COMMISSION'S ORDER

ON

GENERATION TARIFF FOR

HARYANA POWER GENERATION CORPORATION LIMITED

FY 2012-13

CASE No: HERC / PRO– 31 OF 2011

Panchkula

29th March, 2012

HARYANA ELECTRICITY REGULATORY COMMISSION

BAY NO. 33-36, SECTOR - 4, PANCHKULA - 134 112

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BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION
BAY NO. 33-36, SECTOR - 4, PANCHKULA - 134 112

CASE NO: HERC / PRO - 31 OF 2011

DATE OF HEARING: 13th Feb,2012

DATE OF ORDER: 29th March, 2012

Coram:	**Shri R.N. Prasher**	**Chairman**
	Shri Rohtash Dahiya	**Member**
	Shri Ram Pal	**Member**

IN THE MATTER OF

Approval of Haryana Power Generation Corporation Limited (HPGCL) generation tariff for FY 2012-13 (from 1/04/2012 to 31/03/2013).

AND

IN THE MATTER OF

HPGCL Panchkula …… Petitioner

Vs

1. UHBVNL ….. Respondents
2. DHBVNL

Parties Present:-

1. Shri Anurag Agarwal, MD, HPGCL
2. Shri B.B. Gupta, FA/Hqr. HPGCL
3. Shri Vikash K. Gupta, CAO, HPGCL
4. Shri S.C. Vasishta, Director / Tech, HPGCL
5. Shri Neeraj Bali, XEN/RA, UHBVNL
6. Ms. Khyati, Consultant, UHBVNL

ORDER

1. The instant petition has been filed by Haryana Power Generation Corporation (hereinafter referred to as HPGCL), a power generating company in the State of Haryana, as defined in section 2 (28) of the Electricity Act, 2003. HPGCL vide their Memo No. HPGC/FIN/Reg-403/262 dated 29/11/2011 for approval of tariffs for their generating stations i.e. Panipat Thermal Power Station (PTPS Unit 1 to 8), Deen Bandhu Chhotu Ram Thermal Power Station, Yamunanagar (DCR TPS Units 1 & 2), Rajiv Gandhi Thermal Power Station, Hisar (RG TPS Unit 1 & 2) and Mini Hydel power stations at Yamunanagar & Kakroi (WYC).

2. The details of the generating stations for which HPGCL has filed the instant tariff petition including date of commercial operation of the different power stations provided by them are as under:-

Particulars	Installed Capacity as on 31.03.2011	Date of Commissioning / COD
Panipat Thermal Power Station, Panipat	Unit No-1: 117.8 MW	01/11/1979
	Unit No-2: 110 MW	27/03/1980
	Unit No-3: 110 MW	01/11/1985
	Unit No-4: 110 MW	11/01/1987
	Unit No-5: 210 MW	28/03/1989
	Unit No-6: 210 MW	31/03/2001
	Unit No-7: 250 MW	28/09/2004
	Unit No-8: 250 MW	28/01/2005
DCRTPS,Yamuna Nagar	Unit No-1: 300 MW	14/04/2008
	Unit No-2: 300 MW	24/06/2008
RGTPS, Hisar	Unit No-1: 600 MW	24/08/2010
	Unit No-2: 600 MW	01/03/2011
Western Yamuna Canal Hydro Project (Yamuna Nagar)	Power House A	
	Unit No-1: 8 MW	29/05/1986
	Unit No-2: 8 MW	13/06/1986
	Power House B	
	Unit No-1: 8 MW	15/05/1987
	Unit No-2: 8 MW	01/06/1987
	Power House C	
	Unit No-1: 8 MW	27/03/1989
	Unit No-2: 8 MW	18/04/1989
	Power House D	
	Unit No-1: 7.2 MW	16/04/2004
	Unit No-2: 7.2 MW	12/05/2004
Micro Hydro Power Station, Kakroi	0.30 MW	
Total Capacity	**3230.5 MW**	

3. The tariff(s) of HPGCL's generating stations for FY 2011-12 was determined by the Commission vide its order dated 18th April, 2011 in case no. HERC/PRO – 1 of 2011. The tariffs determined were as under:-

HERC Approved Tariff (FY 2011 - 12)

	PTPS (Unit 1-4)	PTPS (Unit 5)	PTPS (Unit 6)	PTPS (Unit 7 & 8)	DCRTPS (Unit 1&2)	RGTPS (Unit 1 &2)	WYC & Kakroi	Total HPGCL
Energy Charges (Rs./kWh)	2.87	2.29	2.29	2.28	1.97	1.99	0	2.15
Fixed Charges (Rs./kWh)	0.90	0.86	0.95	0.98	1.24	0.96	1.39	1.00
Total Charges Rs / kWh	3.77	3.15	3.24	3.26	3.21	2.95	1.39	3.15

In addition to the base tariff(s) as determined above HPGCL was also allowed to recover any difference in the cost of coal and secondary fuel oil and the respective GCVs vis – a- vis those allowed by the Commission on a projected basis through Fuel Price Adjustment (FPA) mechanism in accordance with the FPA formula approved by the Commission.

4. Submissions of the Petitioner for FY 2012-13:-

HPGCL (the petitioner) has filed the instant petition largely based on the technical and financial parameters approved by the Haryana Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations 2008 and the principles adopted by HERC in Generation Tariff Orders for previous years. Where ever HERC norms / orders do not exist the norms as per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 have been adopted.

A summary of the proposed generation tariff filed by HPGCL for FY 2012-13 is presented below:-

PTPS Unit 1 to 8 (in Rs. Crore)

Station	PTPS (Unit 1-4)	PTPS (Unit-5)	PTPS (Unit-6)	PTPS (Unit 7)	PTPS (Unit-8)	PTPS (Unit 1-8)
Fuel Cost	744.07	432.40	435.23	454.11	453.93	2,519.69
Proposed Depreciation	28.91	12.20	50.89	44.34	44.35	180.69
Interest & Finance Charges	14.74	2.82	13.07	27.67	27.67	85.96
Interest on Working Capital	50.74	254.78	273.55	293.78	293.69	1,623.16
Return on Equity	15.64	9.12	29.04	40.23	40.23	134.26
O&M Cost	172.50	45.17	45.17	53.78	53.78	370.40
Total Cost of Generation	1,025.65	527.19	600.75	690.74	608.08	3,452.41
MUs Generated	2,075.75	1,407.45	1,414.33	1,693.97	1,693.97	8,285.46

Station	PTPS (Unit 1-4)	PTPS (Unit-5)	PTPS (Unit-6)	PTPS (Unit 7)	PTPS (Unit-8)	PTPS (Unit 1-8)
Cost per Unit (Rs./kWh)	4.95	3.75	4.25	3.83	3.83	4.17

DCRTPP & RGTPP (in Rs. Crore)

Station	DCR TPS Unit-1	DCR TPS Unit-2	DCR TPS Unit 1 –2	RG TPS Unit -1	RG TPS Unit-2	RG TPS Unit 1-2	Revised RG TPS 1&2#
Fuel Cost	486.88	486.88	973.77	1,010.53	1,010.53	2,021.06	2282.91
Proposed Depreciation	51.10	51.10	102.21	88.68	88.68	177.36	177.36
Interest & Finance Charges	86.83	86.83	173.66	186.04	186.04	372.09	372.09
Interest on Working Capital	50.74	25.48	27.36	30.39	28.36	162.32	145.04
Return on Equity	330.60	330.60	661.20	659.23	659.23	1,318.46	192.02
O&M Cost	56.73	56.73	113.46	82.92	82.92	165.84	165.84
Total Cost of Generation	1,026.60	527.19	600.75	690.74	608.08	3,453.35	3335.26
MUs Generated	2,032.76	2,032.76	4,065.52	4,199.54	4,199.54	8,399.09	8399.09
Cost per Unit (Rs./kWh)	3.75	3.75	3.75	3.64	3.64	3.64	3.97

Revised vide petition dated 8/02/2012.

WYC & kakroi (in Rs. Crore)

Station	WYC &Karkoi	Total HPGCL	Revised #
Fuel Cost	-	5,514.52	5776.4
Proposed Depreciation	9.43	469.69	469.69
Interest & Finance Charges	3.26	634.97	634.97
Interest on Working Capital	1.48	361.77	375.37
Return on Equity	5.48	425.52	425.52
O&M Cost	21.04	670.73	670.73
Total Cost of Generation	40.69	8,077.60	8352.68
MUs Generated	272.26	21,022.32	21022.3
Cost per Unit (Rs./kWh)	1.51	3.84	3.97

revised vide petition dated 8/02/2012.

The Petitioner has prayed that the proposed Generation tariff may be approved to enable them to recover actual cost of generation as envisaged in the National Tariff Policy Section 5.3 (f) which states that

“The norms should be efficient, relatable to past performance, capable of achievement and progressively reflecting increased efficiencies and may also take into consideration the latest technological advancements, fuel, vintage of equipment, nature of operations, level of service to be provided to consumers etc.....”

Prayer

In view of the above, the petitioner has prayed as under:-

a) Admit this Petition;
b) Condone delay in submission of the petition;
c) consider deemed generation for computation of technical parameters of HPGCL generating station;
d) Permit HPGCL the right to sell the power to third party outside state in event of payment default by the distribution licensee of Haryana and also to recover the fixed charge of the power sold outside the state instead of Haryana Discoms;
e) Approve the two part tariff for FY 2012-13 to the extent claimed by HPGCL in accordance with the submissions and rationale given in the Petition;
f) Allow coal import beyond 10% as mandated by Govt. of India and also to procure coal through e-auction process as well as from private sources to meet the coal shortage in HPGCL.
g) Permit recovery of fixed charges for the Units which are under forced shut-down because of force majeure conditions and in case of backing down of the plant;
h) Pass such orders as Hon'ble HERC may deem fit and proper and necessary in the facts and circumstances of the case, to grant relief in the operational norms related to Plant Load factor,Station Heat Rate, Auxiliary Consumption, Specific oil consumption for PTPS Unit-1 to 4 as they are more than 25 years old;
i) Approve the coal transit losses and moisture loss for FY 2012-13 as proposed in the petition in line with APTEL order dated 07.04.2011 on Appeal No. 26 of 2008, CERC (Terms and Conditions of Tariff) Regulations, 2009 - Statement of Objects and Reasons & Tariff order passed by Hon'ble BERC;
j) Approve all pending petitions filed by HPGCL in the past such as business plan etc;
k) Approve the other consideration expressed by the petitioner in the current petition;
l) Condone any inadvertent omissions / errors / short comings and permit the applicant to add / change /modify / alter this filing and make further submissions as may be required at later stages.

5. Projections of the Technical Parameters:-

HPGCL has provided the actual performance of the generating stations for the past years including first six months of the FY 2011-12 (Current year) and projections for the FY 2012-13 (the ensuing year). The station wise details and rationale for projections for FY 2012-13 as filed by them is provided in the following paragraphs.

Plant Load Factor:-

The table given below provides the actual PLF achieved by HPGCL's generating stations in the past years.

PLF achieved by HPGCL from FY 2004-05 to FY 2011-12

Station	Actual (in %)							
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 (Upto Dec'11)
PTPS Unit-1	52.59	59.40	62.63	25.29	28.94	70.08	48.90	79.34
PTPS Unit-2	59.34	70.65	77.37	67.39	73.61	71.26	35.05	74.63
PTPS Unit-3	69.95	21.42	49.06	77.57	68.46	50.02	69.11	62.92
PTPS Unit-4	64.86	79.61	77.3	67.4	60.56	72.39	60.75	55.90
PTPS Unit-5	79.76	79.73	91.55	96.23	94.27	79.06	83.91	83.81
PTPSUnit-6	80.51	91.77	91.4	93.18	91.64	97.49	88.86	87.98
PTPS Unit-7	77.17	42.08	90.32	98.91	85.35	98.4	92.63	94.50
PTPS Unit-8	-	85.32	91.24	86.48	94.41	96.93	90.08	94.21
PTPS (Unit 1-8)	**71.14**	**68.53**	**83.17**	**82.55**	**80.48**	**85.19**	**77.39**	**83.26**
DCRTPS Unit-1		-	-	-	68.66	85.73	85.08	93.80
DCRTPS Unit-2		-	-	-	69.53	76.97	62.6	41.14
DCRTPS Unit 1-2)		**-**	**-**	**-**	**69.05**	**81.35**	**73.85**	**67.47**
RGTPS Unit-1		-	-	-	-	-	-	51.50
RGTPS Unit-2		-	-	-	-	-	-	51.73
RGTPS (Unit 1-2)		**-**	**-**	**-**	**-**	**-**	**-**	**51.73**
WYC&Karkoi	-	-	46.58	49.25	51.45	42.86	49.67	57.24 up to Nov 11
HPGCL		**67.00**	**78.78**	**78.94**	**75.01**	**82.93**	**76.28**	**67.73**

As evident from the table above the overall PLF achieved by HPGCL as a whole has improved from 67% in FY 2005-06 to about 83% in FY 2009-10. However, during FY 2010-11 the PLF has declined due to poor performance of PTPS Unit 1-4 and DCR TPS Unit-2. The PLF during the first 6 months ending September of FY 2011-12 for HPGCL as a whole has also declined considerably due to the lower PLF of RG TPS Unit 1 & 2 on account of stabilization issues and inadequacy of coal.

Unit-wise details of PLF for PTPS Unit 1-4:-

PLF of PTPS Unit 1 to 4

Power Station	Actual (in %)								
	FY -05	FY -06	FY -07	FY - 08	FY -09	FY 10	FY - 11	FY 12 (upto Dec'11)	FY-13 (proposed)
PTPS Unit-1	52.59	59.40	62.63	25.29	28.94	70.08	48.90	79.34	52.59
PTPS Unit-2	59.34	70.65	77.37	67.39	73.61	71.26	35.05	74.63	59.34
PTPS Unit-3	69.95	21.42	49.06	77.57	68.46	50.02	69.11	62.92	69.95
PTPS Unit-4	64.86	79.61	77.3	67.4	60.56	72.39	60.75	55.90	64.86
PTPS Unit (1-4)	**61.69**	**57.77**	**66.59**	**59.41**	**57.89**	**68.38**	**53.37**	**68.39**	**59.88**

PTPS Unit-1 to 4 has consistently achieved a low PLF during the last 6 years due to the vintage of the Plant. During FY 2008-09 R&M works were completed for Unit-1, owing to which the overall performance witnessed a significant improvement in the following year and the plant achieved a PLF of 68%. The PLF declined in year 2010-11 due to the forced outages of Unit-1 from 01.03.2010 to 23.08.2010 due to damage of all the bearings of Turbine & Generators & Unit-4 from 20.04.2010 to 27.05.2010 due to high vibrations in Generator bearing. Also the annual overhauling of Unit-2 which commenced on 25.10.10 for 45 days has been extended due to unforeseen fault in ABB modified turbine.

The poor performance of Unit 1 to 4 can be attributed to lack of Renovation & Modernisation (R&M) activity, as the R&M of only Unit 1 has been completed so far and the petitioner has not claimed R&M capital expenditure for any other Units in any tariff petition. The R&M for PTPS Unit 2 was awarded to M/S ABB Germany, now Alstom Power, in the year 1997. The firm had completed major R&M works on Unit – 2 but left the work in between in the year 2000 for which the matter is still under arbitration. Subsequently, the balance work was awarded to BHEL in year 2002 who completed the pending work but did not agree for any guarantee towards the improved technical performance of the Plant. In the above background, the Petitioner has completed the R&M of only Unit-1 during the year 2008-09. The funds for R&M for Unit - 3 and Unit-

4 are yet to be tied up by HPGCL and therefore there is no definite time schedule for their R&M. Thus the Petitioner has proposed a PLF of 59.88% for PTPS Unit-1 to 4 based on the average of actual PLF achieved during the preceding three complete years of operations. The petitioner has prayed that the Commission may consider the above-mentioned difficulties in achieving the norms.

In support of their submission the petitioner cited a similar case where the Jharkhand Electricity regulatory Commission (JERC) has passed an order with relaxation of norms due to the aging effect for the vintage Patratu Thermal Power Station (PTPS) for FY 2010-11. The relevant extract from the tariff order passed by Jharkhand ERC for PTPS is as under:-

"In view of the analysis and directions given in Hon'ble APTEL's Order dated 8.5.2008 and also considering that many Units of PTPS are more than 35-40 years old and it may not be feasible for the licensee to achieve the operational targets, the Commission has now decided to relax the norms of the operational parameters vis-à-vis the target set in the previous Tariff Orders. The Commission sets the timelines for the improvement of operational parameters as per the revised norms for attaining PLF of 45% and SHR of 2950 Kcal/ Kwh by the end of FY 2013-14."

PTPS Unit-5 to 8:-

PLF of PTPS Unit- 5 to 8

Power Station	Actual PLF (%)								
	FY - 05	FY - 06	FY - 07	FY - 08	FY 09	FY - 10	FY - 11	FY-12 (upto Dec'11)	2012-13 (Proposed)
PTPS Unit-5	79.76	79.73	91.55	96.23	94.27	79.06	83.91	83.81	85.00
PTPS Unit-6	80.51	91.77	91.4	93.18	91.64	97.49	88.86	87.98	85.00
PTPS Unit-7	77.17	42.08	90.32	98.91	85.35	98.4	92.63	94.50	85.00
PTPS Unit-8	-	85.32	91.24	86.48	94.41	96.93	90.08	94.21	85.00
PTPS Unit (5-8)	**91.84**	**73.70**	**91.09**	**93.61**	**91.29**	**93.38**	**89.09**	**90.49**	**85.00**

PTPS Unit-5 to 8 has performed satisfactorily in the past years, except for FY 2010-11. Therefore, the Petitioner envisages the normative PLF of 85% as achievable and has prayed that the same may be considered by the Commission for allowance.

DCR TPS Unit-1&2:-

PLF of DCR TPS Unit-1&2

Power Station	Actual PLF (%)				
	2008-09	2009-10	2010-11	2011-12(upto Dec 2011)	2012-13 (Projected)
DCR TPS Unit-1	68.66	85.73	85.08	93.80	85.00
DCR TPS Unit-2	69.53	76.97	62.6	41.14	85.00
DCR TPS (Unit-1&2)	**69.05**	**81.35**	**73.85**	**67.47**	**85.00**

The petitioner has submitted that the 300 MW Unit-2 of DCR TPS Yamuna Nagar was commissioned on June 24, 2008 and has been running on commercial operation since then. The Unit achieved a PLF of 70% during 2008-09, 77% during 2009-10 and 62% during 2010-11. As per contract, the provisional Taking over (PTO) of Unit-2 was done by HPGCL on August 31, 2009, and Final Taking over (FTO) has not been achieved so far.

On September 25, 2011, while Unit - 2 was being re-taken after tripping of station transformer on earth fault, the barring gear motor tripped on overload and the turbine rotor came to stand still. Efforts were made but the turbine could not be put on bearing gear. After consultation with Reliance Infra, SEC China and various other experienced personnel, attempts were made to increase the speed of the machine beyond 600 RPM but in all attempts the machine tripped at around the speed of 1300 RPM on high vibration at bearing No. 1. It was suspected by Reliance Infra and SEC engineers that this could be either due to hogging or sagging of rotor or heat shock/ crack in blade/ blade mountings due to ingress of water/ cold steam. Hence the machine was put under shutdown for in depth investigation. The rotor of Unit – 2 is presently under repairs at Siemens works at Vadodra. The Unit is likely to be re-commissioned by July 2012. The petitioner envisages normative PLF of 85% as achievable and hence has prayed the Commission for being allowed the same subject to adjustment at the end of year based on the actual performance.

