of getting their accounts audited including that of FY 2003-04 at the earliest and the quarterly report (s) be submitted by 10<sup>th</sup> of the beginning of the next quarter (Para 4.13, Page 28 FY 2004-05 order).
3. The Commission directs HPGCL to get a FAR prepared and audited within one-year from the date of this order and submit a copy to the Commission (Para 4.14, Page 29 FY 2004-05 order).
4. The Commission directs HPGCL to provide unit wise details of employees' expenses including break-up of basic pay, DA, terminal benefits etc. method of calculation and basis of projection adopted. Similarly, wherever 'cost & rate' allowed by the Commission, so far are not based on 'norms', detailed break-up must be provided. The filing of proposed tariff must include Unit wise variable charges (rate), Unit wise fixed charges (rate) or amount proposed to be recovered. (Para 4.3 Pg. 22, FY 2005-06 order).
5. HPGCL is directed to implement the recommendations of the Energy Audit Reports and take all necessary measures to reduce auxiliary power consumption to the national norms. (Para 4.7 Pg.26, FY 2005-06 order)

6. HPGCL is directed to take all necessary measures to reduce specific oil consumption to the national norms. (Para 4.8 Pg.27, FY 2005-06 order).

## **ANNEXURE – 2 LIST OF NEW DIRECTIVES**

The Commission has given the following new directives in this order.

1. The Commission directs that planned shut down schedule as intimated to the Commission with corresponding capital expenditure (both loan and equity) must be adhered to. These units, after intensive R&M and annual overhauling, must operate at a PLF of over 80% (Para 3, Page No. 14).
2. HPGCL is directed to monitor running hours of all auxiliary motors vis-a-vis running hours of generating units to find out if any motor is kept running when not required and also carry out energy audit of auxiliary motors in respect of rated consumption at applicable load vis-à-vis actual power drawn by the motors and take remedial measures wherever required (Para 1, Page No.16).
3. HPGCL is directed to undertake a detailed analysis including energy audit of these units and submit a report to the Commission within three months from the date of this order along with time – bound remedial measures to improve upon the SHR of these units (Para 1, Page No.20).
4. The Commission directs HPGCL to take up the matter of transit loss of coal at the highest level and take all possible steps, (including consultation with other powerhouses in the region who have successfully brought down their coal transit loss) to reduce it to an acceptable level (Para 1, Page no.24).
5. The fuel price adjustments shall be made on a quarterly basis by HPGCL on the basis of GCV of coal / oil received and burnt and their respective landed cost(s) as per the CERC FPA formula including coal transit loss allowed by the Commission. HPGCL shall not file any separate petition with the Commission for fuel price adjustment (Para2, Page No.24).

6. Commission observes that the directive (on depreciation) remains uncomplied and HPGCL submitted the instant filing based on the rates specified by GOI in 1992 as amended in 1995. HPGCL is directed to submit their analysis without any further loss of time (Para 1, Page No. 27).
7. HPGCL is advised to take necessary steps to strengthen its internal audit and inform the Commission accordingly (Para 1, Page No.31).
8. The Commission advises HPGCL that in future, it must submit reasons for non compliance within the stipulated time period along with a request for waiver duly flagging the time period within which the same shall be complied with (Para 2, Page No.31).