First Annual Performance Review (APR) Order for MYT Period (FY09-FY11) & Determination of Tariff for FY10

Himachal Pradesh Electricity Regulatory Commission

24 August, 2009

BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT SHIMLA

CASE NO. 250/08

CORAM

YOGESH KHANNA

IN THE MATTER OF:

Approval of Tariff for FY10 and Revised Aggregate Revenue Requirement (ARR) for the FY10 and FY11 during the MYT Control Period (FY09 - FY11) under section 62 of the Electricity Act, 2003.

AND

IN THE MATTER OF:

HP State Electricity Board

…APPLICANT

The Himachal Pradesh State Electricity Board has filed petition with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as the 'Commission' or 'HPERC') for approval of its Revised Aggregate Revenue Requirement (ARR) for the FY10 and FY11 during the MYT Control Period (FY09 - FY11) under Section 62,64 and 86 of the Electricity Act, 2003, read with the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007; the HPERC (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2007 and HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2007.

The Commission having heard the applicant, interveners, representatives of various consumer groups and consumer representative on July 21, 2009 at Shimla, and having had the formal interactions with the officers and the Whole Time Members of the Himachal Pradesh State Electricity Board including its Chairman and having considered the documents available on record, herewith accepts the applications with modifications, conditions and directions specified in the following Tariff Order. The Commission has determined Aggregate Revenue Requirement of the Generation, Transmission and Distribution functions of the Himachal Pradesh State Electricity Board for FY10 and FY11 of the MYT Control Period (FY09 –

FY11) under the Multi Year Tariff regime and approved the Wheeling and the Retail Supply Tariffs for FY10 in accordance with the guidelines laid down under Section 61 of the Electricity Act, 2003, the National Electricity Policy, the National Tariff Policy and the regulations framed by the Commission, The Wheeling and Retail Supply Tariff shall be decided every year taking into account the adjustment on account of allowed variations in uncontrollable parameters.

The Commission, in exercise of the powers vested in it under Section 62 of the Electricity Act, 2003, orders that the approved tariffs together with "Schedule of General and Service Charges" shall come into force w.e.f. September 1, 2009 (01-09-2009).

In accordance with sub-regulation (5) of Regulation 4 of the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007, the tariff determined by the Commission and directions given in Chapter A7 of the Tariff Order by the Commission shall be quid pro quo and mutually inclusive. The tariff determined shall, within the period specified by it, be subject to the compliance of the directions-cum-orders to the satisfaction of the Commission and the non-compliance shall lead to such amendment, revocation, variation and alteration of the tariff as may be ordered by the Commission.

In terms of sub-regulation (6) of Regulation 4 of the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007, the Wheeling and the Retail Supply Tariff shall unless amended or revoked, continue to be in force upto March 31, 2010. In the event of failure on the part of the licensee to file application for true up of FY 09 and approval of wheeling and retails supply tariff for the ensuing financial year, in terms of Regulation 39 of the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007 on or before November 30, 2009, the tariff determined by the Commission shall cease to operate after March 31, 2010, unless allowed to be continued for further period with such variations or modifications as may be ordered by the Commission.

In terms of sub-regulation (5) of Regulation 44 of the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007, the consequential orders, which the Commission may issue to give effect to the subsidy that the State Government may provide to any category, shall not be construed as amendment of the tariff. The licensee Himachal Pradesh State Electricity Board shall, however, make appropriate adjustments in the bills to be raised on the consumers for the subsidy amount in the manner as the Commission may direct.

The Commission further directs the publication of the tariff in two leading newspapers one in Hindi and the other in English having wide circulation in the State within 7 days of the issue of the Tariff Order. The publication shall include a general description of the tariff changes and its effect on the various classes of consumers.

Himachal Pradesh State Electricity Board is directed to make available the copies of the Tariff Order to all concerned officers up to AE level Operations sub-divisions, within two weeks of issue of this Order. The Board may file clarificatory petition in case of any doubt in the provisions of the Tariff Order, within 30 days of issue of the Tariff Order.

Shimla. Sd/-

Dated: August 24, 2009 Chairman

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A1: BACKGROUND

1.1 The Himachal Pradesh State Electricity Board (hereinafter referred to as HPSEB or the Board) is a deemed licensee under the first proviso to Section 14 of the Electricity Act, 2003 (hereinafter referred to as 'the Act') for transmission, distribution and supply of electricity in the State of Himachal Pradesh.

1.2 The Board has filed petition on 27th November, 2008 with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as the 'Commission' or 'HPERC') for approval of its Revised Aggregate Revenue Requirement (ARR) for FY10, FY11 and determination of Wheeling and Retail Supply Tariff for FY10 under the first MYT Control Period (FY09 to FY11) under Sections 62, 64 and 86 of the Act, read with the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2007; Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2007 and Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2007 (hereinafter referred to as MYT Regulations, 2007).