RG TPS Unit-1&2:-

PLF of RG TPS Unit-1&2

Power Station	Actual (in %)	
	2011-12(Upto Dec'11)	2012-13 (Projected)
RG TPS Unit-1	48.82	85.00
RG TPS (Unit-2)	51.50	85.00
RG TPS (Unit 1&2)	51.73	85.00

The PLF for RG TPS, Hisar, as provided by the petitioner, is as presented in the table above. Although the actual PLF till Sep 2011 is 47.8%, the petitioner has proposed a PLF of 85% assuming that the operation would be stabilized and the constraints of coal quality and quantity will be removed. However, the projection as above for FY2012-13 is subject to adjustment at the end of the year based on the actuals. The factors that are affecting the PLF of RG TPS, Hisar which are beyond the control of HPGCL as submitted by the petitioner are as under:-

- Increase in the ash content of coal leading to inability of the coal mills to run on full load, increase in the turbidity of cooling water leading to frequent maintenance outages of condenser tubes for cleaning, inadequate and intermittent coal supply affecting the loading of the Units etc;
- Inadequacy of coal.

WYC & Kakroi Hydel Units:-

HPGCL vide memo no. HPGC/FIN/REG 403/300, dated 12/01/2012 have proposed PLF of 50% for WYC & Kakroi hydel Units for FY 2012-13.

Plant Availability Factor (PAF):-

The petitioner has further submitted that In case intrastate ABT is introduced in Haryana, the values of Plant Load factor (PLF) as shown in the table (subject to adjustment at the end of each year based on the actual) shall be substituted by PAF. The Plant availability factor for the HPGCL Power Plants have been proposed keeping in view the impediments related to coal supply faced by HPGCL for its different power plants. The lower value of Plant Availability Factor for PTPS Unit-1 to 4 is because of the fact that these Units are very old and have been frequently closed down due to frequent forced outages. Similarly for RG TPS and DCR TPS the availability has been proposed based on availability of coal.

Plant Availability Factor for FY 2012-13

Station	Proposed PAF (in %)
	2012-13
PTPS Unit (1 to 4)	59.88%
PTPS (Unit-5)	85.00%
PTPS (Unit-6)	85.00%
PTPS (Unit-7)	85.00%
PTPS (Unit-8)	85.00%
PTPS (Unit-1 to 8)	
DCR TPS Unit-1	85.00%
DCR TPS Unit-2	85.00%
Total DCR TPS Unit-1&2	
RG TPS Unit-1	85.00%
RGP TPS Unit-2	85.00%
Total RG TPS Unit 1 – 2	85.00%
Total HPGCL	**81.45%**

Additionally the petitioner has submitted that the plant availability factor of the power plants as proposed by them should be allowed to be revisited at the end of the year based on the actual values.

Station Heat Rate (SHR):-

The actual Station Heat Rate attained by the generating stations of HPGCL as submitted by them during past years is presented in the table below.

Station Heat rate (in kcal/kwh) from FY 2004-05

Station	Actual (in %)							
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 (Upto Dec'11)
PTPS Unit-1 to 4)	3567	3665	3341	3470	3425	3225	3349	3226
PTPS (Unit-5 to 8)	2858	2703	2620	2571	2574	2561	2679	2725
DCR TPS(Unit-1&2)	-	-	-	-	2450	2387	2479	2412
RG TPS (Unit-1&2)	-	-	-	-	-	-	-	2750
HPGCL	**3287**	**3074**	**2894**	**2916**	**2762**	**2684**	**2728**	**2745**

The petitioner has submitted that SHR of generating stations varies from Unit to Unit depending upon their age, size, technology, no. of starts/stops, quality of coal etc. The older the Unit becomes, its efficiency goes down, and it becomes prone to run at higher heat rate. This is primarily on account of the deterioration of efficiency of a Unit on account of ageing and more number of starts and stops.

Additionally the petitioner has reiterated that the quality of coal being fed continuously is a prime factor contributing to the determination of heat rate of a Unit.

In this respect the petitioner has prayed that the Commission may consider the provisions of Section 5.3 (f) and 5.3 (i) 2 of the National Tariff Policy dated 6th January, 2006 which are reproduced below:-

Section 5.3 (f) of National Tariff Policy reads as follows:

- The norms should be efficient, relatable to past performance, capable of achievement and progressively reflecting increased efficiencies and may also take into consideration the latest technological advancements, fuel, vintage of equipment, nature of operations, level of service to be provided to consumers etc.....
- The Central Commission would, in consultation with the Central Electricity Authority, notify operating norms from time to time for generation and transmission. The SERC would adopt these norms. In cases where operations have been much below the norms for many previous years, the SERCs may fix relaxed norms suitably and draw a transition path over the time for achieving the norms notified by the Central Commission.

Section 5.3 (h) 2 of the National Tariff Policy states:

- In cases where operations have been much below the norms for many previous years the initial starting point in determining the revenue requirement and the improvement trajectories should be recognized at “relaxed” levels and not the “desired” levels. Suitable benchmarking studies may be conducted to establish the “desired” performance standards. Separate studies may be required for each utility to assess the capital expenditure necessary to meet the minimum service standards

For the old Units like PTPS Unit-3 to 4, Renovation & Modernisation is being planned but the same will take some time as HPGCL is evaluating the alternatives for funding the schemes. Also, under the provisions of the Electricity Act, 2003, HPGCL has a mandate to operate on commercial principles only. Therefore, the need of commercial independence of HPGCL should be factored while approving the SHR. HPGCL has not claimed any R&M for the old Units except Unit-1 of PTPS, Panipat. For Unit-3&4 the refurbishment is proposed in FY 2013-14. After the implementation of the proposed R&M HPGCL expects improvement in the SHR of the Units.

Thus in the absence of any R&M scheme being planned for FY 2012-13., HPGCL has adopted the old methodology of projecting SHR by considering a deterioration factor of 1.5% on the test results. Considering the above said reasons the petitioner has arrived at the following station heat rate for the all Units of the PTPS as follows:-

Station Heat Rate (Kcal/kwh)

	Station Heat Rate (SHR) (Kcal/Kwh)				
	2009-10	FY -11 (1.5% increase for deterioration)	FY -12 (1.5% increase for deterioration)	2012-13 (1.5% increase for deterioration)	Last Three Years Average
As per Energy Audit Report dated Dec.2010 Unit-1, PTPS, Panipat	-	2,937.24	2,981.30	3,026.02	3213
As per Energy Audit Report dated April 2010 Unit-2, PTPS, Panipat	3,308.53	3,358.16	3,408.53	3,459.66	3305
As per Energy Audit Report dated April 2010 Unit-3, PTPS, Panipat	3,274.01	3,323.12	3,372.97	3,423.56	3366
As per Energy Audit Report dated April 2010 Unit-4, PTPS, Panipat	3,287.15	3,336.46	3,386.50	3,437.30	3439
Unit-1 to 4				**3,336.63**	**3333.0**
As per Energy Audit Report dated April 2010 Unit-5, PTPS, Panipat	2,806.97	2,849.07	2,891.81	**2,935.19**	2740
As per Energy Audit Report dated April 2010 Unit-6, PTPS, Panipat	2,825.53	2,867.91	2,910.93	**2,954.60**	2703

Particulars	Station Heat Rate (SHR) (Kcal/Kwh)				
Unit-7, PTPS, Panipat	-	-	-	-	2585.86
Unit-8, PTPS, Panipat	-	-	-	-	2584.83

Though the Station heat rate arrived for PTPS are higher than the approved in Tariff Order for the FY 2011-12, the petitioner has requested the Commission to relax the norms for these PTPS plants owing to the difficulty mentioned above.

In order to support their contention the petitioner has presented a similar case where the Tamil Nadu Electricity regulatory Commission (TNERC) and Uttar Pradesh Electricity Regulatory Commission (UPERC) has passed an order with relaxation of norms for the station heat rate.

As per Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2008;

"The Commission may vary the normative heat rate from those indicated in these regulations on a case-to-case basis based on the levels of O&M and Life Extension (LE) that the station has been subjected to in the recent past or adopt the norms as specified by the CERC from time to time."

Excerpt of TNERC order giving due consideration to SHR relaxation for poor coal quality

Applicant's (TNEB) appeal:

As per tariff regulations, SHR norms for TTPS & NCTPS were required to be 2453 kcal/kWh and 2393 kCal/kWh respectively.

TNEB sought relaxation of station heat rate norms for TTPS and NCTPS in their letter dated 23-7-2010.

TNEB prayed for relaxation of heat rate norm to 2560 kcal / kWh for Units I, II & III and 2600 kcal / kWh for Units IV & V for TTPS and 2500 kcal / kWh for NCTPS

TNERC order: (Relevant excerpt)

The details furnished by TNEB for these power stations have been examined and it is observed that they have exceeded the normative heat rate in many power stations.

The Central Electricity Authority commissioned a consultant by name Evonic Energy Services India Pvt Ltd in June 2008 to evaluate the performance of TTPS and in August 2008 to evaluate the performance of NCTPS. The consultant recorded the heat rate as 2575.31 kcal / kWh for NCTPS and 2826 kcal / kWh for TTPS.

The TNEB has prayed for relaxation of heat rate norm to 2560 kcal / kWh for Units I, II & III and 2600 kcal / kWh for Units IV & V for TTPS and 2500 kcal / kWh for NCTPS.

Considering that the Commission has prescribed a norm of 2500 kcal / kWh for new plants, the Commission approves relaxation of norms for TTPS and NCTPS upto 2500 kcal / kWh in terms of Clause 90 of the Tariff Regulations 2005 for the year 2010-11

The Commission allows the following station heat rate in relaxation of the Regulation 90 of TNERC Tariff Regulations.

TTPS: 2500kCal/kwh

NCTPS: 2466 kCal/kWh

In another case cited by the petitioner SHR for plants in Uttar Pradesh were given relaxation in norms by the UPERC in tariff order for FY 2008-09.

Excerpt from UPERC order allowing higher SHR to meet increased fuel expenses is reproduced below:-

“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 has been able to achieve for this station during the period in question.”

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 is appropriate to allow the Station Heat Rate for Obra-A, Obra-B, Harduaganj 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 UPERC is as below:

Station Heat Rate approved by the UPERC at relaxed norms

Name of the thermal Power Plant	SHR (kcal/kWh) as per Regulation	SHR (kcal/kWh) as per the Petition	SHR (kcal/kWh) as Approved by the Commission
Obra A	2850	3000	3000
Obra B	2700	2900	2900
Panki	2950	3100	3100
Harduaganj	3300	3450	3450

Another important case referred to by the petitoner in this context is the case of MSPGCL wherein the operating norms were relaxed in favour of the generating company after truing up process. MERC vide its MYT tariff order dated 25th April 2007 approved the following SHR for MSPGCL plants. The relevant extract reads as under:

MERC Approved Station Heat Rate

Name of the Plant	Approved				
	FY05-06	FY 06 07	FY 07-08	FY 08-09	FY 09-10
Koradi	2996	2907	2786	2792	2797
Khaparkheda	2725	2644	2556	2561	2566
Chandrapur	2502	2480	2545	2551	2556
Nasik	2663	2584	2648	2653	2642
Bhusawal	2735	2561	2649	2654	2652
Parli	2649	2573	2652	2657	2660
Paras	3200	3105	3105	-	-

MSGPCL filed an appeal before the Appellate Tribunal against the above said highlighting various issues including operating norms and in particular SHR norms for its stations. The Hon’ble Appellate directed

MERC to carry out an independent study to reasonable assess the achievable heat rate of the plants owned by MSPGCL and to suggest measures to improve the heat rates over a period of time. ATE directed MERC to determine the heat rate based on the outcome of the study and align its Regulations by prescribing achievable norms and not merely ideal norms. Relevant extract of the truing up order is as below:

"As regards norms for performance parameters, viz., transit loss of coal, station heat rate, auxiliary consumption, and specific oil consumption of MSPGCL's generating stations, Appellate Tribunal for Electricity (ATE) directed the Commission to undertake an independent study, either through MSPGCL or on its own, and reset the operating parameters and align its Regulations by prescribing achievable norms and not merely ideal norms after taking into consideration the results of such independent study."

MERC has now allowed the actual SHR achieved by MSPGCL stations for FY 05-06, 06-07 & 07-08 and has also relaxed the SHR norms for 08-09 and 09-10 based on the results of the study carried out by the independent agency.

Relevant extracts of the truing up order are as under:

"The Commission noted that MSPGCL has claimed truing up of fuel expenses for FY 2005-06, FY 2006-07 and FY 2007-08 based on actual fuel expenses incurred by MSPGCL, and if CPRI suggested heat rates for FY 2005-06, FY 2006-07 and FY 2007-08 are considered, it will result in allowing fuel expenses in excess of actual fuel expenses, being passed through to the consumers. Hence, for truing up of fuel expenses for FY 05-06, 06-07 and 07-08, the Commission has considered the actual fuel expenses as per audited accounts and hence, the actual performance parameters achieved by MSPGCL.". Thus the final approved SHR for FY 05-06, 06-07 and 07-08 for MSPGCL stations are as below:-

Approved Station Heat Rate by the MERC in case of MSPGCL

Heat Rate (kCal/kWh)	FY05 06		FY 06-07		FY 07-08	
	Approved earlier by MERC	Approved after truing up	Approved earlier by MERC	Approved after truing up	Approved earlier by MERC	Approved after truing up
Koradi	2996	2977	2907	2997	2786	3249
Khaparkheda	2725	2597	2644	2612	2556	2755
Chandrapur	2502	2611	2480	2600	2545	2599
Nasik	2663	2651	2584	2672	2648	2659
Bhusawal	2735	2656	2561	2666	2649	2914
Parli	2649	2661	2573	2765	2652	2779
Paras	3200	3196	3105	3262	3105	3291

Similar case may be put up to the Hon'ble Commission highlighting the judgment of Appellate Tribunal of Electricity (ATE) in appeal no. 81 of 2007 in Indraprastha Power Generation Co. Ltd. (IPGCL) Vs Delhi Electricity Regulatory Commission (DERC).

An excerpt from the judgment for approval of SHR for IPGCL Units reads as follows.

"The petitioner (IPGCL) submitted before the Commission that in order to comply with the directions of Delhi Pollution Control Committee the generating station was proposed to be closed down and therefore no R&M expenses could be taken for improvement or even maintain the same station heat rate. We are informed during the arguments that the final decision to close down was taken after the end of 2006-07. The final closing will be in 2010. In view of this situation, it will not only be fair for the Commission to bear with the station heat rate which the appellant has been able to achieve for this station during the period in question."

Excerpt of JERC order for PTPS for the FY 2010-11 giving due consideration to ageing effect

"In view of the analysis and directions given in Hon'ble APTEL's Order dated 8.5.2008 and also considering that many Units of PTPS are more than 35-40 years old and it may not be feasible for the licensee to achieve the operational targets, the Commission has now decided to relax the norms of the operational parameters vis-à-vis the target set in the previous Tariff Orders. The Commission sets the timelines for the improvement of operational parameters as per the revised norms for attaining PLF of 45% and SHR of 2950 Kcal/Kwh by the end of FY 2013-14."

Relaxed norms approved by the JERC in case of vintage thermal power plant (PTPS)

Approved Operating Norm	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14
PLF in %	34	36	38	40	42	45
SHR (kCal/kWh)	3450	3350	3250	3150	3050	2950

In view of the above orders / judgments the petitioner has prayed that the Commission may consider the above-mentioned genuine difficulties faced by them in achieving the norms and the regulatory approach adopted by SERCs while approving the station heat rate for FY 2012-13.

The petitioner has further submitted that the design turbine heat rate & boiler efficiency of RGTPS Unit-1&2 are 1954 Kcal/kWh & 87.2% respectively. The design station heat rate of these Units works out to 2240.83 Kcal/kWh and the normative station heat rate as per CERC regulation, dated 19-01-09 would be 2240.83 x 1.065 = 2386 Kcal/kWh. Therefore station heat rates for RGTPS Unit-1&2 may be allowed as 2386 Kcal/kWh.

The Petitioner has proposed the following Station Heat Rate for FY 2012-13:

Proposed Station Heat rate for the FY 2012-13

Sl. No	Name of Plant / Unit	Proposed Station Heat Rate in Kcal/ Kwh for FY 2012-13	Revised Proposal for FY 2012-13#
1.	PTPS Unit-1 to 4	3,336.63	
2.	PTPS Unit-5	2,935.19	
3.	PTPS Unit-6	2,954.60	
4.	PTPS Unit-7	2,585.86	
5.	PTPS Unit-8	2,584.83	
	PTPS Total	**2,899.41**	
6.	DCR TPS Unit-1	2,500.00	
7.	DCR TPS Unit-2	2,500.00	
	DCR TPS Total	**2,500.00**	
8.	RG TPS Unit-1	2,386.47	2700
9.	RG TPS Unit-2	2,386.47	2700
	RG TPS Total	**2,386.47**	**2700**

HPGCL vide Memo No. HPGC/FIN/Reg-403/322 dated 8th February, 2012 submitted a revised generation tariff application limited to the revised Station Heat Rate of RGTPP.

The petitioner has proposed Station Heat Rate (SHR) for FY 2012-13 for the HPGCL power plants as shown in the table above is subject to adjustment at the end of each year based on the actual Station Heat Rate (SHR) for the plants.

Auxiliary Energy Consumption:-

On the issue of auxiliary energy consumption the petitioner has submitted that for a generating station auxiliary energy consumption depends on the quality of coal it receives at the feeding point, the nos. of frequent start-ups and shut downs it encompasses and the ageing of the equipment of the station. In addition the no. of drives being used in actual operation on account of the decline in the above mentioned factors would increase leading to an increase in auxiliary consumption.

An example of Maharashtra state wherein MERC in its order for MSPGCL for APR of FY 09-10 and tariff for FY 10-11 has also approved the auxiliary consumption of FY 09-10 based on actual auxiliary consumption for FY 08-09 on account of vintage of stations and poor quality of coal has been cited by the petitioner. The relevant particulars of the case are as under:-

“MERC Order for MSPGCL for APR of FY 2009-10 and Tariff for FY 2010-11 (Case No. 102 of 2009):-

- MSPGCL submitted that the Auxiliary Consumption for the first six months of FY 2009-10 for Paras was 15.00%, and projected Auxiliary Consumption of 13.38% for second half of the year, which is considerably higher than the approved auxiliary consumption of 9.70% in FY 2009-10, on account of the vintage of the stations and poor quality of coal. MSPGCL further submitted that the capacity of Unit-2 has been derated w.e.f. April 2007 and therefore, the auxiliary consumption for the Unit has increased. The other factors that are responsible for such increase is the partial loading due to inferior quantity of coal and supply of wet coal in the rainy season. MSPGCL has projected the auxiliary consumption of 14.10% for FY 2009-10 and 13.38% for FY 2010-11. It is also observed that there has been a considerable increase in the auxiliary consumption as compared to previous year's 12.18%.

- The Commission in its Order dated March 5, 2010 in Case No. 16 of 2008 observed that the Auxiliary Consumption norm suggested by the independent agency (CPRI) for FY 2008-09 for some of the stations was substantially higher than the actual auxiliary consumption and hence, the Commission approved the Auxiliary Consumption norm for FY 2009-10 based on actual auxiliary consumption for FY 2008-09. The Commission at this stage has not revised the auxiliary consumption norm for FY 2009-10. For FY 2010-11, the Commission has considered the norms suggested by CPRI."

Comparison of the proposed and approved auxiliary consumption in case of MSPGCL and MERC

Name of the thermal Station	MYT Order	FY 2009-10			FY 2010 11		
		MSPGCL	CPRI	Approved by Commission	MSPGCL	CPRI	Approved by Commission
Paras	9.70%	14.10%	12.18%	12.18%	13.38%	12.45%	12.45%

A similar example of relaxation in auxiliary consumption norms can be seen in UPERC order 08-09 for UPRVUNL. Relevant excerpt of the order is reproduced below.

"Excerpt from UPERC Order for UPRVUNL for FY 2008-09 for allowing relaxation in auxiliary consumption norms

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 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:

Proposed and approved auxiliary consumption UPRVUNL and UPERC

Name of the Station	Aux. consumption % (in Regulation)	Aux. consumption % (in Petition)	Aux. consumption % (Approved)
Obra A	10	12	11
Obra B	9	12	10.5
Panki	10	12	11
Harduaganj	11	12	11.5
Parichha	11	12	11.5

The trends in the auxiliary energy consumption for HPGCL plants from FY 2004-05 onwards as filed by the petitioner is presented below:-

Trends in the Auxiliary Consumption (%)

Name of the Plant	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12 (upto Dec'11)
PTPS-1 (Unit-1 to 4)	12.13	11.75	11.59	12.13	11.48	11.4	12	12.47
PTPS-2 (Unit-5 to 8)	9.80	9.06	8.74	8.81	8.80	9.13	9.66	9.92
PTPS, Panipat	**10.76**	**9.79**	**9.48**	**9.58**	**9.42**	**9.73**	**10.19**	**10.61**
DCR TPS, Yamunanagar					9.33	9.29	9.73	9.39
RG TPS, Hisar								6.71
Faridabad Thermal Power Plant	12.94	13.1	14.96	14.82	16.32	16.07	-	
HPGCL Thermal Total	**11.04**	**10.08**	**9.8**	**9.93**	**9.66**	**9.77**	**10.06**	**9.29**
WYC and Kakroi (Hydel)				**0.82**	**0.75**	**0.81**	**0.76**	**0.61 up to Nov 2011**

In the instant tariff petition the petitioner has proposed Unit wise auxiliary consumption as given in the following table. For the PTPS Unit-1 to 6 the petitioner has proposed the auxiliary consumption based on three years average of the actual auxiliary consumption. For Unit- 7 & 8 of PTPS and DCR TPS Unit-1 & 2 the petitioner has proposed auxiliary consumption in line with the HERC norms dated 18th Dec, 2008. For the RGTPS the petitioner has proposed the auxiliary consumption on normative basis. The petitioner's proposed auxiliary energy consumption for FY 2012-13 is presented in the table below.

Proposed Auxiliary Energy Consumption for the FY 2012-13

Name of the Plant	FY 2012 13 (Projected)
PTPS-1 (Unit-1 to 4)	11.63
PTPS-2 (Unit-5)	9.99
PTPS-2 (Unit-6)	9.55
PTPS-2 (Unit-7)	9.00
PTPS-2 (Units-8)	9.00
PTPS (Panipat Thermal Power Station, Panipat)	**9.93**
DCR TPS, Yamunanagar Unit-1	9.00
DCR TPS, Yamunanagar Unit-2	9.00
DCR TPS, Yamunanagar	9.00
RG TPS, Hisar Unit-1	6.00
RG TPS, Hisar Unit-2	6.00
RG TPS, Hisar	6.00
HPGCL Thermal Total	**8.19**
WYC and Kakroi (Hydel)	**1.00**

As per Haryana Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2008; the regulation regarding auxiliary energy consumption is as under.

"During stabilization period, normative auxiliary consumption shall be reckoned at 0.5 per cent over and above the norms. The Commission may relax the above norms on a case-to-case basis based on unique plant lay out and inherent technology of the stations of older vintage."

The Petitioner has prayed that the Commission may consider the auxiliary energy consumption for the vintage PTPS Plants as proposed and also to consider the regulatory approach adopted by different SERCs while approving the auxiliary energy consumption in similar cases.

Fuel Price & Calorific Value:-

The calorific value considered for the computation of coal requirement is given in the following table:-

Proposed Gross Calorific Value in Kcal. / Kg for coal and oil

Particulars	PTPS, Panipat	DCR TPS, Yamuna Nagar	RG TPS Khedar, Hisar
Gross Calorific Value of Coal (Kcal /Kg)	3,697	4,017	3,641
Gross Calorific Value of Oil (Kcal /Kg)	10,112	10,198	10,313

The petitioner has calculated calorific value by taking weighted average of the calorific value of coal and oil used for the first five months of the FY 2011-12. The Fuel cost, both coal and oil for each station has been calculated based on the actual average cost of the coal purchased during the first five month of the FY 2011-12. The cost of coal also includes the transit loss.

The details of the fuel cost taken are mentioned in the following table below:

Cost of fuel considered for calculating the variable cost

Type of the Fuel	PTPS Panipat	DCR TPS, Yamunagar	RG TPS Hisar	HPGCL
Rate of coal/ MT	3447.96	3458.77	3403.15	3433.30
Rate of Oil/ KL	37243.58	35818.93	40976.08	38325.14

Specific Oil Consumption:-

For the Unit-1 to 4 of PTPS, the petitioner has proposed specific oil consumption as 2 ml/ kWh and rest of the Units of PTPS and other thermal plants petitioner has proposed specific oil consumption of 1 ml/kwh.

Coal Transit Loss:-

The petitioner has sought the following coal transit loss for FY 2012-13:-

Proposed coal transit Loss (%)

Particular	PTPS, Panipat	DCR TPP, Yamuna Nagar	RGTPP, Khedar, Hisar
Coal transit Loss	4.35	3.34	3.34

The above proposal for FY 2012-13 is based on the average transit loss of coal for the last three years. The petitioner has prayed that the

Commission may approve the coal transit loss as proposed in the petition subject to adjustment at the end of each year based on the actual transit loss for each power plants of HPGCL.

Moisture Loss:-

Additionally it has been submitted by the petitioner that for their RGTPP, Khedar, Hisar power plant they are getting washed coal to the extent of 5.5 MTPA in FY 2011-12 pursuant to the contract with four (4) washery operators. During benefaction of coal through washing technique, coal absorbs water resulting in higher weight at the time of loading. The extra moisture evaporates during transit and storage. Therefore, usage of washed coal leads to higher moisture content and results into higher losses during transit. The loss of approx. 3% is due to extra moisture in washed coal used in the Stations. Since, the coal transit loss in terms of moisture loss is beyond the control of HPGCL, they have requested the Commission to allow moisture loss @ 3% for its RGTPP Coal based stations for FY 2012-13.

In order to support their contention the petitioner relied on the judgment of Hon'ble Appellate Tribunal of Electricity in the appeal filed by IPGCL in regard to MYT Tariff Order for FY 2007-08 to FY 2010-11. The relevant extract is reproduced below (order dated 07.4.2011 in respect of O & M expenses):

"According to the Appellant, the State Commission has allowed a normative coal transit loss of 0.8% by holding that the same is nationally accepted loss level as prescribed in the Tariff Regulations of the Central Commission. It is noticed that the State Commission has rejected the claim of the Appellant merely on the ground that NTPC had not challenged the coat transit loss for the Dadri and Badarpur Stations which requires the same washing of coal. As pointed out by the Learned Counsel for the Appellant, the ground that NTPC had been allowed only0.8% coal transit loss and the same had not been challenged by the NTPC cannot be the valid ground to deny the claim of the Appellant. The important aspect that the State Commission has failed to consider is that the transit loss cannot be the same both for unwashed and washed coal. The weight of the coal at the time of loading is significantly increased due to higher moisture content which evaporates during transit and storage. We notice that the State Commission has not given a reasoned order regarding transit loss. Instead of examining the transit loss in case of the Appellant's power station the State Commission has noticed that the use of washed coal is likely to improve the functioning of the plant. This matter, therefore, needs reexamination. Therefore, the State Commission is required to determine the actual coal transit loss in respect of the Appellant's Power Station without comparing the coal transit loss with the NTPC. This point is answered accordingly".

Since, the higher coal transit loss is beyond the control of IPGCL, the Hon'ble Commission is requested to true- up transit & moisture loss @ 3.8% for its Coal based stations for FY 2007-08 to FY 2010-11 and approves the same percentage for FY 2011-12 for Rajghat Power House.

6. Estimated Fixed Cost Expenses for FY 2012-13:-

Return on Equity:-

The petitioner has submitted that they have considered the equity base as per the books of accounts and has considered a return of INR 425.52 Crore for the FY 2012-13. So far as the funding of additional capitalization is concerned, HPGCL has envisaged a 100% debt funding for the same. The return on equity has been calculated at the opening balance of equity capital towards existing plants of HPGCL based on the CERC norms of 15.5% pre-tax. The Petitioner has prayed that the Commission, for the RGTPP generating station, may allow an additional return of 0.5% pre-tax to be allowed for completion of the Project within time limit (44 months for Unit-1 and 50 months for Unit-2), based on the CERC norms. The overall calculation for return on equity for the existing stations of HPGCL is provided below:-

Return on Equity on existing stations (In Rs. Crore)

Particulars	FY 2012-13
Opening Balance of Equity (A)	2165.1
Return on Equity	**425.52**

Income-tax:-

The Petitioner has considered the income tax for FY 2012-13 on the eligible return on equity for each station and computed the income tax at the MAT rate of 20.01% (18.50% base rate +5% surcharge +3% cess). The estimated tax portion included in the Return on Equity works out to be Rs. 85.13 Crores.

Interest on Loan Capital and Finance Charges:-

The Petitioner has considered the actual interest rate as applicable to existing loans for computation of interest charges. Whereas the finance charges constitute of Guarantee fees and other Bank charges, etc. The basis of projections of the interest and finance charges is based on the actual charges incurred during the FY 2010-11, as per annual accounts. However, the petitioner has further submitted that after an interval of reset period i.e. three (3) years the interest and finance charges may be adjusted as per actuals.

The plant wise details of all the existing and new loans have been provided in the relevant forms as submitted to the Commission. The interest expenses and other finance charges for various plants, as proposed by the Petitioner, are summarized in the table below:-

Interest and Finance Charges for 2011-12 (In Rs. Crore)

Station	Proposed Interest and Finance Charges
	FY 2012-13
PTPS Unit-1 to 4)	14.74
PTPS (Unit-5)	2.82
PTPS (Unit-6)	13.07
PTPS (Unit-7)	27.67
PTPS (Unit-8)	27.67
PTPS (Unit – 1 to 8)	85.96
DCRTPP Unit-1	86.83
DCRTPP Unit-2	86.83
DCRTPP Unit-1&2	173.66
RGTPP Unit-1	186.04
RGTPP Unit-2	186.04
RGTPP Unit-1&2	372.09
WYC &Karkoi	3.26
Total HPGCL	634.97

Depreciation:-

The petitioner has calculated station wise depreciation, on the opening Gross Fixed Asset (GFA) at the rates specified in the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009. For the purpose of this petition, they have considered the opening Gross Fixed Assets for FY 2012-13 based on the addition/deletion/transfers as estimated in the accounts for FY 2012-13. The table below presents the proposed Unit-wise depreciation for FY2012-13.

Proposed Unit wise Depreciation (In Rs. Crore)

Station	Proposed Depreciation
	FY 2012-13
PTPS Unit-1 to 4)	28.91
PTPS (Unit-5)	12.20
PTPS (Unit-6)	50.89
PTPS (Unit-7)	44.34
PTPS (Unit-8)	44.35
PTPS (Unit-1 to 8)	180.69
DCR TPS Unit-1	51.10
DCR TPS Unit-2	51.10
DCR TPS Unit-1&2	102.21
RG TPS Unit-1	88.68
RG TPS Unit-2	88.68
RG TPS Unit-1&2	177.36
WYC &Karkoi	9.43
Total HPGCL	469.69

The details of such expenses have been shown in the specific formats attached as annexed to this petition.

Interest on Working Capital (IoWC):-

The petitioner has projected working capital requirement on a normative manner as per the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009. The interest on working capital has been computed at the SBI PLR as on the date of submission of the tariff petition at @14.75%. The station wise IoWC for all the stations is provided in the table below:-

Normative Interest on Working Capital for FY 2012-13 (In Rs. Crore)

Station	Proposed Interest on Working Capital FY 2012-13
PTPS Unit-1 to 4	50.74
PTPS (Unit-5)	25.48
PTPS (Unit-6)	27.36
PTPS (Unit-7)	30.39
PTPS (Unit-8)	28.36
PTPS (Unit-1 to 8)	162.32
DCRTPP Unit-1	34.24
DCRTPP Unit-2	31.88
DCRTPP Unit1&2	66.12
RGTPP Unit-1	68.34
RGTPP Unit-2	63.50
RGTPP Unit-1&2	131.85
WYC &Karkoi	1.48
Total HPGCL	361.77

Operation and Maintenance Expenses:-

The O&M expenses proposed by the petitioner comprises of Repair & Maintenance (R&M) charges, Employees cost and Administrative expenses. The estimates for O&M cost for PTPS Unit-1 to 4 is based on the average of actual level of such expenses for three preceding years escalated by 5.72% based on CERC norms to account for inflation, pursuant to Commission's observations in Tariff Order dated 16thApril 2010 which says that

"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."

Accordingly, the O&M cost computations for PTPS-1 (Unit-1 to 4) are based on the details of actual O&M expenses in the preceding three years FY2008-09, FY2009-10 and FY 2010-11 as per the annual accounts.

In line with the Commission's order for previous years, the O&M expense in case of PTPS Unit-5 to 8, DCRTPP Unit-2& RGTPP Unit-1&2 are based on the CERC Regulations, as applicable for the FY 2012-13. The O&M expenses proposed for WYC&Karkoi are based on the

O&M expense approved by Hon'ble Commission during the previous Tariff Order dated 18thApril 2011, escalated by 5.72% in line with CERC Tariff Regulations 2009 to account for the impact of inflation. The table below summarizes the O&M expenses submitted by the Petitioner. The petitioner has prayed that they may be allowed O&M expenses as per the submissions.

Proposed O&M Expenses for FY2012-13 (In Rs. Crore)

Station	Proposed O&M Expenses (Rs. Crore)
	FY 2012-13
PTPS Unit-1 to 4	172.5
PTPS (Unit-5)	45.17
PTPS (Unit-6)	45.17
PTPS (Unit-7)	53.78
PTPS (Unit-8)	53.78
PTPS (Unit-1 to 8)	**370.4**
DCR TPS Unit-1	56.73
DCR TPS Unit-2	56.73
DCR TPS Unit-1&2	**113.46**
RG TPS Unit-1	82.92
RG TPS Unit-2	82.92
RG TPS Unit-1&2	**165.84**
WYC &Karkoi	21.03
Total HPGCL	**670.73**

The petitioner further submitted that the Appellate Tribunal For Electricity vide Appeal No. 81 of 2007 in the matter of Indraprastha Power Generation Co. Ltd. Versus Delhi Electricity Regulatory Commission has given the following judgment on 10th January, 2008 related to the pas through of O&M expenses:

"O&M Expenses: As mentioned in Paragraph 4(a) above, the Commission has strictly adhered to the normative increase as suggested by the CEA. The petitioner requested the Commission to ask the CEA to re-consider the report. The Commission, however, went by the CEA report which according to the Commission had been prepared after taking all relevant parameters of operation into consideration. The Commission, however, was uncertain as to how long the IP station can be operated based upon various conditions imposed by statutory authority / courts etc. The Commission therefore did not relax the norms.

However, the Commission did not consider if it was proper to give any further time to the appellant to improve its performance for the purpose of reducing cost.

11) Reverting to the report of the CEA, we find that the authority itself never meant that the norms prescribed by it be strictly taken for compliance. In recommendation No.VI, the authority itself says that the assessment is recommendatory in nature and within the framework of constraints / limitations of the data furnished. The Commission feels satisfied with applying the CEA norms and also feels compelled to do so for otherwise the interest of consumers will suffer. The Commission is duty bound to allow all reasonable O&M expenses as pass through. The Commission is allowed to only impose a prudence check. If the O&M expense had escalated within the norms prescribed by CEA, the task of the Commission would have been quite easy. However, in the present case, the O&M expenses have gone higher than the CEA norms. The Commission, therefore, was required to examine the expenditure incurred by the appellant for various purposes and to detect if the appellant had incurred any avoidable expense. The appellants are only successors in interest of the erstwhile DVB and it has inherited some old power plants. It, along with power plant, has also received a large number of employees which in the present legal regime cannot be shed immediately. The appellant has attempted to reduce the number of employees by offering VRS. The plant being old the maintenance expense can also be higher than what is estimated at the given point of time. The fact that the appellant has been making efforts to improve its performance is clear from the figures of actual heat rate for 2005-06 and 2006-07 which show that there is a fall in the station heat rate in 2006 compared to in the year 2005. It cannot be said that the appellant had altogether been irresponsible in its expenditure. Therefore, it will be appropriate for the Commission to examine individual items of expenditure and disallow only those which it finds as avoidable or imprudently high. We had an occasion to examine the concept of prudence check in the case of NDPL Vs. DERC Energy Law Reports (APTEL) 2007 193. The Commission had allowed an A&G expenses for distribution companies of Delhi only to the escalation of 4% over the

previous year's expenses. The Commission had made deduction on account of legal expenses and other general expenses. We held that the Commission would have to allow such expenses which are justifiable and can disallow such expenditures which were not justified. The Commission cannot simply apply the normative rates of escalation and feel that its function of regulation is thereby over. While the Commission is duty bound to regulate the generation, transmission and distribution keeping in view the interest of consumers, it is also bound to see that the generator, transmitter and distributor gets a fair return, over and above the expenses. We, therefore, have no option but to hold that the Commission has to do some more exercise in arriving at the correct figure of O&M expenses which can be taken as pass through in tariff. It has to examine individual items of expenditure and reject those which were clearly avoidable or imprudent or impermissible and allow the rest as pass through."

7. Other Considerations.

Two Part tariff:-

- HPGCL proposes to determine tariff for sale of power of HPGCL for FY 2012-13 on two part tariff basis.

- Incentive for higher generation shall be at the rate of capacity charges per Unit in line with present CERC Regulations. Similarly capacity charges for lower generation shall be recovered on pro-rata basis.

- PLF for recovery of capacity charges shall be worked out by including deemed generation on account of backing down instructions/ scheduling of lower generation than declared availability.

- HPGCL shall have the right to sell power not scheduled by Discoms to third party(ies) out of State and for that power sold outside state, HPGCL shall be entitled to recover fixed/ capacity charges from the Haryana Distribution Licensee.

Recovery of Capacity (Fixed) Charges:-

- Capacity charges including incentive shall be recovered on pro-rata basis.

Third party sale in case of payment default by distribution licensee:-

HPGCL is under huge cash crunch scenario because of the poor payment history of the distribution company of Haryana. Both the distribution companies in the state have an outstanding of around Rs 3242.28 Crore (Consisting of Rs. 2023.48 Crore from UHBVN, Panchkula and Rs. 1218.80 Crore from DHBVN, Hisar) as on 27th Nov'11. The result is that HPGCL, which supplies power to the two discoms, is in a tight spot and nearly defaulted on its loan repayments. Apart from that, the non-payment of bills in time by the distribution Licensee is causing HPGCL to pay heavily on short term funds for working capital loan requirement and therefore there is an urgent need to enforce payment discipline amongst the distribution Licensee. HPGCL humbly prays before Hon'ble Commission that HPGCL should have the right to sell the power to third party outside state in the event of payment default beyond 60 days for any of its bill by the distribution licensee of Haryana and in that case to recover the fixed charge of the power sold outside the state from distribution Licensee of Haryana.

Terms of payment and adjustment of receipts towards outstanding dues:-

The terms of payment and adjustment of receipts towards outstanding dues of HPGCL shall be as per HERC order 793-796/ HERC dated 03.07.2008. However, as Fuel Price Adjustment (FPA) is not included in the working capital, no rebate on the same shall be allowed. Further, on the same ground it is prayed that the payment of FPA shall be made by the Haryana discoms within seven (7) days of the presentation of the bill failing which surcharge for delayed payment at HERC already approved rate shall be applicable from the date of presentation of the bill.