1.3 This is first Annual Performance Review Order for MYT Period (FY09-FY11). It relates to the determination of revised Aggregate Revenue Requirement of the Generation, Transmission and Distribution functions of HPSEB for the Control Period under the Multi Year Tariff regime based on the actual values of the base year FY08 and the approval of Wheeling and the Retail Supply Tariffs for FY10 based on the updated information submitted by the Board.

1.4 As per the MYT Regulations "Wheeling and Retail Supply Tariff "shall be decided every year taking into account the adjustment on account of allowed variations in uncontrollable parameters based on the Annual performance review petition filed by the Licensee.

1.5 This Order has been finalised based on the review and analysis of the information submissions, necessary clarifications submitted by the Licensee and views expressed by the stakeholders.

1.6 Additional information/clarifications and details, based on the queries of the Commission and validation session, were submitted on February 5, 2009, May 12, 2009 and June 26, 2009.

1.7 PricewaterhouseCoopers were appointed Consultants to assist the Commission in the assessment of the revised ARR petition and determination of the relevant tariffs.

Filing of Review Petition for FY10 – FY11 under MYT Control Period (FY09-11)

Procedural Background

1.8 The Board filed the Revised Aggregate Revenue Requirement (ARR) petition for FY10 and FY11 during the MYT Control Period (FY09-FY11), with the Commission on November 27, 2008.

Admission Hearing

1.9 The Commission directed the Board on January 20, 2009 to submit details regarding first set of deficiencies discovered during preliminary scrutiny of the revised ARR, which were submitted by the Board on February 5, 2009. The Commission held Admissibility Hearing for the admission of the Petition on March 7, 2009 and admitted the petition.

Interaction with the Petitioner

1.10 Since the submission of the petition by the Board there have been a series of interactions between the Board and the Commission, both written and oral, wherein the Commission sought additional information/clarification and justifications on various issues, critical for the analysis of the petition.

1.11 The Commission conducted the technical validation session on the petition filed by the Board on June 8, 2009 during which the discrepancies and additional information requirement in the Petition were highlighted.

Public Hearings

1.12 The Commission issued an interim order to the Board, after admission hearing on March 7, 2009, for publishing a disclosure of the salient features of the petition for the information of all the stakeholders in the State. Accordingly the Board published the salient features of the petition in the following newspapers:

(a) The Tribune (Chandigarh edition) on May 26, 2009

(b) Amar Ujala (Chandigarh edition) on May 26, 2009

(c) The Times of India (Chandigarh edition) on May 29, 2009

(d) Divya Himachal (Chandigarh edition) on May 29, 2009

1.13 The Commission invited suggestions and objections from the public on the tariff petition filed by the Board in accordance with Section 64 (3) of the Act subsequent of the publication of the initial disclosure by the Board. The public notice inviting objections/suggestions was published on May 28, 2009 in the following newspapers:

(a) The Tribune (Chandigarh edition)

(b) Amar Ujala (Chandigarh edition)

1.14 The interested parties/stakeholders were asked to file their objections and suggestions on the petition by June 20, 2009.

1.15 The Commission received objections from eight stakeholders by the stipulated date i.e. June 20, 2009. The Board filed its replies to the objections set out by various objectors on July 9, 2009, a copy of which was also sent to the individual objectors. The objectors were also allowed to file rejoinder, if any, to the Commission with a copy to the petitioner till July 13, 2009. Accordingly, rejoinders were filed by two objectors to the replies given by the Board.

1.16 The Commission issued a public notice informing the public about the scheduled date of public hearing on July 14, 2009 in the Indian Express and Amar Ujala newspapers. All the parties, who had filed their objections /suggestions, were also informed about the date, time and venue for presenting their case in the public hearing.

1.17 Public hearing was held on July 21, 2009 at the Commission's Court Room in Shimla.

1.18 The Commission had authorised Sh. P. N. Bhardwaj as consumer representative since May 18, 2006 in pursuance to the provisions of Section 94(3) of the Electricity Act 2003, to represent the interest of the consumers in all proceedings before the Commission. Sh. P.N. Bhardwaj represented the interest of the consumer association in the public hearing before the Commission.

1.19 The issues and concerns voiced by various objectors have been carefully examined by the Commission. The major issues raised by the objectors in their written submission as well as those raised during the public hearing, have been summarized in Chapter A3: of this Order.