8. Observations of the Commission on HPGCL filing:-

After initial scrutiny of the generation tariff petition for FY 2012-13 filed by HPGCL, the Commission vide Memo No. 3055/HERC/ARR FY 2012-13/T-164/TMC dated 22/12/2011 sought additional information / clarifications. HPGCL filed a detailed reply to the queries / issues raised by the Commission. A synopsis of the same is presented below.

HPGCL provided details of PLF / CUF and auxiliary consumption from FY 2006-07 to FY 2011-12 (up to November, 2011) and proposed for FY 2012-13 in respect of WYC & Kakroi hydel powerhouses. The Commission has taken on record the proposed PLF / CUF of 50% and auxiliary consumption (including transformation losses of 0.5%) of 1% and dealt with the same at the relevant paragraph of the instant order.

As sought by the Commission HPGCL provided plant wise details of PLF, auxiliary consumption, specific oil consumption and station heat for PTPS (Unit 1 to 8), DCR TPS (Unit 1 & 2) and RG TPS (Unit 1&2). The additional information provided by HPGCL has been taken on record.

The Commission has considered the details of forced outages of the various unit of HPGCL provided for FY 2010-11 and FY 2011-12 and observes that the same in the case of DCR TPS shows a substantial increase i.e. from 669.46 hours in FY 2010-11 to 2680.23 hours in FY 2011-12 (up to November). **The Commission directs that the full year data for FY 2011-12 should be analyzed and a report including the reasons and corrective action taken to rein in the forced outages be submitted to the Commission within two months from the date of this order. Further despite the fact that the forced outages in the case of RG TPS have comparatively declined, the same is still inordinately high, which also needs due attention and corrective / preventive actions as these units are of 600 MW each and forced outages would lead to a massive loss of generation and power availability in the State.**

The Commission has considered the details of the number of trippings for the generating stations provided by HPGCL and observes that tripping due to grid disturbances and to a certain extent tube failure may be beyond the control of the petitioner but in all other cases i.e. flame failure / furnace disturbances etc. is well within the reasonable control of HPGCL and calls for concerted monitoring and preventive action. Such tripping adds to the cost of generation over and above the normative expenses allowed by the Commission, hence it is in the interest of the petitioner itself to adopt industry best practices to minimize such trippings. Additionally, the Commission observes that tripping due to miscellaneous reasons especially in the case of PTPS is inordinately high which needs immediate attention and corrective measures.

The Commission has perused the status of overhauling and R&M details i.e proposed for FY 2009-10 and FY 2010-11 vis – a – vis actual and observes that by and large HPGCL do not abide by the overhauling and R&M plans / proposal submitted to the Commission. This is a major lapse as overhauling and R&M activities needs proper planning as well as timely implementation not only to keep the plant and machinery in a proper running condition but also to prevent accelerated deterioration in the operational parameters of the same. HPGCL is advised to pay proper attention to such activities.

In response to the additional information sought by the Commission, HPGCL provided the relevant extract of the tariff orders / APTEL judgments referred to in their petition of the generating plants of other states including vintage of the powerhouses, capacity, transit loss of coal etc. The same has been taken on record by the Commission and kept in mind while reckoning with the operational parameters in the case of comparable generating stations of HPGCL.

In response to the details of achievement of norms and performance improvement trajectory sought by the Commission, HPGCL reiterated that PTPS Unit 1 to 4 are having technological deficiencies and hence they are not showing the desired improvement in their operational parameters even after Renovation & Modernization. Additionally they submitted that the relaxed norms for the older generating units allowed by the Commission is not achievable. The Commission observes that instead of providing improvement trajectory HPGCL has tried to justify sustained under performance of PTPS Units 1 to 6 and its inability to achieve even the relaxed norms set by the Commission.. HPGCL needs to note that as per CEA's performance review of thermal power stations in India there are a large number of power stations that have shown sustained improvement in SHR and other parameters and hence HPGCL's reply on this issue is not acceptable.

The Commission has taken on record the data / information regarding projected consumption of coal, quantity of washed and imported coal and details of the trained technical staff etc. provided by HPGCL and considered the same at the relevant paragraphs of the instant order. The Commission observes that there is some gap in the posts sanctioned vis – a – vis posts filled up. HPGCL should lay sufficient emphasis on proper man power planning / budgeting and training so as to optimize the efficiency of manpower resources. **HPGCL should undertake assessment of various activities and outsource whatever considered appropriate considering efficiency and cost factor.**

9. **Public Proceedings**:-

Section 64(2) of the Electricity Act 2003 provides that *"Every applicant shall publish the application, in such abridged form and manner, as may be specified by the Appropriate Commission".* Accordingly HPGCL published its petition in an abridged form providing salient features of their generation tariff application in two newspapers having wide circulation in Haryana, one each in Hindi and English, to ensure public participation. HPGCL, by way of public notice, informed the stakeholders about the proposed gross generation, net generation, fuel cost, O&M expenses, depreciation charges, interest and finance charges and return on equity proposed for FY 2012-13.

Sources of availability of the relevant documents and an invitation to the public / interested organizations to file their objections, if any, by 7/01/2012 were also mentioned in the notice.

The public notice issued by HPGCL appeared in the following newspapers:

Public Notice issued by HPGCL

Name of Newspaper	Language	Date of Publication
The Tribune	English	8/12/2011
The Dainik Tribune	Hindi	7/12/2011

After receipt of clarifications/ additional information from the petitioner the Commission issued public notice on 18/12/2011 inviting objections/ comments/ suggestions from the stakeholders and general public. The public notice was inserted in two newspapers, one each in English and Hindi having wide circulation in the State of Haryana. The interested persons / organizations were requested to file their objections / suggestions etc. on or before 25/01/2012. The Commission also placed the public notice on its website www.herc.nic.in inviting objections / suggestions on the generation tariff petition filed by the petitioner for FY 2012-13.

The public notice was issued in the newspapers mentioned in the table below.

Public Notice Issued by the Commission

Name of Newspaper	Language / Edition	Date of Publication
The Times of India	English	18/12/2011
Dainik Bhaskar	Hindi	18/12/2011 (Haryana edition) & 19/12/2011 (Chandigarh edition)

The Commission subsequently issued another public notice on 20/01/2012 in the Times of India and the Dainik Bhaskar for conducting public hearing on the Generation Tariff filing of the Petitioner for FY 2012

- 13 at 11:30 A.M on 13th February, 2012 in the court room of the Commission. The notice was also posted on the Commission's website i.e. www.herc.nic.in as well as the notice board.

10. **Public Response:-**

In response to the public notice issued by the petitioner and subsequently by the Commission, objections / comments were received from the distribution licensees i.e. UHBVNL and DHBVNL who would be purchasing power generated by the petitioner for onward distribution in their respective licensed area.

The issues raised by UHBVNL and DHBVNL the two distribution licensees in Haryana and HPGCL's reply thereto are reproduced below.

Plant Load Factor (PLF):-

On the issue of low PLF and non achievement of PLF norms HPGCL submitted that its old Units No. 1 to 4 are having technological deficiencies and that is why these units are not showing desired improvement in their operational parameters even after R&M of two Units. Further the erstwhile HSEB in the year 1997 had awarded contract for R&M of all these units to ABB (now Alstom Power). The firm however left the work in between unilaterally and the matter remained under arbitration. In view of ABB not even completed the R&M of unit No. 2, which it had opened for R&M, HPGCL had to get the balance work on Unit – 2 completed from BHEL. However, in this case BHEL did not extend any performance improvement guarantees. The unit has not shown expected improvement. Subsequently HPGCL has got completed R&M on its Unit No. 1 from OEM, BHEL with certain guarantees in the year 2007-08. Still it is not showing requisite improvement. Actual performance of these units from inception would substantiate HPGCL's submission with respect to technological deficiencies. Accordingly despite being over interested, HPGCL, find it almost impossible to achieve HERC fixed norms. It is also submitted that HPGCL has planned R&M of Unit No. 3 & 4 with World Bank funds; however, they are apprehensive about true justification of that R&M in view of Unit No. 1 &

2 experience. It would also be agreed that till R&M of Unit No. 3 & 4, it would not be feasible for HPGCL to spend any money on these units even for sustaining the present level of performance. However, HPGCL has taken various steps during the last few years in this direction e.g.

- HPGCL, as submitted in the Tariff Petition for FY 2012-13, had undertaken the R&M work for PTPS Unit 1 and Unit 2 in the year 2008 and year 2003 respectively. It is only in case of Unit 1, there has been some improvement in the performance, whereas in case of Unit 2 there hasn't been any significant improvement in operational performance.

- HPGCL has also submitted that the R&M for PTPS Unit 3-4 will be undertaken through the World Bank funding. The consultant appointed for the social and environmental study has already completed the Rapid Social Assessment (RSA) report, Environmental Audit and Due Diligence (EADD) report. The design consultant has submitted the draft energy audit, draft technical evaluation report and draft detailed project report which is under consideration of HPGCL. The final technical report is expected to be received shortly after incorporation of the suggestions given by HPGCL. It is expected that the actual R&M work will be started in FY 2013-14 and the same is expected to get completed in the FY 2014-15 for both the units.

Till such time the R&M of unit 3 & 4 is completed HPGCL seeks the relaxation of technical norms in case of PTPS units 1 to 4.It is pertinent to mention here that in case of new units of PTPS namely Unit 7-8 (500MW), DCRTPP Unit 1-2(600MW) and RGTPP Unit 1-2 (1200MW), which collectively constitutes nearly 73% of the total generating capacity of HPGCL i.e. 3,230.5 MW, Hon'ble HERC has allowed the operational norms as per the generation regulations. The HPGCL has requested the Hon'ble Commission to approve the performance parameters for the unit no 1-6 of PTPS keeping in view the relevant orders issued by Hon'ble APTEL in the past. HPGCL has proposed a PLF of 59.88% for Unit-1 to

4 based on the average of actual PLF achieved during the preceding three complete years of operations.

Station Heat Rate (SHR):-

On the issue of non achievement of SHR norms HPGCL submitted that they have explained the difficulties in achieving the norms in the Tariff Petition. In case of PTPS unit 1 to 6, HPGCL has requested the approval of the Station Heat Rate in line with the Energy Audit report with 1.5% deterioration as allowed by the Hon'ble Commission while implementing the Hon'ble APTEL's Judgments dated 26th April 2010 in respect of the HPGCL's Appeal No 72 and 141 of 2009 and judgment dated 31st July 2009 in respect of the HPGCL appeal No 42 and 43 of 2008 regarding the revision of tariff for FY 2007-08 to FY 2009-10.

The reasons for not showing the improvement in performance of PTPS Unit 1 to 4 have already explained. Further HPGCL has reiterated that they remain committed to improve the performance of its generating stations. In the tariff petition HPGCL has detailed out the steps taken for the improvement of overall performance of the thermal units. The constraints which HPGCL is facing are common to other generating companies in India. As explained earlier HPGCL has produced cases of other generating companies in India who have faced similar problems and also the relevant judgments issued by the Hon'ble APTEL and orders issued by the Hon'ble Commission of the respective states where the operational norms have been relaxed.

Keeping in view of the same HPGCL has requested the Hon'ble HERC to appreciate the efforts taken by the HPGCL in the past and its commitment towards the improvement of operating performance from the existing level, considering the vintage of the Units for which certain deviations from the norms have been sought as per the APTEL's judgment dated 26th April 2010 as mentioned above.

Auxiliary Energy Consumption:-

HPGCL has explained the difficulties in achieving the norms stipulated either in the Tariff Regulations or as approved by the Hon'ble Commission in the previous Tariff Orders. Given the genuine difficulties HPGCL has requested the Commission to consider the reasons for not showing the improvement in performance and also to approve the auxiliary consumption to the extent it is possible for them to achieve. On the similar line and keeping in mind the vintage of the plant HPGCL has requested the Commission to approve the auxiliary consumption for the PTPS unit 1 to 6 based on three years average of the actual auxiliary consumption. The HPGCL is undertaking best efforts towards improvement of technical performance of its PTPS Plant's Unit 3 & 4, which are due for R&M. In case of Units other than PTPS Unit 1-6, HPGCL has proposed auxiliary consumption based on the Commission's norms (PTPS unit 7-8 & DCR TPS Unit 1-2), and Central Commission's norms (RG TPS Unit 1-2), where the State Commission's norms are silent.

Loss of Coal in transit:-

The issues related to coal has always been highlighted by HPGCL in the past with Indian Railways and respective Coal Companies at the top management level of HPGCL and through Hon'ble Chief Minister of Haryana. In a recent communication to the Director /TT, Railway Board, the HPGCL's COO (Fuel Management) has raised the high coal transit loss issue and requested for appropriate intervention. Moreover, to reduce the coal transit loss the HPGCL has also contracted for washing nearly 55 Lakh MT of coal with 4 coal washing companies for the year 2011-12, to wash and supply the entire coal received from MCL in order to reduce the transit losses. Also in order to reduce the transit loss HPGCL has also initiated the process for appointment of coal agent. The Board of directors has passed the resolution for appointment of the coal agent. A committee headed by Chief Engineer (Fuel), HPGCL, Panchkula has been constituted to carry out the processes required for the appointment of coal agent. The issues regarding the coal agent like the detailing out the scope of work, terms & conditions for the appointment and fixing the various norms or benchmarking for the coal agent is under discussion.

It is to be considered here that even the CERC has set the Coal transit loss as per the average of past performance achieved by the NTPC plants as detailed out in the Statement of reason for the Tariff regulations for the FY 2009 to 2014. The relevant extracts are given in the Tariff petition.

Also in case of other states the respective SERCs have relaxed the norms for transit loss as per the actual conditions as given in the following table:-

State	As per State regulation	Approved by SERC	Remarks
Gujarat – Torrent Power*	0.8%	1.4%	APTEL ordered GERC to decide the increase percentage of allowable coal transit losses for Torrent Power Plants on the basis of differentiation between washed and unwashed coal
Bihar	0.8%	3.8%	-
Punjab	2%	2%	No transit loss is allowed for PANAM Coal (Board's Captive Coal Mine), for other coal transit loss of 2% has been allowed by the PSERC
Delhi – IPGCL	0.8%	0.8%	APTEL after examination of plea by IPGCL requested DERC true up the transit and moisture loss @ 3.8% for coal based stations of IPGCL for FY 2007-08 to FY 2010-11 and to approve the same for FY 2011-12.

Regarding the norms set in regard of Coal transit loss the CERC has specifically clarified in point no 25.6 that

> "As regards norms for the state sector projects, the Commission expects the State Commissions to specify suitable norms after due regard to the actual situation and distance involved in the transportation of coal in respect of stations being regulated by them"

As per Tariff Policy clause no 5.3(f) for the operating norms says that:

> "Suitable performance norms of operations together with incentives and disincentives would need to be evolved along with appropriate arrangement of sharing the gains of efficient operations with the consumers. Except for the cases referred to in para 5.3.(h)(2), the operating parameters in tariffs should be at normative levels only and not at lower of normative and actuals. The norms should be efficient, relatable to past performance, capable of achievement and progressively reflecting increased efficiencies and may also take into consideration the latest technological advancements, fuel, vintage of equipment, nature of operations and level of service to be provided to consumers etc. Continued and proven inefficiency must be controlled and penalized."

Keeping in mind the fact that transit loss depends upon factors which are beyond the control of HPGCL, like long distance of transit from coalfields to the generating station and its effect on evaporation, wind, seepage, theft and pilferage in transit; HPGCL has requested the Hon'ble Commission to give due consideration to the approach taken by other SERCs and the actual situation in case of the HPGCL as explained in the Tariff Petition.

Consideration of CERC Regulations:-

HPGCL has adhered to the Hon'ble HERC norms and the principles adopted by the Hon'ble Commission in previous tariff orders, in the most of the cases. Only in the cases where the HERC norms are silent or HPGCL finds CERC norms to be achievable even though they are more stringent, HPGCL has referred to the norms adopted by the Central Commission. It would be grossly inappropriate to suggest that HPGCL has followed CERC Regulations when they are more beneficial to HPGCL, as HPGCL has proposed certain technical parameters in line with CERC norms, which are more stringent than the State Commission’s norms, for instance:

- PLF for PTPS Unit 5-8, DCRTPP Unit 1-2 & RGTPP Unit 1-2, which is proposed as 85%, as against State Commission’s norm of 80%.
- Station Heat Rate in case of RGTPP Unit 1-2 having generation capacity of 1,200 MW, at 2,386kCal/kWh.
- Auxiliary Consumption of RGTPP Unit 1-2 at 6%, which is higher than the auxiliary consumption of 7.5%, as approved by the State Commission in their previous tariff orders.
- Specific Fuel Oil consumption of PTPS Unit 5-8, DCRTPP Unit 1-2 & RGTPP Unit 1-2 proposed at 1ml/kWh in line with CERC Regulations, as against 2ml/kWh as provided in State Commission’s regulation of 2008.

Therefore, it is incorrect to say that HPGCL has followed the norms for its own benefit as it has gone ahead to propose even more stringent technical norms, wherever they are achievable, considering the interest of the consumers of State of Haryana.

Working Capital Borrowings, Depreciation and O&M Expenses:-

As mentioned earlier HPGCL reiterates that HPGCL has adhered to the HERC norms in the most of the cases. Only in the cases where the HERC norms are not available, HPGCL has referred to the CERC norms. HPGCL has proposed the depreciation in line with approach adopted by Hon’ble HERC in the previous tariff orders.

In line with the CERC regulation for the period (2009-2014) the Hon’ble HERC has upheld HPGCL’s contention of applicability of the CERC notified deprecation rates. HPGCL has estimated the depreciation as per the principles adopted by Hon’ble HERC in their Tariff Order for the FY 2011-12.

In case of approving the Operation and Maintenance the relevant extracts of tariff Order for the FY 2010-11 (Section No 2.14) says

"…… 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 light of revised per MW CERC norms the commission has considered Rs. 2.62 mln/MW for PTPS (1-4), Rs 1.82 mln/MW (5 to 8), Rs. 1.237 mln/MW for RGTPP (1&2), Rs 1.692 mln/MW for DCR TPS (1 &2) while the O&M expenses allowed by the commission in the case of WYC & Kakroi is as proposed by HPGCL. Additionally the Commission has also considered HPGCL's petition filed vide Memo No. HPGCL/Flin/Reg-200/2235 dated 27/01/2010 seeking additional amount on account of salary arrears due to the implementation of the recommendations of the 6th pay revision committee report. While allowing O&M expenses as per norms revised by CERC in FY 2009-10 the commission has allowed Rs. 4367.6 million as against Rs. 3142.4 million as per the old O&M norms with the observation that any difference in employee cost due to implementation of the recommendations of the 6th pay Commission may be trued up in the next tariff review ……"

In line with Hon'ble Commission's order for previous years, the proposed O&M expense for PTPS Unit 1-4 are based on average of past three years actual O&M expenses with appropriate escalation to account for inflation. In case of PTPS Unit-5 to 8, DCRTPP Unit 1&2 and RGTPP Unit-1&2the O&M expenses are proposed for the FY 2012-13 on the same basis as approved by the Hon'ble Commission in their previous tariff orders. Similarly, the O&M expenses proposed for WYC & Karkoi are based on the O&M expense approved by Hon'ble Commission during the previous Tariff Order dated 18thApril 2011, escalated by appropriate factor to account for the impact of inflation.

Third Party Sale and payment default:-

Dispatch of electrical energy under clause No 2.2 of the PPA ("HPGCL is not allowed to make third party sales") is based on the interpretation that all other terms of the agreement are to be followed by either party. However the agreement is also binding to the buyer to pay all the dues in the required time frame. Further, as per the agreed terms of payment which are approved by the State Govt. of Haryana and Hon'ble HERC non-payment within 60 days constitutes an event of default which attracts surcharge also. The contention of HPGCL is only to have the right to sell the power to third party outside state that too in the event of payment default beyond 60 days for any of its bill by the distribution licensee of Haryana and during the instances where the power is not scheduled by the DISCOMs.

It is important to note that the HPGCL has been facing severe cash crunch situations and has been relying on its ability to draw short term funds from the banks, which again costs heavily to HPGCL. The average receivables during the current year (FY2011-12) have been for around 291 days (9 months and 21 days), thus forcing the HPGCL to resort to increased working capital borrowing. Whereas, the working capital approved by the Hon'ble Commission considers only 2 months receivable. The total receivables outstanding during the FY2011-12 as on 20th January 2012 have been over Rs.3958.29 Crores as against the total billed amount of Rs.4959 Crores. The total receivables from DHBVNL and UHBVNL are Rs. 541.51 Crores and Rs. 2416.78 Crores respectively. Therefore HPGCL is forced to pray the Hon'ble Commission to claim the right for third party sale as the Haryana DISCOMs are not honouring their payment obligation in timely manner. Hence it has been requested to the Hon'ble Commission to either allow HPGCL to sell power to third party in the event of default or to allow for higher working capital considering the actual age of receivables.

Further, in order to remain a financially viable and well performing generating entity, in the interest of the Nation as a whole, the HPGCL had requested the Hon'ble Commission to consider the third party sale of power during the instances when the power is not scheduled by the DISCOMs.

Regarding Loss of generation to be compensated at the fixed charge determined by the Commission:-

HPGCL has requested the Commission to kindly consider the impact of backing down/ deemed generation while allowing the technical parameters of the plants or the earlier arrangement of recovery of the fixed charge in the event of backing down. It is reiterated that in 21st meeting of the power planning held on 20th September 2011 under the Chairmanship of Financial Commissioner and Principal Secretary (Power), Govt. of Haryana. MDs of UHBVN and DHBVN agreed for payment of fixed charges to HPGCL by the distribution companies in the event of backing down of HPGCL units. It was also decided that the decision will be communicated in writing to HPGCL subject to any observation or views that Hon'ble HERC may have in this regard. Also as decided for the FY 2011-12 the same arrangement may be allowed to continue for the FY 2012-13 on the basis of the decision in the steering committee for power planning.

Payment of Fuel Price Adjustment (FPA):-

HPGCL agrees with the contention of the DHBVN that they are incurring huge losses and they also have the higher receivables. However it is incorrect to say that HPGCL is a profit making company and can manage the loans from the banks. The revenue of HPGCL depends on the power purchased by the Haryana DISCOMs only and at present HPGCL has not been allowed to sell the power to any third party. The HPGCL has to raise funds for day to day operation from banks at a higher interest rate. The situation has worsened presently as now banks have stopped further funding and responding to NIT of HPGCL for further loans. Not only this, Corporation Bank after offering Rs. 1000 Crore loan (Rs. 500 Crore short term loan and Rs. 500 Crore Cash Credit) has disbursed only Rs. 250 Crore CC Limit. Banks i.e. Canara Bank, OBC, IOB have already increased the rate of interest on Working Capital Loans ranging from 0.25% to 1%. It is feared that banks may soon start asking for exorbitant increase in their rate of interest and even for closure of their existing loans.

The total receivables outstanding during the FY2011-12, as on 20th January 20121, have been over Rs.3958.29 Crores as against the total billed amount of Rs.4959 Crores. The average receivables during the current year (FY2011-12) have been for around 291 days (9 months and 21 days), thus forcing the HPGCL to resort to increased working capital borrowing. Whereas, the working capital approved by the Commission considers only 2 months receivable. As per terms & conditions agreed between HPGCL & DISCOMs, in due approval of Commission, 2% rebate on immediate payment, 1% rebate for payment in 30 days and surcharge for payment beyond 60 days of billing is applicable.

It is to be noted that the Fuel Price Adjustment (FPA) is not included in the working capital and hence rebate on the same and the payment period up to 60 days itself is not justified. HPGCL requests the Hon'ble Commission that no rebate on the FPA shall be allowed. Also HPGCL requests the Hon'ble Commission to issue an order that the payment of FPA shall be made by the Haryana DISCOMs within seven (7) days of the presentation of the bill failing which no rebate will be allowed and delayed payment surcharge will be applicable from the day of billing in view of the HERC Regulations, which provide for recovery of FPA on monthly basis.

The DISCOMs should not hold HPGCL's financial condition at stake due to inefficiency in collecting their dues in time. In light of the cash crunch either the DISCOMs should pay their dues in time or the Hon'ble Commission while approving the working capital should allow the receivables as on actual basis for the preceding years i.e. for at least for 8 months.

The HPGCL would humbly request the Hon'ble Commission to direct the DISCOM's to maintain the financial discipline and focus on increasing their collection efficiency and meet their financial commitments with HPGCL in a timely manner, the ultimate benefit of which will be passed on to the consumers of the State of Haryana.

The Commission has taken note of the objections filed by UHBVNL and DHBVNL as well as the reply filed by HPGCL and dealt with the same while taking a view on the various technical and financial norms for FY 201213 generation tariff.

11. Public Hearing:-

The public hearing was held as per the schedule, intimated to the public and other stakeholders, on 13/02/2012 in the Court Room of the Commission in its office at Bays No. 33 – 36, Sector – 4, Panchkula.

The petitioner made a detailed presentation and also responded to queries and clarifications sought by the Commission as well as responded to the objections / comments filed by the Discoms.

The Managing Director of HPGCL apprised the Commission of improvement in performance of HPGCL since its creation i.e. FY 1998-1999 to 2010-11. HPGCL submitted that since FY 1998-1999 the capacity addition has been to the tune of 2367.2 MW i.e. 3 times, net generation increased from 3.52 BUs to 13.16 BUs, PLF has been consistently above 75% since FY 2006-07 as against 40 to 50% till FY 2000 - 01 and SHR improved from 3770 kCal / kWh in FY 1999-2000 to 2728 kCal / kWh in FY 2010-11. Auxiliary consumption decreased from 12.24% in FY 1997-98 to 9.77% in FY 2009-10 and Specific Oil Consumption reduced from 12.7 ml/kWh in FY 1998-99 to 1.61 ml/kWh in FY 2009-10.

HPGCL apprised the Commission that some of their powerhouses are of an average age of over 25 years, hence due to obsolete technology the performance parameters as approved by the Commission is not being achieved.

HPGCL dwelt at length on the issue of coal quantity and submitted that the inadequate coal linkage to the extent of 9.73 Lakh MT (PTPS) and 2.84 Lakh MT (DCR TPP) and the fact that there is no long term coal linkage for RGTPP wherein MoU route has been adopted on ‘as is where’ basis there too the gap in coal supply is to the extent of 43.25

Lakh MT. This has led to mandatory import of coal with higher cost. Further irregular rake movement and higher transit loss of coal are some other issues that are hindering supply and cost of coal. In addition to the inadequate quantity HPGCL submitted that they are seized with the problems of oversized coal / stone boulders, lower GCV in the range of 3000 kCal/Kg to 3400 kCal / Kg, high ash content which is in the range of 40 to 52% as against a standard benchmark of 32%. On the issue of transit loss of coal HPGCL submitted that it is beyond the control of HPGCL and the same varies from colliery to colliery. They pleaded that regulatory provisions for considering higher transit loss on case to case basis are there and the same needs to be considered.

Additionally HPGCL submitted that they may be allowed to recover fixed cost in the event of backing down / deemed generation as agreed upon by the Discoms.

12. State Advisory Committee (SAC):-

In its consultative process the Commission, on 23.02.2012, convened a meeting of the State Advisory Committee (SAC) constituted under Section 87 of EA 2003 on 29.03.2011 in order to have the benefit of their views on various issues in respect of generation tariff for FY 2012 -13. The members were briefed on different aspects of HPGCL's generation tariff petition as well as their past performance. It was suggested by the SAC Members that HERC should determine tariff on multi- year basis with truing up the tariff at the end of control period or once in between. On the issue of determining performance parameters, it was suggested that the Commission should be guided by HERC norms or in its absence the CERC norms, provisions of the Electricity Act, 2003, Tariff Policy and various judgments of the Hon'ble Appellate Tribunal for Electricity. The Members expressed concerns over non – achievement of the benchmarks set by the Commission especially by PTPS (Unit 1-6) and high transit loss of coal. The Commission has kept in mind the comments / suggestions and feedback of the Members while fixing various parameters in determining HPGCL's generation tariff for FY 2012 -13.

13. COMMISSION'S ANALYSIS of TARIFF FILING AND DETERMINATION OF GENERATION TARIFF FOR FY 2012-13.

The major items of expenditure and the operating parameters proposed by HPGCL as per their original petition as well as the additional information / data and revised proposed tariff submitted to the Commission for determination of generation tariff and HERC approval of the same are discussed in the paragraphs that follow. The Commission has also considered the submissions made by HPGCL during the public hearing, the submissions of UHBVNL and reply of HPGCL to the queries raised at the time of public hearing as well as suggestions of the SAC members while finalizing different technical and financial norms for determination of generation tariff for FY 2012-13.

i) Performance of HPGCL Generating Stations:

The performance of HPGCL over the years as presented during the public hearing is summarized in Table given below:-

Performance of HPGCL (2000-01 to 2010-11 up to December 2011)

Particulars	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 up to Dec, 2011
Installed Capacity (MW)	863.3	1073.3	1073.3	1073.3	1337.7	1587.7	1587.7	2187.7	2085.5	2085.5	3230.5	3230.5
PLF (%)	49.73	60.8	66.44	74.91	69.46	67.00	78.78	78.94	75.01	82.93	76.28	67.73
Auxiliary Consumption (%)	11.80	11.11	10.56	10.47	11.04	10.08	9.80	9.93	9.66	9.77	10.06	9.29
Coal Consumption (Gms/kWh)	816	789	770	764	784	741	721	735	712	706	772	781
Oil Consumption (ml/kWh)	5.97	3.29	3.43	3.35	3.97	3.74	1.85	1.66	2.87	1.61	3.08	2.78
Gross Gen (MUs)	3792	5311	6212	6997	6915	9181	10780	10845	13519	11566	11217.94	16055.77
Station Heat Rate (Kcal/kWh)	3505	3432	3365	3318	3287	3074	2894	2916	2762	2684	2728	2745
Transit Loss of Coal (%)	-	6.58	6.48	4.19	4.23	4.79	3.06	6.0	2.31	4.0	7.57 (PTPS), 7.17 DCR TPP	5.26(PTPS), 9.09 DCR TPP, 6.96 RGTPP

It is evident from the table above that substantial generation capacity has been added since 2001-02 which would go a long way in mitigating the power shortages in the State as well as reducing the need to source short term expensive power. However, the Commission notes with concern that despite 1200 MW & 600 MW capacities added under new thermal projects i.e. RG TPP & DCR TPP respectively and phasing out of the poorly performing power stations at Faridabad, which had outlived their useful life, in the last three to four years the overall PLF and Station Heat Rate (SHR) of HPGCL power stations have not shown the desired improvement. **The deterioration noticed in the Secondary Fuel oil consumption since FY 2009-10 and transit loss of coal is a cause for concern and calls for concerted efforts to reverse the trend**.

ii) Plant Load Factor (PLF) %:-

The following table depicts the picture of PLF regarding the best achieved by HPGCL up to FY 2010-11 , target fixed by HERC for FY 2010-11 & 2011-12, achievement by HPGCL for FY 2010-11 & 2011-12 (up to 11/2011) and norms fixed by HERC and CERC in their regulations:-

Units	Best Achieved up to FY 2010-11	HERC Approval 2010-11	Achieved 2010-11	HERC Approval 2011-12	Achieved 2011-12 upto 11/11	HPGCL Filing for 2012-13	HERC norms dated 18.12.08	CERC norms dt. 19.01.09
PTPS1-4	72.45 (2003-04)	75	53.37	75	69.34	59.88	80	60 to85
PTPS 5	96.23 (2007-08)	80	83.91	85	82.49	85	80	85
PTPS 6	97.49 (2009-10)	80	88.86	85	88.33	85	80	85
PTPS 7	98.91 (2007-08)	85	92.63	85	93.88	85	80	85
PTPS 8	96.93 (2009-10)	85	90.08	85	93.53	85	80	85
DCR TPS -1	85.73 (2009-10)	80	85.08	85	93.28	85	80	85
DCR TPS -2	76.97 (2009-10)	80	62.60	85	46.37	85	80	85
RG TPS- 1	-	80	-	85	55.02	85	80	85
RG TPS-2	-	80	-	85	47.40	85	80	85
HPGCL Thermal	82.93 (2009-10)		76.28	-	68.54	81.45		
WYC & Kakroi Hydel	Not given	50	49.67	50	57.24	50	50	55-60

PTPS Unit 1 to 4:-

It is evident from the above that the overall PLF of PTPS units 1-4 achieved up to 11/2011 during FY 2011-12 is 69.34% against HERC Regulations of 80% and the relaxed target of 75% fixed by HERC. The achievement of PLFs at individual units of PTPS 1 to 4 up to 11/2011 during FY 2011-12 are 79.57%, 79.70%, 61.80% & 55.55% respectively. It is observed that the PLFs of PTPS units-1&2 have exceeded the target of 75% fixed by HERC, as the same were renovated extensively by M/s ABB & BHEL. However, the PLFs achieved at PTPS units- 3&4 have been unsatisfactory, as these units have outlived their useful life and the renovation of these units has been delayed. HPGCL has admitted that the poor performance of these units can be attributed to the lack of R&M activity (the R&M for PTPS units-3&4 is envisaged in FY 2013-14 through financial assistance from the World Bank for which business plan will be submitted subsequently). The Commission, in view of the above submissions, observes that HPGCL should examine the techno – economic viability of these units vis – a –vis carrying out essential maintenance works to sustain the operation of the units for some more years.

HPGCL has proposed PLFs of 52.59%, 59.34%, 69.95% & 64.86% for PTPS units 1 to 4 respectively (overall 59.88%) based on the average of actual PLF during the preceding three complete years of operation. This was objected to by the Discoms on the plea that the PLF proposed by HPGCL is not in line with HERC Generation Tariff Regulations, 2008 and in the past the Commission has also expressed its concern the deterioration in PLF of HPGCL's power stations. The Commission observes that the petitioner has quoted the order of Jharkhand ERC in which the norms of operational parameters have been relaxed for Patratu TPS units as the same are 35-40 years old. The comparison is not valid as Patratu TPS units are much older than Panipat TPS units with derated capacity of 4x40 MW, 2x90 MW 2x105 MW & 2x110MW. It is learnt that Central Electricity Authority has suggested to JSEB to retire six out of ten units of this plant after finding them obsolete and mentioning any further investment on them for revival as unviable. Moreover, Panipat TPS units 1&2 have already demonstrated PLFs of 80% & above in the months of June to October during FY 2011-12 and PLFs of nearly 70% can be expected from units 3 &4 as already proposed by HPGCL for FY 2012-13. The average of PLFs of last three years has been low due to certain forced outages of long durations which are not expected or desired to be repeated in future.

In the light of the discussions and partly excepting the objections of the Discoms as well as the provisions of the National Tariff Policy that the parameters ought to take in to account the past performance the Commission has considered PLF of 70% for PTPS Units (1-4) for determining the generation tariff for FY 2012-13.

PTPS Unit 5 to 8:-

The individual PLFs of PTPS unit- 5 to 8 achieved up to 11/2011 during FY 2011-12 stands at 82.49%, 88.33%, 93.88% & 93.53% against the HERC norms (Regulations) of 85%. It is observed that the individual PLFs of PTPS units-6, 7 & 8 and overall PLF of PTPS units 5 to 8 are better than the norm.

HPGCL has proposed the normative PLF of 85% for FY 2012-13 for PTPS unit 5 to 8 which is reasonable and the same has been considered by the Commission for determining generation tariff for FY 2012-13.

DCR TPS (Yamuna Nagar) Unit 1 & 2:-

The individual PLFs of DCR TPS unit-1 & 2 achieved up to 11/2011 during FY 2011-12 as reported by HPGCL is 93.28% & 46.37% against the HERC norms (Regulations) of 85%. It is observed that DCR TPS unit 1 has achieved better PLF as compared to the norm of 85%. However, DCR TPS unit 2 failed to achieve the normative. Reportedly DCR TPS unit 2 has been under forced shutdown since 25.09.2011 due to turbine rotor problem. At the time of filing original tariff application, HPGCL expected that DCR TPS unit 2 will be put under operation during FY 2012-13 and proposed the normative PLF of 85% for FY 2012-13 for YTPS unit 1 & 2. However, HPGCL subsequently vide memo no. 193/GMP-224, dated 21.02.2012 intimated that various possibilities regarding repair of Rotor of YTPS unit-2 were explored and as approved by the Govt. of Haryana, during 3rd week of January, 2012, the work of repair of rotor was entrusted to M/s. Siemens-Turbo Care & the rotor was sent to the Vadodara Workshop of Siemens for repairs. As per the latest estimates, the rotor is likely to be repaired by end of June and the DCR TPS Unit-2 is expected to commence generation by end of July, 2012. Accordingly, the Unit will operate for only eight months during FY 2012-13 and is not expected to achieve a PLF of 85% during these eight months. Therefore, the overall PLF of the Unit during FY 2012-13 would be about 60%. In view of the above, HPGCL has requested the Commission to consider and fix the norm of PLF of Unit-2 of DCR TPS Yamuna Nagar as 60%.

The Commission has considered the above plea with respect to PLF of DCR TPS unit – 2 and is of the view that the Commission determines generation tariff on normative basis in accordance with the HERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2008. Accordingly full fixed cost is recoverable at a normative PLF of 85% i.e. at zero availability (PLF) no capacity charges are payable while fuel cost is recoverable on the basis of actual ex – bus energy delivered / sent out from the generating stations. Hence the energy charges get automatically adjusted based on actual sent out energy. However, recovery of fixed charges below the target availability has to be on a pro – rata basis. As, so far, the Commission has not introduced Intra – State ABT mechanism in Haryana relating PLF in case it is below the normative level for recovery of fixed charges on a monthly basis would become somewhat difficult. **Consequently, for the purpose of estimating generation tariff for FY 2012-13, in the case of DCR TPP Unit 1 & 2 the Commission in line with HERC Regulations has retained the PLF at 85%.** It needs to be noted that non – availability of a generating station for a prolonged period imposes significant cost on the electricity consumers of Haryana in terms of loss of productivity or substituting the same with short term expensive power or prohibitively expensive CPP running on liquid fuel. Thus the Commission is not inclined to accept the proposal of HPGCL to pass on the avoidable burden of non availability of a new generating power plant for which a Gold Shield was awarded in January, 2010 for meritorious performance relating to early completion of this power plant. Consequently, the Commission instead of curtailing the fixed cost corresponding to 60% has made the recovery based on actual generation. Hence any reduction in generation vis – a – vis normative PLF would lead to that much reduction in recovery of fixed cost of generation. **However in case the PLF exceeds the norms the fixed component of generation cost shall not be payable to the generating company.**

RG TPS (Hisar) Unit 1 & 2:-

The individual PLFs of RG TPS units 1 &2 achieved up to 11/2011 during FY 2011-12 stands at 55.02% & 47.40% only against the target of 85% fixed by HERC. It is observed that the PLFs of RG TPS units 1 &2 are quite low. HPGCL has attributed the reasons for low PLFs to certain teething troubles, high ash content in coal, inadequate coal supply etc. and expects that operations would stabilize and constraints in quality / quantity of coal supply will be removed in FY 2012 -13.

HPGCL has proposed the normative PLF of 85% for FY 2012-13 for RG TPS units 1 & 2. **In the absence of HERC norms the same has been considered by the Commission as per CERC norms for working out generation tariff for FY 2012-13.**

WYC & Kakroi (Hydel Units):-

In case of WYC & Kakroi hydel units, the overall PLF achieved up to 11/2011 during FY 2011-12 stands at 57.24% against the target of 50% fixed by HERC. HPGCL has proposed the normative PLF of 50% for FY 2012-13 for WYC & Kakroi hydel units. **As the proposed PLF i.e. 50% is in line with HERC Regulation, 2008, the same has been considered for working out generation tariff for FY 2012-13.**

iii) Auxiliary Energy Consumption (%):-

The following table provides the details of Auxiliary Energy Consumption (%) regarding the best achieved up to FY 2010-11 by HPGCL, target fixed by HERC for FY 2010-11 & 2011-12, achievement by HPGCL for FY 2010-11 &

2011-12 (up to 11/11) and norms fixed by HERC and CERC in their regulations:-

Units	Best Achieved up to FY 2010-11	HERC Approval 2010-11	Achieved 2010-11	HERC Approval 2011-12	Achieved 2011-12 upto 11/11	HPGCL Filing for 2012-13	HERC norms dated 18.12.08	CERC norms dt. 19.01.09
PTPS1-4	11.05 (2003-04)	11	12	11	12.39	11.63	11	9.50 to 12
PTPS 5	8.83 (2003-04)	9	10.77	9	10.61	9.99	9	8.50
PTPS 6	8.94 (2001-02)	9	10.25	9	11.33	9.55	9	8.50
PTPS 7	8.36 (2007-08)	9	8.99	8.50	9.14	9	9	8.50
PTPS 8	7.60 (2005-06)	9	8.97	8.50	9.19	9	9	8.50
YTPS -1	9.04 (2009-10)	9	9.18	8.50	8.76	9	9	8.50
YTPS -2	9.32 (2008-09)	9	10.48	8.50	10.80	9	9	8.50
*Khedar TPS-1	-	7.5	-	6	6.53	6	7.50	6.00
*Khedar TPS-2	-	-	-		7.13	6	7.50	6.00
HPGCL Thermal			10.06		9.31			
WYC & Kakroi Hydel	0.75 (2008-09)	0.50	0.76	1	0.61	1	0.50	0.7 to 1

**RG TPS-1 & 2 have Steam Driven BFPs*

As evident from the table above, the Auxiliary Energy Consumption (%) of PTPS units-1 to 4 achieved up to 11/2011 during FY 2011-12 is 12.39% against the relaxed norm of 11% allowed by the Commission.

The Auxiliary energy consumption of PTPS units-5&6 achieved up to 11/2011 during FY 2011-12 has been indicated as 10.61% & 11.33 % respectively against the target of 9% fixed by HERC for PTPS units 5 &6. The Auxiliary consumption of PTPS units-7 & 8 achieved up to 11/2011 during FY 2011-12 has been indicated as 9.14% & 9.19 % respectively against the target of 8.50% for PTPS units 7 & 8.

The Auxiliary energy consumption of DCR TPS units 1 & 2 achieved up to 11/2011 during FY 2011-12 has been indicated as 8.76% & 10.80% respectively against the target of 8.5% fixed by HERC. Similarly the Auxiliary consumption of RG TPS units 1 & 2 achieved up to 11/2011 during FY 2011-12 has been indicated as 6.53% & 7.13% respectively against the target of 6% fixed by HERC.

It is observed that the auxiliary energy consumption is on the higher side in respect of all the old and new thermal units. HPGCL has submitted that the auxiliary energy consumption of a generating station depends on quality of coal it receives at the feeding point, the nos. of frequent start-ups and shut downs it encompasses and the ageing of the equipment of the station. In addition, the no. of drives being used in actual operation on account of the decline in the above mentioned factors would increase leading to an increase in auxiliary energy consumption. The details of unit wise outages during FY 2011-12 and FY 2012-13 (up to November 2011) provided by HPGCL are as under:-

Unit	**Total nos. of trippings during FY 2010-11 (upto 11/2010)**	**Total nos. of trippings during FY 2011-12 (upto 11/2011)**
PTPS Unit-1	15	22
PTPS Unit-2	15	26
PTPS Unit-3	39	19
PTPS Unit-4	28	33
PTPS Unit-5	30	22
PTPS Unit-6	30	7
PTPS Unit-7	38	8
PTPS Unit-8	35	15
DCR TPS Unit-1	17	7
DCR TPS Unit-2	27	17
RG TPS Unit-1	-	35
RG TPS Unit-2	-	13
Total for HPGCL	274	224

The major reasons for repeated tripping have been stated by HPGCL are as under:-

Reasons of Trippings	Total nos. of trippings during FY 2010-11 (upto 11/10)	Total nos. of trippings during FY 2011-12 (upto 11/20
Flame Failure/ F disturbance	136	72
Tube Failure	41	44
Equipment Failure	11	13
Drum Level HI/LO	12	8
Interruption in coal flow	6	5
Grid Disturbance	10	9
Miscellaneous	58	73
Total for HPGCL	274	224

As evident from the above, the number of tripping is abnormal. The tripping attributed to tube failure and grid disturbances are understandable to a certain extent.

HPGCL is directed to analyze the tripping on account of other factors including 'miscellaneous' and take appropriate corrective measures to minimize the same and submit a report within two months from the date of this order. However, no relaxation in auxiliary energy consumption is admissible on this account.

HPGCL has proposed auxiliary energy consumption for different units for FY 2012-13 as under:-

Proposed Auxiliary Energy Consumption

Name of the Plant	FY 2012-13 (Projected)
PTPS (Unit-1 to 4)	11.63
PTPS (Unit-5)	9.99
PTPS (Unit-6)	9.55
PTPS (Unit-7)	9.00
PTPS (Units-8)	9.00
PTPS (Panipat Thermal Power Station, Panipat)	9.93
DCR TPS, Yamunanagar Unit-1	9.00
DCR TPS, Yamunanagar Unit-2	9.00
DCR TPS, Yamunanagar	9.00
RG TPS, Hisar Unit-1	6.00
RG TPS, Hisar Unit-2	6.00
RG TPS, Hisar	6.00
HPGCL Thermal Total	8.19
WYC and Kakroi (Hydel)	1.00

For the PTPS Unit-1 to 6 HPGCL has proposed the auxiliary energy consumption based on three years average of the actual auxiliary consumption. HPGCL has quoted MERC order wherein relaxed auxiliary consumption of 12.45% has been allowed in respect of Paras TPS unit-2 for FY 2010-11. The comparison of PTPS units- 1 to 6 with Paras TPS unit- 2 is not at all valid as PTPS units are 10-32 years old with capacity of 4x 110 MW & 2x210 MW, whereas Paras TPS unit-2 is 45 years old with capacity of just 58 MW. Moreover, as mentioned in MERC order (page – 61), the capacity of Paras TPS unit-2 has been derated w.e.f. April, 2007. HPGCL has also quoted UPERC order for FY 2008-09 in respect of Obra, Panki, Harduagang & Pricha TPSs for allowing relaxed auxiliary consumption at 10.5% to 11.5%. Here again the comparison is not valid, since Obra A/ B, Panki & Harduaganj TPSs (except Paricha TPS) have very old 32-44 years old units of 40 to 105 MW (all derated) and a number of units at these stations have already been phased out. Moreover, UPERC have observed that petitioner's failure to carry out timely maintenance cannot be ignored.

For PTPS units- 7 & 8 / DCR TPS units-1 & 2 and WYC & Kakroi hydel, HPGCL has proposed auxiliary energy consumption at 9% and 1% respectively in line with the HERC norms dated 18th Dec 2008 which is permissible. For RG TPS units 1 & 2, the petitioner has proposed auxiliary consumption at 6% on normative basis as per CERC norms dated 19.01.2009 which is permissible.

The relaxation sought by HPGCL in auxiliary energy consumption was objected to by the Discoms. They relied on the judgment of Hon'ble APTEL in Appeal No. 72 & 141 of 2009 wherein it was held that 'the State Commission had repeatedly directed the Appellant (HPGCL) to implement the recommendations of the Energy Audit Reports to reduce Auxiliary Power Consumption to national norms applicable. Therefore, we are of the view that there is no merit in the claim of the Appellant for higher Auxiliary Power Consumption and as such rejection of this claim in respect of PTPS, Panipat is perfectly legal'.

The Commission observes that as per HERC Regulation,2008, the target Auxiliary Energy Consumption (%) has been determined at 11% for 110 MW PTPS units 1-4, 9% for other generating units with electrically driven Boiler

Feed Pumps and 7.5% for generating units with steam driven BFPs. CERC Regulation dated 19.1.2009 has fixed the normative Auxiliary Energy Consumption (%) at 10.5% for Talcher TPS & 9.5% for Badarpur TPS which are more or less similar to PTPS units 1-4 in respect of their capacity and age group and 8.5% & 6% for thermal stations of higher capacity with electrically driven & steam driven BFPs respectively.

It view of the above discussions and the facts / judgments brought to the notice of the Commission by the Discoms the **Auxiliary Energy Consumption (%) for PTPS units 1 to 4 is allowed at 11% and that for PTPS unit 5 & 6 is allowed at 9% and 1% in the case of WYC & kakroi hydel units in accordance with HERC Generation Tariff Regulations which are already relaxed as compared to CERC norms. HPGCL is advised to pay special attention for reduction in number of tripping, minimize start / stop operations and take all other remedial measures so as to reduce the Auxiliary Energy Consumption to the normative levels. Auxiliary Consumption (%) for PTPS units- 7 & 8 and DCR TPS units-1 & 2 is allowed at 8.5 % and that for RG TPS units 1 & 2 at 6 % as proposed by HPGCL**.

iv) Specific Oil Consumption (ml/kWh):-

The following table provides the details of Specific Oil Consumption (ml/kWh) regarding the best achieved up to FY 2010-11 by HPGCL, target fixed by HERC for FY 2010-11 & 2011-12, achievement by HPGCL for FY 2010-11 & 2011-12 (up to 11/2011) and norms fixed by HERC and CERC in their regulations:-

Specific Oil Consumption (ml/kWh)

Units	Best Achieved up to FY 2010-11	HERC Approval 2010-11	Achieved 2010-11	HERC Approval 2011-12	Achieved 2011-12 upto 11/11	HPGCL Filing for 2012-13	HERC norms dated 18.12.08	CERC norms dt. 19.01.09
PTPS1-4	2.44 (2009-10)	2	5.80	2	5.01	2	2	2 to 3
PTPS 5	1.00 (2007-08)	2	3.55	1	1.72	1	2	1

PTPS 6	0.54 (2006-07)	2	2.60	1	1.47	1	2	1
PTPS 7	0.37 (2009-10)	1	2.35	1	0.93	1	2	1
PTPS 8	0.35 (2007-08)	1	2.38	1	1.47	1	2	1
DCR TPS -1	1.04 (2009-10)	1	0.86	1	0.96	1	2	1
DCR TPS -2	2.43 (2009-10)	1	0.86	1	6.15	1	2	1
RG TPS-1	-	1	-	1	4.40	1	2	1
RG TPS-2	-	1	-	1	2.81	1	2	1
HPGCL Thermal	1.61 (2009-10)		3.08	-	2.79			

It is observed that Specific Oil Consumption (ml/kWh) at most of the units (except PTPS unit- 7 & DCR TPS unit-1) has been on the higher side as compared to the norms. The higher oil consumption is attributed to frequent start / stop operations due to very high number of trippings.

For FY 2012-13, HPGCL has proposed Specific Oil Consumption (ml/kWh) at 2% for PTPS unit 1 to 4 as per HERC norm and 1% for PTPS unit 5 to 8, DCR TPS unit 1 & 2 and RG TPS units 1 &2 as per CERC norms which are allowed by the Commission for computation of FY 2012-13 generation tariff.

v) Station Heat Rate (Kcal/kWh):-

The following table provides the details of Station Heat Rate (Kcal/kWh) regarding the best achieved up to FY 2010-11 by HPGCL, target fixed by HERC for FY 2010-11 & 2011-12, achievement by HPGCL for FY 2010-11 & 2011-12 (up to 11/2011) and norms fixed by HERC and CERC in their regulations:-

Units	Best Achieved up to FY 2010-11	HERC Approval 2010-11	Achieved 2010-11	HERC Approval 2011-12	Achieved 2011-12 upto 11/11	HPGCL Filing for 2012-13	HERC norms dated 18.12.08	CERC norms dt. 19.01.09
PTP 1-4	3341 (2006-07)	3100	3349	3050	3229	3336.63	2750	2700 to 3100
PTPS 5	2705 (2007-08)	2600	2810	2500	2764	2935.19	2500	2500

PTPS 6	2701 (2007-08)	2600	2693	2500	2816	2954.60	2500	2500
PTPS 7	2452 (2008-09)	2450	2621	2500	2691	2585.86	2500	2500
PTPS 8	2446 (2008-09)	2450	2623	2500	2696	2584.83	2500	2500
DCR TPS -1	2443 (2008-09)	2368	2473	2343	2411	2500	2410	2368
DCR TPS -2	2440 (2008-09)	2368	2487	2343	2404	2500	2410	2368
*RG TPS-1	-	2422	-	2386	2813	2386.47	2450	2422
*RG TPS-2		2422	-	2386	2748	2386.47	2450	2422
HPGCL Thermal	2762 (2008-09)		2728		2759			

**RG TPS-1 & 2 have Steam Driven BFPs*

As evident from the above, the Station Heat Rate (Kcal/kWh) of PTPS units 1-4 achieved up to 11/2011 during FY 2011-12 stands at 3229 against the target of 3050 fixed by HERC.

The Station Heat Rate (Kcal/kWh) of PTPS units 5 to 8 achieved upto 11/2011 during FY 2011-12 has been indicated as 2764, 2816, 2691 & 2696 Kcal/kWh respectively against the target of 2500 Kcal/kWh fixed by HERC.

Station Heat Rate (Kcal/kWh) of DCRTPS units 1 & 2 achieved up to 11/2011 during FY 2011-12 has been indicated as 2411 & 2404 Kcal/kWh respectively against the target of 2343 Kcal/kWh fixed by HERC. Similarly the Station Heat Rate (Kcal/kWh) of RG TPS units 1 & 2 achieved upto 11/11 during FY 2011-12 has been indicated as 2813 & 2748 Kcal/kWh respectively against the target of 2386 Kcal/kWh fixed by HERC.

The Commission observes that the Station Heat Rate (Kcal/kWh) is on the higher side in respect of all the old and new thermal units. HPGCL has submitted that Station Heat Rate for generating stations varies from Unit to Unit depending upon their age, size, technology, no. of starts/stops, quality of coal etc. The older the Unit becomes, its efficiency goes down, and it becomes prone to run at higher heat rate. This is primarily on account of the deterioration of efficiency of a Unit on account of ageing and more number of starts and stops. In addition, the quality of coal being fed continuously is a prime factor contributing to the determination of heat rate of a Unit. Further, HPGCL has requested to consider the provisions given in the Section 5.3 (f) and 5.3 (i) 2 of the National Tariff Policy dated 6th January, 2006.

Section 5.3 (f) of National Tariff Policy reads as follows:

- The norms should be efficient, relatable to past performance, capable of achievement and progressively reflecting increased efficiencies and may also take into consideration the latest technological advancements, fuel, vintage of equipment, nature of operations, level of service to be provided to consumers etc.....

- The Central Commission would, in consultation with the Central Electricity
Authority, notify operating norms from time to time for generation and transmission. The SERC would adopt these norms. In cases where operations have been much below the norms for many previous years, the SERCs may fix relaxed norms suitably and draw a transition path over the time for achieving the norms notified by the Central Commission.

Section 5.3 (h) 2 of the National Tariff Policy states:

- In cases where operations have been much below the norms for many previous years the initial starting point in determining the revenue requirement and the improvement trajectories should be recognized at "relaxed" levels and not the "desired" levels. Suitable benchmarking studies may be conducted to establish the "desired" performance standards. Separate studies may be required for each utility to assess the capital expenditure necessary to meet the minimum service standards

For the old Units like PTPS Unit-1 to 4, the R & M is being planned but the same will take some time as HPGCL is evaluating the alternatives for funding the schemes. Also, under the provisions of the Electricity Act, 2003, HPGCL has a mandate to operate on commercial principles only. Therefore, the need of commercial independence of HPGCL should be factored while approving the SHR. HPGCL has not claimed any R&M for the old Units except Unit-1 of PTPS, Panipat. For Unit-3&4 the refurbishment is yet to be done. After the implementation of the proposed R&M HPGCL expects improvement in the SHR of the Units.

HPGCL have quoted the orders of some other SERCs where relaxed norms station heat rates have been prescribed as under:-

Tamil Nadu ERC

Power Station	Age in years	SHR norm(Kcal/kWh)	SHR Approved (Kcal/kWh)
TTPS (5x 210 MW)	19 to 32	2453	2500
NCTPS (3 x 200 MW)	15 to 17	2393	2466

UPERC

Power Station	Age in years	SHR norm(Kcal/kWh)	SHR Approved (Kcal/kWh)
Obra A (1 x40 MW +3x94 MW derated)	36 to 43	2850	3000
Obra B (3x200 MW)	29 to 34	2700	2900
Panki (2x 105 MW derated)	34	2950	3100
Harduaganj (1x50 derated + 1x60 +1x105 MW derated)	33 to 39	3300	3450

MERC

Power Station	Age in years	SHR norm (Kcal/kWh)	SHR Approved (Kcal/kWh)
Koradi (4x105 MW +1x200 MW +2x 210 MW)	28 to 37	Not given	3249
Khaparkheda (4x210 MW)	10 to 22	Not given	2755
Chandrapur (4x 210 MW+3x500 MW)	14 to 28	Not given	2599
Nasik (2x 140 MW+3x210 MW)	30 to 41	Not given	2659
Bhusawal (1x55 MW+2x 210 MW)	29 to 43	Not given	2914
Parli (2x 20 MW+3x210 MW)	30 to 41	Not given	2779
Paras (1x55 MW+1x250 MW)	44 to 50	Not given	3291

DERC

HPGCL has quoted an excerpt from the judgment of Appellate Tribunal of Electricity (ATE) in appeal no. 81 of 2007 in Indraprastha Power Generation Co. Ltd. (IPGCL) Vs Delhi Electricity Regulatory Commission (DERC) which reads as follows:

“The petitioner (IPGCL) submitted before the Commission that in order to comply with the directions of Delhi Pollution Control Committee the generating station was proposed to be closed down and therefore no R&M expenses could be taken for improvement or even maintain the same station heat rate. We are informed during the arguments that the final decision to close down was taken after the end of 2006-07. The final closing will be in 2010. In view of this situation, it will not only be fair for the Commission to bear with the station heat rate which the appellant has been able to achieve for this station during the period in question."

Jharkhand ERC

HPGCL has quoted another excerpt from JERC order in respect of Patratu TPS as under:-

"In view of the analysis and directions given in Hon'ble APTEL's Order dated 8.5.2008 and also considering that many Units of PTPS are more than 35-40 years old and it may not be feasible for the licensee to achieve the operational targets, the Commission has now decided to relax the norms of the operational parameters vis-à-vis the target set in the previous Tariff Orders. The Commission sets the timelines for the improvement of operational parameters as per the revised norms for attaining PLF of 45% and SHR of 2950 Kcal/Kwh by the end of FY 2013-14."

The relaxed norms approved by the Jharkhand ERC in case of vintage thermal power plant (PatratuTPS)

Approved Operating Norm	**FY 2008-09**	**FY 2009-10**	**FY 2010-11**	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**
PLF in %	34	36	38	40	42	45
SHR (kCal/kWh)	3450	3350	3250	3150	3050	2950

The Commission observes that most of the above orders / judgments cited by HPGCL are not valid as the generating units referred to are much older and some of them are on the verge of being phased out. HPGCL has not quoted the performance of various thermal plants of Rajasthan, Punjab, NTPC etc. which are performing better than HPGCL units.

HPGCL has proposed the following Station Heat Rate for the FY 2012-13 as given in the table below:-

Proposed Station Heat Rate for FY 2012-13

Name of Plant/ Unit	Proposed Station Heat Rate in Kcal/Kwh for FY 2012-13
PTPS Unit -1 to 4	3336.63
PTPS Unit-5	2935.19
PTPS Unit-6	2954.60
PTPS Unit-7	2585.86
PTPS Unit-8	2584.83
DCR TPS Unit-1	2500.00
DCR TPS Unit-2	2500.00
RG TPS Unit-1 #	2386.47
RG TPS Unit-2 #	2386.47

revised by HPGCL to 2700 Kcal/kWh.

The Commission observes that HPGCL has proposed highly relaxed norms of SHR for PTPS units- 1 to 8 and DCR TPS units-1 &2 without indicating any trajectory for improvement, whereas the proposal of SHR for RG TPS units-1 & 2 was originally as per CERC norm and later revised to 2700 Kcal/kWh as per actual achieved during first eight months of FY 2011-12.

HPGCL has proposed station heat rate for PTPS units -1 to 6, considering a deterioration factor of 1.5% per annum on the test results of 2010 energy audit report. The energy audit is carried out to ascertain the heat rate of a unit and the various sources of losses of heat. Thereafter, steps are required to be taken to plug the sources of heat losses so as to improve the station heat rate. HPGCL instead of showing any determination to plug the sources of heat losses have made the measured heat rate as a base and have proposed that it will go on deteriorating @ 1.5% per annum. HERC has not been averse to allowing relaxed norms for the old units provided there is a road map for improving the parameters in a reasonable period of time. HPGCL has proposed SHR of 3336.63 Kcal/Kwh for 110 MW PTPS units- 1 to 4 (24 to 32 years old) and 2935.19/2954.60 Kcal/Kwh for 210 MW PTPS units-5 &6 (10 to 22 years old). In comparison, SHR achieved is 3035.88 at 110 MW Bhatinda TPS (33 to 37 years old), 2472.62 at 210 MW Ropar TPS (19 to 25 years old) and 2493 at 110/195/210 MW Kota TPS (3 to 37 years old). The proposal of the petitioner with regard to SHR of PTPS Unit 1 to 6 was objected to by the Discoms on the grounds that they are not in line with

HERC Generation Tariff Regulations, 2008. The Discoms also referred to the observations of the Commission in its FY 2011-12 order that ‘if recommendations contained in energy audit report of PTPS Unit 1 – 6 are implemented by HPGCL, there is considerable scope for reduction in SHR and bringing the same within 10% of the design heat rate.

The Commission has considered the objections of Discoms as well as response of HPGCL on the same. As per HERC Regulation dated 19.12.2008, the target Station Heat Rate (Kcal/kWh) has been fixed at 2450/2410 for 300 MW & above sets with stream/electric driven BFPs respectively and a trajectory has been fixed for PTPS units 1-6 as under:-

		FY 2008-09	FY 2009-10	FY 2010-11
1	PTPS (1-4)	3200	2930	2750
2	PTPS (5-6)	2570	2500	2500

CERC Regulation dated 19.1.2009 has fixed the normative Station Heat Rate (Kcal/kWh) for different capacity of units as follows:-

i) Existing sets	Kcal/kWh
Badarpur TPS (3x95+2x210) MW	2825
Talcher (4x60+2x110) MW	2950
200-250 MW sets	2500
500 MW sets (electrically driven BFPs)	2346
500 MW sets (stream driven BFPs)	2386
ii) New sets achieving COD on or after1.4.09	1.065 x Design Heat Rate

With reference to section 5.3 (f & h) of National Tariff Policy referred to by HPGCL, the Commission has been relaxing the operating norms in the past wherever considered appropriate and drawing a transition path over the time for achieving the norms, but HPGCL has not taken enough steps to follow the same. HPGCL was requested to indicate the year wise trajectory in case of all the performance parameters wherever they are lagging behind the approved norms so as to achieve the operating norms as soon as possible, but HPGCL has not given the desired trajectory and again prayed to the Commission to appreciate the efforts taken by the HPGCL in the past and its commitment towards the improvement of operating performance from the existing level, considering the vintage of the Units for which certain deviations from the norms have been sought.

As per National Tariff Policy, the SERCs may fix relaxed norms suitably and draw a transition path over the time for achieving the norms notified by the Central Commission. Hence the **target for Station Heat Rate (Kcal/kWh) in respect of older PTPS units – 1 to 4 for FY 2012-13 is relaxed to 3100 Kcal/kWh & that for PTPS unit- 5 & 6 is relaxed to 2550 Kcal/kWh. HPGCL is advised to improve the same by at least 50 Kcal/kWh per year so as to achieve the norm fixed by HERC in due course of time. The target for PTPS units-7 & 8 is fixed at 2500 Kcal/kWh as per HERC norm. The targets for DCR TPS unit- 1 & 2 and RG TPS units -1 & 2 in the absence of HERC norms are fixed at 2343 Kcal/kWh and 2386 Kcal/kWh respectively as per CERC norm (1.065x design SHR).**

vi) Transit Loss of Coal (%):-

The following table depicts the status of transit loss of coal (%) and the best achieved up to FY 2010-11 by HPGCL, target fixed by HERC for FY 2010-11 & 2011-12, achievement by HPGCL for FY 2010-11 & 2011-12 (up to 09/11) and norms fixed by HERC and CERC in their regulations:-

Best Achieved up to FY 2010-11	HERC Approval 2010-11	Achieved 2010-11	HERC Approval 2011-12	Achieved 2011-12 upto 09/11	HPGCL Filing for 2012-13	HERC norms dated 18.12.08	CERC norms dt. 19.01.09
1.76% for PTPS (FY 2008-09)	1% at PTPS, DCR TPS & RG TPS	7.57% at PTPS 7.17% at YTPS	1% at PTPS, DCR TPS & RG TPS	5.26%at PTPS 9.09% for DCR TPS 6.96 % for RG TPS	4.35% at PTPS 3.34% for DCR TPS & RG TPS	0.8%	0.8%

The Commission observes from the table above that the transit loss of coal up to 09/2011 during FY 2011-12 is 5.26% at PTPS, 9.09% at DCR TPS & 6.96% at RG TPS against the target of 1% fixed by HERC for FY 2010-11 and FY 2011-12.

The transit loss of coal at 1% for FY 2011-12 was approved by HERC based on the fact that sufficient transition period beginning FY 2003-04 was allowed to HPGCL to take corrective measures. HPGCL have stated that they have no control over loss of coal in transit, which is increasing. Earlier HPGCL had been appointing a coal agent to look after their interest during loading & transport of coal and transit loss of coal at PTPS during FY 2008-09 was 1.76%, which is now reported to be increasing. HERC had advised HPGCL to vigorously pursue the matter with the Government of India at the highest level. As per past experience, the transit loss of coal is much more in case of raw coal as compared to washed and imported coal. HPGCL was also advised to increase the consumption of washed and imported coal so as to reduce the percentage of transit loss. This step if taken will also result in efficient operation of the generating units with reduced expenditure on maintenance. The position of transit loss of coal in the generation utilities of neighboring states and NTPC is comfortable. They arrange handsome quantity of washed and imported coal which is billed on delivered at destination basis. Some utilities have got allotted and developed own coal blocks, over which they have complete control. Appointment of coal agent to look after their interest during loading & transport of coal is a general practice.

HPGCL have reported that they are in a process of arranging handsome quantity of washed coal which is billed on delivered at destination basis. RG TPS is having coal linkage of 5.55 MTPA (Million Tonne per annum) of 'F' grade coal with MCL which is being washed by four (4) washery operators. HPGCL is also exploring the possibility of appointing washery operators for their other Thermal power stations. The contention of HPGCL that usage of washed coal leads to higher moisture content and results into higher losses during transit due to evaporation of moisture is not correct as the washed coal is billed on delivered at destination basis as stated by HPGCL. Further HPGCL has reportedly placed an order for import of 14.5 Lac MT coal for PTPS, DCR TPS and RG TPS for FY 2011-12 on FOB basis. HPGCL have furnished an analysis of cost – benefit of the imported coal which indicates that overall there is negligible difference in cost per GCV of coal after blending vis-à-vis cost per GCV of indigenous coal. HPGCL has prayed to the Commission to allow coal import beyond 10% as mandated by Govt. of India and also to procure coal through e-auction process as well as from private sources to meet the coal shortage in HPGCL. In this connection, HERC have already advised HPGCL in the generation tariff order for FY 2010-11 to increase the consumption of washed and imported coal.

HPGCL have stated that the norms for transit loss @ 0.8% has been specified by CERC and adopted by HERC is based on the actual transit and handling losses of NTPC. Dadri, Unchahar, Simhadri and Badarpur thermal stations of NTPC have reported transit coal loses of the order of 0.64% to 0.78% only. As mentioned in PSERC tariff order for FY 2010-11, PSPCL have reported transit loss of 0.41% to 2% for different periods at their Bhathinda, Roopnagar and Lehara Mohabat thermal plants. **HPGCL should interact with the authorities of the above mentioned stations of NTPC & Punjab and adopt the steps taken by them to control the transit loss.**

HPGCL has provided comparison of SERC Regulation with actual transit loss approved by some SERCs for FY 2011-12 as under:-

State	As per State regulation	Approved by SERC	Remarks
Gujarat – Torrent Power*	0.8%	1.4%	APTEL ordered GERC to decide the increase percentage of allowable coal transit losses for Torrent Power Plants on the basis of differentiation between washed and unwashed coal
Bihar	0.8%	3.8%	-
Punjab	2%	2%	No transit loss is allowed for PANAM Coal (Board's Captive Coal Mine), for other coal transit loss of 2% has been allowed by the PSERC
Delhi – IPGCL	0.8%	0.8%	APTEL after examination of plea by IPGCL requested DERC true up the transit and moisture loss @ 3.8% for coal based stations of IPGCL for FY 2007-08 to FY 2010-11 and to approve the same for FY 2011-12.

HPGCL has also pleaded that the coal is transported in open wagons from coal mines form a distance of more than one thousand Kms and there are high chances of pilferage of coal enroute.

The details of the coal suppliers and the distance of coal block from the HPGCL plants are as given below:-

Sr. No.	Name of the power plant	Name of the coal company	Head quarter	Location of the mines	Name of the State	Average distance of HPGCL plant from coal-block (Km
1	PTPS	CCL	Ranchi	Bokaro, Karanpura, Ramgarh and Giridih	Jharkhand	1350
2	PTPS	BCCL	Dhanabad	Jharia,Raniganj	Jharkhand West Bengal	1440
3	PTPS	WCL	Nagpur	(Maharashtra - Nagpur , Chandrapur, Yeotmal), MP (Betul, Chhindawara)	Maharashtra, Madhya Pradesh	1125
4	PTPS, RG TPS	NCL	Singrauli	Singruli	Madhya Pradesh	1110
5	RG TPS	MCL	Sambalpur	IB valley and Talcher	Orissa	1535

HPGCL has further argued that HPGCL has no control over the inter-agency involvement namely Indian Railways and coal companies and HPGCL cannot claim any compensation from Coal Company/ Railways for the transit loss which add to the financial burden of the HPGCL. Neither Railways nor Insurance companies are ready to take the responsibility of coal transit loss even after HPGCL is ready to pay premium to them. None of these agencies are ready to accept to bring down the coal transit loss at the HERC specified norms. HPGCL prays to the Hon'ble commission to suggest any third party agency which may take up the responsibility of controlling transit loss at HERC's specified norms; HPGCL will bear the charges for appointment and services of such agency for handling coal transit losses.

HPGCL has prayed to the Commission to consider the impact of above mentioned issues in the coal transit and approve the coal transit losses for FY 2012-13 as proposed below:-

PTPS Panipat	DCR TPS, Yamuna Nagar	RG TPS, Hisar
4.35%	3.34%	3.34%

The Discoms while objecting to the above proposal relied on the judgments of the Hon'ble APTEL in Appeal No. 42 & 43 of 2008 and Appeal No. 72 & 141 of 2009 wherein it was held that, 'if we accept that coal transportation losses be allowed at levels sought for by the appellant (HPGCL), on the premises that such losses are not within the control of the appellant, we are effectively agreeing that such costs are beyond scrutiny by the State Commission or rather beyond scrutiny by any agency. How will the consumer participate in the due diligence process to determine the justness of such losses. The consumer does not have resources to approach the Railways and Coal companies directly for determination of the justness of the losses incurred. It is only the appellant who is in position to take up the matter with the Railways and the Coal Companies for more efficient transportation of coal. If need be, it has all options to take up the matter at highest level as advised by the State Commission. In view of the above we do not agree with the contention of the appellant in this regard'.

In view of the objections and reply of HPGCL thereto the Commission observes that as per HERC Regulation, dated 19.12.2008 & CERC Regulation, dated 19.1.2009, the transit loss of coal is to be allowed at 0.8%. It is observed that transit loss of coal in case of HPGCL plants is as high as 9.09% up to 09/2011 during FY 2011-12 which is much higher than that achieved by other generation utilities referred by HPGCL and totally unacceptable being an unnecessary burden on the consumers of Haryana. HERC has been allowing transit loss between 1% to 2% in relaxation of approved norms and advising HPGCL to follow a trajectory for reducing the same to the acceptable level. HPGCL has not taken adequate steps to reduce the transit loss except arrangement of some minor amount of washed /imported coal. HPGCL was requested to furnish the data regarding total projected consumption of coal and the quantity of washed & imported coal for FY 2011-12 & FY 2012-13. As per the data submitted, the arrangement of washed coal and imported coal was 27% & 9.66% respectively of the projected coal consumption for FY 2011-12 and the projected arrangement of washed coal and imported coal would be 25.72% & 9.19% respectively of the projected coal consumption for FY 2012-13. These %ages of washed and imported coal need to be enhanced substantially so as to reduce the overall %age of transit loss. If they cannot exercise any control over Railways / coal companies, they were advised to involve the State Govt. to take up the matter with the Central Govt., but there is no indication to this affect in the present petition. During FY 2008-09 they were able to achieve transit loss of 1.76% with the help of a coal agent, but now they are asking HERC to suggest any agency who may take up the responsibility to reduce the transit loss instead of finding out the suitable agencies from other generation utilities who have been successful in controlling the loss through the services of a coal agent. In view of sizeable increase in HPGCL's installed generation capacity and future expansion plans, HPGCL should have developed its own coal mining facility by now, but there is no mention about the same in the present petition. HPGCL was requested to indicate the progress and target for setting up captive coal mining facility. As per reply submitted by HPGCL, Ministry of Coal (GOI) allocated the coal block of Mara- II-Mahan jointly to HPGCL and Govt. of Delhi in August, 2006, but the case pending with the Forest Advisory Committee of MoEF for forest clearance. Regarding HPGCL's plea that coal is transported for HPGCL from more than 1000 kms, it is observed that the distance in case of Badarpur, Dadari, Bathinda, Lehra & Roopnagar Stations is more or less the same, but the transit loss at these stations is not 9%. Further, the Govt. of India has directed Coal India Limited to re-work the sources of coal supplies to various state run utilities for power generation on the basis of their proximity to generating units to bring down transportation costs and ease tariff pressure. The proposed reshuffle is to be carried out in respect of coal fields allocated to 12 thermal power plants including HPGCL. HPGCL was requested to indicate the latest status on re-scheduling the coal supply. As per reply submitted by HPGCL, there has not been any progress in the reshuffling of coal sources. HPGCL must understand that the National norm of 0.8% for transit loss is overall loss for indigenous, washed, imported coal & coal from self owned mines and covers all aspects such as moisture, distance involved etc. The transit loss for indigenous coal may be more than 0.8%, but the overall percentage of loss can be controlled by blending with sizeable percentage of washed/ imported / self owned category of coal which are billed on delivered basis. The loss of indigenous portion can also be controlled through the services of a capable coal agent and intensive lobbying with Central agencies through the State Govt. As discussed above, the progress of HPGCL on the steps required to control the transit loss is slow and inadequate and needs to be expedited.

It view of the above discussions and the fact that the Hon'ble APTEL in its various judgments have upheld the normative coal transit loss allowed by the Commission, has considered 1.5% coal transit loss on coal procured from indigenous sources for FY 2012-13. In case any Fuel Price Adjustment (FPA) is claimed by HPGCL with reference to the base rate of coal and GCV considered by the Commission in the instant tariff the same shall be subject to 1.5% coal transit loss on indigenous coal irrespective of the actual coal transit loss.

The Commission directs that HPGCL should quickly finalize arrangements where the coal contractor / agent is bound to supply agreed quantity and quality of coal at the power plants as well as stepping up procurement of washed coal etc. to rein in transit loss of coal within 2% in 6 months time from the date of this order. The status shall be reviewed by the Commission in the first week of October 2012.

14. Financial Statement (FY 2010-11):-

The Commission has perused the audited accounts of HPGCL for FY 2010-11 and notes with concern the following remarks of the statutory auditor:-

i) The Company has not maintained proper records showing full particulars including quantitative details and situations, identity number, date of acquisition, depreciated value and locations of fixed assets at all its units and head office.

In view of the above HPGCL is advised to update its Fixed Assets Register and get the same audited.

ii) Stocks of coal, fuel, stores etc. have not been physically verified.

HPGCL being an ISO: 1400 & OHSAS: 18001 certified company is expected to be meticulous with its inventory management hence they ought to assess and physically verify stocks of coal, fuel, stores etc. and reconcile discrepancies, if any.

iii) Internal control procedures prevalent in the company are not adequate. There was no internal audit system in operation during the year except in some departments of Head Office which was also not adequate and satisfactory.

The Commission observes that this remark of the auditor has been there for quite sometimes now. Hence HPGCL is advised to strengthen its internal audit system.

Further the un–realized book debt (receivables against supply of power) has increased from Rs. 1458.23 Crore as on 31/03/2010 to Rs. 2733.124 Crore as on 31/03/2011. Out of this the debts outstanding for over six months is Rs. 60.76 Crore. Hence the company ought to carefully consider its debt service coverage ratio before leveraging its equity further to raise loans. The accumulated losses, including the losses of Rs. 51.9 Crore taken over from the erstwhile HSEB at the time of un–bundling, stands at Rs. 103.53 Crore in FY 2010-11 as against Rs.108.158 Crore in FY 2009-10. Thus effectively HPGCL has been able to reduce its accumulated losses (excluding losses taken over from erstwhile HSEB) from Rs. 88.11 Crore to Rs. 56.20 Crore.

The Commission expects that with concerted efforts in improving operating efficiency and reduction in transit loss of coal the company should turn around quickly.

15. Tariff Objective:-

While determining generation tariff for FY 2012-13, the Commission has taken into consideration the filing of proposed tariff dated 29/11/2011, supplementary information / clarifications provided by HPGCL from time to time, oral submission / presentation made by HPGCL at the time of public hearing held on 13/02/2012, objections raised by UHBVNL / DHBVNL and HPGCL’s reply thereto as well as the suggestions of SAC. The Commission has made efforts to balance the interest of the petitioner as well as the electricity consumers of the Sate while determining the generation tariff for FY 201213 within the overall framework of HERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2008 notified on 19/12/2008, CERC Regulations as well as the past performance of the generating stations owned and operated by HPGCL.

Determination of Fuel Cost / Variable Charges:-

The fuel cost / variable charge has been calculated based on the parameters approved by the Commission for FY 2012-13. The details are presented in Table(s) given below:

Fuel Cost / Variable Charges FY 2012 -13

Parameters	Unit	Derivation	PTPS							
			Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Capacity (MW)			117.8	110	110	110	210	210	250	250
PLF (%)			70	70	70	70	85	85	85	85
Gross Generation	MU	A	722.35	674.52	674.52	674.52	1563.66	1563.66	1861.50	1861.50
Auxiliary Energy Consumption	%		11%	11%	11%	11%	9.00%	9.00%	8.5%	8.50%
Generation (Ex-bus)	MU	A1	642.89	600.32	600.32	600.32	1422.93	1422.93	1703.27	1703.27
Station Heat Rate (SHR)	Kcal/kwh	B	3100	3100	3100	3100	2550	2550	2500	2500
Specific Oil Consumption	ml/kwh	C	2	2	2	2	1	1	1	1
Gross Calorific Value of Oil	Kcal/litre	D	10112	10112	10112	10112	10112	10112	10112	10112
Gross Calorific Value of Coal	K.cal/Kg	E	3697	3697	3697	3697	3697	3697	3697	3697
Overall Heat	G.cal	F=(A*B)	2239283.76	2091012.0	2091012.0	2091012.0	3987333.0	3987333.0	4653750.0	4653750.0
Heat from Oil	G.cal	G=(A*C*D)/1000	14608.80	13641.49	13641.49	13641.49	15811.73	15811.73	18823.49	18823.49
Heat from Coal	G.cal	H= (F-G)	2224674.96	2077370.51	2077370.51	2077370.51	3971521.27	3971521.27	4634926.51	4634926.51
Oil Consumption	KL	I=G*1000/D=A*C	1445	1349	1349	1349	1564	1564	1862	1862
Coal Consumption	MT	**J=(H*1000/E)**	601751.41	561907.09	561907.09	561907.09	1074255.14	1074255.14	1253699.35	1253699.35
Cost of Oil per KL	Rs/KL	K	37243.58	37243.58	37243.58	37243.58	37243.58	37243.58	37243.58	37243.58
Cost of Coal #	Rs/MT	L	3360.15	3360.15	3360.15	3360.15	3360.15	3360.15	3360.15	3360.15
Total Cost of Oil	Rs .Mln	M=(K*I)/10^6	53.81	50.24	50.24	50.24	58.24	58.24	69.33	69.33
Total Cost of Coal	Rs.Mln	N=(J*L)/10^6	2021.97	1888.09	1888.09	1888.09	3609.66	3609.66	4212.62	4212.62
Total Fuel Cost	Rs.Mln	O=M+N	2075.78	1938.34	1938.34	1938.34	3667.89	3667.89	4281.95	4281.95
Fuel Cost/Kwh	Rs.	P=O/A1	3.2288	3.2288	3.2288	3.2288	2.5777	2.5777	2.5140	2.5140

Fuel Cost / Variable Charges (FY 2012-13) for RG TPS and DCR TPS

Parameters	Unit	Derivation	RG TPS		DCR TPS		WYC & Kakroi
			Unit 1	Unit 2	Unit 1	Unit 2	
Capacity (MW)			600	600	300	300	62.7
PLF (%)			85	85	85	85	50
Gross Generation	MU	A	4467.60	4467.60	2233.80	2233.80	274.63
Auxiliary Energy Consumption	%		6.00%	6.00%	8.50%	8.50%	1.00%
Generation (Ex-bus)	MU	A1	4199.54	4199.54	2043.93	2043.93	271.88
Station Heat Rate (SHR)	Kcal/kwh	B	2386	2386	2343	2343	NA
Specific Oil Consumption	ml/kwh	C	1	1	1	1	NA
Gross Calorific Value of Oil	Kcal/litre	D	10313	10313	10198	10198	NA
Gross Calorific Value of Coal	K.cal/Kg	E	3641	3641	4017	4017	NA
Overall Heat	G.cal	F=(A*B)	10659693.6	10659693.6	5233793.4	5233793.4	NA
Heat from Oil	G.cal	G=(A*C*D)/1000	46074.36	46074.36	22780.29	22780.29	NA
Heat from Coal	G.cal	H= (F-G)	10613619.24	10613619.24	5211013.11	5211013.11	NA
Oil Consumption	KL	I=G*1000/D=A*C	4468	4468	2234	2233.80	NA
Coal Consumption	MT	**J=(H*1000/E)**	2915028.63	2915028.63	1297240.01	1297240.01	NA
Cost of Oil per KL	Rs/KL	K	40976.08	40976.08	35818.93	35818.93	NA
Cost of Coal #	Rs/MT	L	3248.27	3248.27	3301.78	3301.78	NA
Total Cost of Oil	Rs .Mln	M=(K*I)/10^6	183.06	183.06	80.01	80.01	NA
Total Cost of Coal	Rs.Mln	N=(J*L)/10^6	9468.80	9468.80	4283.20	4283.20	NA
Total Fuel Cost	Rs.Mln	O=M+N	9651.87	9651.87	4363.21	4363.21	NA
Fuel Cost/Kwh	Rs.	P=O/A1	2.2983	2.2983	2.1347	2.1347	NA

 # Cost of domestic coal adjusted for 1.5% transit loss.

16. Determination of Fixed Cost:-

The fixed cost of HPGCL's power plants has been determined in accordance with the HERC Regulations, 2008. As per regulation 10 (i) the capacity charge / fixed charge comprises of the following components:-

- Interest on Loan Capital.
- Depreciation and Advance Against Depreciation.
- Return on Equity.
- Operation and Maintenance Expenses.
- Foreign Exchange Rate Variation.
- Interest on allowed working capital; and
- Taxes, if any, on income.

The petitioner's submission and Commission's analysis / order on each of the annual fixed cost components mentioned above are dealt with in the paragraph that follows.

Operation & Maintenance (O&M) Expenses:-

The O&M charges comprise of repair and maintenance charges (R&M), employees cost and administrative & general expenses. The petitioner has claimed O&M expenses for their power plant as under:-

PTPS (units- 1 to 4)	Rs. 1725 million based on average of the actual expenses for preceding 3 years escalated @ 5.72% as per CERC norms.
All Other Thermal Units	As per CERC norms.
WYC & Kakroi, Hydel	Rs. 210.3 million as per HERC norm allowed for FY 2011-12 escalated @ 5.72%

The Commission observes that as per HERC Generation Tariff Regulations, 2008 O&M expenses has to be allowed as per actual expenses incurred. Further the approved base value of the O&M expenses is to be escalated @ 4% per annum to arrive at the O&M expense for the current year. The Commission observes that as per the latest audited accounts of HPGCL filed by them is of FY 2010-11. Accordingly the actual O&M expenses incurred by them was Rs. 3602.85 million. Escalating the same @ 4% per annum the projected O&M expenses for FY 2012-13 works out to Rs. 3896.843 million. Additionally 600 X 2 MW RG TPS was commissioned towards the end of the financial year for which the audited accounts are available, the audited accounts may not fully reflect the O&M expenses of RG TPS, and hence the Commission has further allowed Rs. 1659.38 million, on normative basis, as O&M expenses for RG TPS unit 1 & 2 for FY 2012-13. Consequently, total O&M expenses allowed for HPGCL's power plant works out to Rs. 5556.223 million as against Rs. 6707.3 million claimed by them. The audited accounts of HPGCL filed by them for FY 2010-11 which has formed the basis for arriving at the allowable O&M expenses for FY 2012-13 is for the company as a whole and hence do not provide station wise break of O&M expenses, thus Commission has apportioned the total O&M expenses (except RG TPS) in the ratio as arrived at from station wise O&M expenses projected by the petitioner for FY 2012-13.

The O&M expenses claim by HPGCL and those allowed by the Commission for FY 2012 -13 are presented in the Table 2.8.

O&M Expenses as per HPGCL's proposal and as approved by HERC for FY 2012-13 (Rs. Millions)

Particulars	HPGCL Proposed	HERC Approval
PTPS units -1 to 4	1725.0	1197.93
PTPS units– 5	451.7	366.79
PTPS units– 6	451.7	366.79
PTPS units– 7	537.8	436.66
PTPS units– 8	537.8	436.66
DCRTPS units-1	567.3	460.55
DCRTPS units-2	567.3	460.55
RGTPS units - 1	829.2	829.69
RGTPS units - 2	829.2	829.69
WYC & Kakroi	210.3	170.90
Total	**6707.3**	**5556.22**

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 petitioner has submitted that the depreciation has been computed at CERC prescribed rate. However, the asset wise details have not been provided to ascertain the compliance of CERC clause i.e. *"provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets"*.

The Commission is perturbed to note the observations at (i) (a) and (b) of Annexure I of the Auditor's Report reproduced below:-

Para (i) (a)

"*The company has not maintained proper records showing full particulars including quantitative details and situations, identity number, date of acquisition, depreciated value and location of fixed assets at all its units and Head Office.*

Para (i) (b)

"*According to the information and explanation given to us, the assets have not been physically verified by the Company during the year. Since neither fixed assets register is maintained nor was physical verification done by the Company..."*

The above remarks are self explanatory and hence need no further comments. **HPGCL is advised to get Fixed Asset Registers prepared and audited without any further delay and report compliance to the Commission.**

HPGCL has calculated station wise deprecation on the opening GFA at the rates specified by CERC in its Regulations, 2009 after taking into consideration additions / deletion/transfers as estimated for FY 2012-13. Accordingly the Commission allows Rs. 4707 millions as deprecation charges for FY 2012-13 as proposed by HPGCL.

Interest and Finance Charges on Loan:-

HPGCL has claimed Rs. 6349.65 million as interest and finance charges on long-term loans amounting to Rs. 56,381.94 million as on 31/03/2012 i.e. the average rate works out to 11.26%. The Commission examined the details of all the long-term loans including repayments and drawls and respective interest rates for the generating plants that would be operational in FY 2012 -13.

Based on the schedule of loans along with respective interest rates submitted by HPGCL the Commission allows Rs. 6342. millions interest charges in FY 2012-13 as against Rs. 6349.90 millions claimed by HPGCL.

Interest on Working Capital:-

HPGCL has claimed normative working capital borrowings for FY 2012 -13 and interest thereto on the basis of CERC norms. The Commission observes that the only difference between CERC and HERC norms is the computation of maintenance spares that has been claimed @ 20% of the O&M expenses for coal fired projects and 15% of the O&M expenses for the hydro stations. The Commission notes that CERC for the period 2009-10 to 2013-14 has specified normative O&M expenses trajectory from 200 MW to above 600 MW sets and on the same they have considered 20% (thermal) and 15% (hydro) as maintenance spare. The Commission is in the process of updating its Generation Tariff Regulations in a Multi Year Framework, till then Interest on working capital is computed on normative basis in line with the existing HERC Generation Tariff Regulations which have been the basis for allowing O&M expenses in all its previous generation tariff order(s). The details are as under:-

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 2012-13.

The Commission has considered interest on working capital related borrowings as per HERC regulations and the interest on the same has been allowed @ 13%.

The computation of normative working capital and interest thereon is presented in the following table.

Normative Working Capital FY 2012-13 (Rs. millions)

ITEMS	DERIVATION	PTPS					RGTPS	DCR TPS		
		Units 1to4	**Units 5**	**Unit 6**	**Unit 7**	**Unit 8**	**Unit 1 & 2**	**(Unit 1 & 2)**	**WYC & Kakroi**	**TOTAL**
Coal Stock	2 months	1281.04	601.61	601.61	702.10	702.10	3156.27	1427.73	-	8472.47
Oil Stock	2 months	34.09	9.71	9.71	11.56	11.56	61.020	26.67	-	164.30
O&M Expenses	1 months	122.90	37.63	37.631	44.80	44.80	138.28	94.50	17.53	538.08
Spares	1% of historical cost escalated @ 6%	42.84	35.00	147.42	119.47	119.47	511.78	179.99	17.56	1173.52
Receivables	2 months	1571.30	657.88	743.64	863.77	863.77	4148.17	2034.46	52.96	10935.95
W/C Requirement		3052.17	1341.83	1540.01	1741.70	1741.70	8015.51	3763.35	88.05	21284.31
Int (@13%		396.78	174.44	200.20	226.42	226.42	1042.02	489.24	11.45	2766.96

Return on Equity (ROE):-

The petitioner has claimed Return on Equity (ROE) @ 15.5% pre tax and grossed up to 18.67% on account of 16.995% Minimum Alternative Tax (15% MAT, 10% surcharge & 3% education cess). In case of RGTPS (Unit 1 & 2) the petitioner has submitted that they may be allowed an additional return of 0.5% pre tax for completion of the project within the time limit as per CERC norms.

The Commission, after deliberating at length on the issue of ROE, is of the considered view that in normal circumstances return on equity goes to the shareholders as dividend for the ‘opportunity cost’ of funds (equity) contributed by them or it may be ploughed back as ‘internal accrual’ to fund the Capital Expenditure thereby economizing on the cost of borrowed capital (loan). However, equity is ‘risk capital’ and at times when the company is carrying accumulated losses or is in a financial distress return on equity in the form of dividend is foregone as this would further add to the costs.

In the above perspective the Commission observes that HPGCL is a wholly owned company of Haryana Government and so are the two

Discoms who are purchasing power from them. The Hon'ble APTEL in its judgment in Appeal No. 33 & 74 of 2005 had held the legitimacy of some sort of return on equity to ensure certain return to the owners. However, in the case of HPGCL the entire equity is contributed by the State Government and no dividend / return is paid on the same. Additionally, the Discoms in Haryana are carrying huge accumulated losses and their entire net worth stands eroded. Further their profit before interest, depreciation and taxes is also negative meaning thereby that their revenue is not sufficient even to meet their operating expenditure. More so, as their equity (included in the net worth) is negative so the Commission has never allowed a return on equity to them. In these circumstances, if the Commission allows ROE to HPGCL it would not only inflate cost of power purchase of the Discoms whose ability to pay is severely constrained but also increase the financial outflow from HPGCL in the form of tax liability. Further in effect the ultimate equity holders are the citizens of the State and all of them are electricity consumers as well. Thus it would be a meaningless exercise to allow ROE which in turn would only add to the financial burden of the electricity consumers all of whom can be considered as the equity holders.

In view of the above discussions and the fact that no return is paid to the owners i.e. State Government and the equity portion of the Capital Expenditure on an ongoing basis is again contributed by the State Government through its annual plan budget. Hence it is also not the case of ROE being ploughed back to augment Capital Expenditure thereby reducing the interest costs of long term loans, thus the Commission is not allowing any ROE to HPGCL in FY 2012-13.

As there is no expense claimed by the petitioner on account of foreign exchange rate variation (FERV) for any of its generating stations the Commission has not considered the same.

17. Fixed Expenses for FY 2012 13 approved by the Commission.

A summary of the fixed expenses approved by the Commission is presented in the Table given below.

Fixed Expenses / Charges for FY 2012-13 (Rs. Millions)

EXPENSES	PTPS-1to4	PTPS-5	PTPS - 6	PTPS -7	PTPS - 8	DCR TPS 1	DCR TPS 2	RGTPS 1 & 2	WYC & Kakroi)	TOTAL
Operation & Maintenance (O&M)	1197.93	366.79	366.79	436.66	436.66	460.55	460.55	1659.38	170.90	5556
Depreciation	289.10	122.06	508.87	443.54	443.54	511.00	511.00	1773.59	104.39	4707
Interest & Finance	147.00	28.00	130.00	276.00	276.00	867.20	867.20	3720.00	31.00	6342
W/C Interest	396.78	174.44	200.20	226.42	226.42	244.62	244.62	1042.02	11.45	2767
ROE	0	0	0	0	0	0	0	0	0	0.00
Fixed Cost	**2030.81**	**691.29**	**1205.86**	**1382.62**	**1382.62**	**2083.37**	**2083.37**	**8194.99**	**317.74**	**19372.68**
Fixed Cost (Rs/kWh)	0.8310	0.4858	0.8475	0.8117	0.8117	1.0193	1.0193	0.9757	1.1687	**0.9029**

Note – 1 : O&M Including repair and maintenance, employees cost, Administrative & general expenses
Note – 2 : recovery of fixed charges shall be limited to the respective amount determined in the table above

18. Based on the parameters approved by the Commission, the approved tariff for HPGCL's power plants for FY 2012-13 is as per Table below:-

Approved Tariff (FY 2012-13)

	PTPS (Unit 1-4)	PTPS (Unit 5)	PTPS (Unit 6)	PTPS (Unit 7 & 8)	DCR TPS (Unit 1&2)	RG TPS (Unit 1 &2)	WYC & Kakroi hydro	Total HPGCL
Energy Charges (Rs./kWh)	3.2288	2.5777	2.5777	2.5140	2.1347	2.2983	-	2.4153
Fixed Charges (Rs./kWh)	0.8310	0.4858	0.8475	0.8117	1.0193	0.9757	1.1687	0.9029
Total Charges Rs / kWh	4.0598	3.0635	3.4252	3.3257	3.1540	3.2740	1.1687	3.3182

19. In Compliance with the order of Hon'ble APTEL in Appeal No. 84 of 2010, the Commission afforded opportunity of hearing to HPGCL in respect of their claim of Rs. 14.18 million FSA for the year 2003-04 based on their audited accounts. After examining the justness of the claim the Commission observes that as per the audited accounts of HPGCL the cost of generation was Rs. 1544.10 Crore and as per the audited accounts of HVPNL for the same year they had paid Rs. 1534.45 Crore for procuring power from HPGCL on behalf of the Discoms. Thus the balance amount of Rs. 9.65 Crore is now payable to HPGCL. Accordingly HPGCL may recover the balance amount as FSA from the Discoms as the business of bulk supply and trading has since then passed on to the Discoms. As the delay in providing the requisite data / audited accounts of the relevant year as well as the delay in

responding to the clarifications sought by the Commission is solely on part of HPGCL the Commission does not consider appropriate to allow any holding / carrying cost for the same.

20. HPGCL has requested the Commission to consider the impact of backing down/ deemed generation while allowing the technical parameters of the plants or the earlier arrangement of recovery of the fixed charge in the event of backing down. The Commission, in view of the decision taken in 21st meeting of the power planning held on 20th September 2011 under the Chairmanship of Financial Commissioner and Principal Secretary (Power), Govt. of Haryana, MDs of UHBVNL and DHBVNL referred to by the petitioner, agrees to the proposal for payment of fixed charges to HPGCL by the distribution company in the event of backing down of HPGCL power stations on the instructions of the Distribution licensees i.e. UHBVNL / DHBVNL. Additionally, in case HPGCL's power stations are backed down on the instructions of the distribution licensees and at the same time the Discoms are drawing power at a lower rate from some other sources i.e. generators, traders etc. or resorting to drawls under UI mechanism the Discoms shall compensate HPGCL to the extent of fixed cost corresponding to loss of generation due to backing down.

21. As a corollary to the above HPGCL shall have the right to sell power not scheduled by the Discoms to a third party provided any revenue earned on this account shall first be adjusted against the fixed cost recovered from the Discoms.

22. The Commission does not agree to the proposal of the petitioner that in case of payment default by the Discoms they should be allowed third party sale.

23. The Commission has deliberated at length on the two part tariff design proposed by HPGCL and is of the view that the Commission is in the advance stage of finalising MYT tariff Regulations as well as Inter – State ABT Regulations. Hence, from the 1st year of the MYT control

period it would be more appropriate to introduce two part generation tariff with truing up of parameters / expenses as specified therein.

The generation tariff approved for FY 2012-13 shall be implemented w.e.f 1st April 2012.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 29th March, 2012.

Date: 29th March, 2012

Place: Panchkula

(Ram Pal)	(Rohtash Dahiya)	(R.N. Prasher)
Member	Member	Chairman