A2: SUMMARY OF THE REVISED ARR PETITION FOR FY10 & FY11 UNDER MYT CONTROL PERIOD (FY09-FY11)

2.1 This chapter summarizes the highlights of the petition filed by the Board for the revision of the Aggregate Revenue Requirement (ARR) and determination of Distribution and Retail Supply Tariff as well as Generation and Transmission Tariffs for the remaining period (FY10 & FY11) of the first MYT Control Period (FY09-FY11). This petition was first filed on November 27, 2008 and appropriate clarifications were submitted on February 5, 2009, May 12, 2009 and June 26, 2009 in response to the deficiency notes issued by the Commission. The Board also made the provisional un-audited accounts for FY09 available to the Commission on the Commission's direction issued on July 21, 2009.

2.2 It would be appropriate to point out here that the submissions made by HPSEB have been inconsistent during the entire tariff-determination process, with different sets of data being submitted in different submissions, which led to confusion during the analysis. Further, in the absence of segregated accounting data and separate balance sheets, the filing has been made as a bundled entity and thereafter, the segregation has been done partly based on the actuals and partly on assumptions.

2.3 In view of the above, the Commission has taken a view based on the analysis of the data available to it in totality and had to ignore various inconsistencies in the Board's submissions.

Summary of the Revised ARR Petition for FY10 & FY11

2.4 The review petition for the remaining Control Period FY10 & FY11 was first submitted in November 26, 2008. The Commission, after perusal of the document, found some inadequacies in the filing and intimated the same to the Board. The first deficiency note was issued in December, 2008 in which the Board was asked to submit a few missing monitoring formats. It was also directed to submit details of the capital expenditure incurred on Generation, Distribution and Transmission. Another deficiency note was issued in April, 2009. In this note, as part of the Transmission APR, the Board was asked to provide the actual performance for the parameters, Transmission Loss and Availability of the Transmission System. With reference to the Generation APR, the Board was asked to submit the actual performance achieved against each of the controllable parameters viz. Capacity Index, Auxiliary Energy Consumption, Transformation Losses, O&M Expenses, Financing Cost and Deprecations for each HEPs separately.

Sales Projections

2.5 For the Control Period, the Board has projected energy sales for the Domestic, Antodya, Commercial supply, Small & Medium Power supply, Street lighting supply, Water Pumping supply and Agricultural supply categories by applying four years Compounded Annual Growth Rate (CAGR) (FY03-FY07) on the estimated sales for the FY08.

2.6 For NDNC, a growth rate of 10% p.a. has been considered by the Board for projecting the sales for the Control Period. In the large supply category, the Board has considered the growth rate of 12% p.a. for projecting the sales for the Control Period.

Table 1: Consumer Category wise Energy Sales

Energy Sales (MU)	FY09	FY10	FY11
	R.E	Projected	Projected
Domestic	1107	1192	1284
Antodya/ BPL	0.55	0.91	1.51
Non Domestic - Non commercial	77	85	93
Commercial	275	288	302
Public Lighting	14	15	16
Small Power	61	65	69
Medium Power	130	139	148
Large Supply (HT,EHT)	3337	3738	4186
Agriculture & Allied Activities	30	32	35
Govt. Irrigation & Water Pumping	392	430	472
Temporary	21	25	28
Bulk Supply	187	193	199
Total Energy Sales	**5631.55**	**6203**	**6834**

Transmission and Distribution (T&D) Loss

2.7 The HPSEB shall reduce T&D losses by 0.75% in the second year and by 0.5% in the third year, of the MYT period, beginning with loss levels of 16.5% for FY08 as per the Commission's MYT Order. The table below depicts the T&D loss projections as submitted by the Board.

Table 2: Transmission & Distribution Loss

T&D Losses	FY09	FY10	FY11
	Projected	Projected	Projected
Sales within State (MU)	5633	6203	6834
Proposed T&D Loss within the State (%)	15.75%	15.00%	14.50%
Power Requirement for sale within the State (MU)	6666	7297	7993

Energy Availability

2.8 The Board has submitted that its power requirement was primarily met through:

a) Own hydel generation;

b) Free power entitlement of GoHP;

c) Central sector stations where HPSEB has share allocations;

d) Purchase through Private micro hydel plants installed in the State and bilateral short-term contracts.

Own Hydel Generation

2.9 The Board has submitted the actuals of its own generation and considered the average generation for the four years (FY03, FY04, FY05 and FY06) period for projecting its own generation for the Control Period, except for Larji, Khauli and Holi HEP.

2.10 The Board has estimated the generation for Larji, Khauli & Holi HEP, for the remaining two years of the Control Period (FY 10 & FY 11), by considering generation at design energy levels. Also, the Government's share of 12% free power in 5 stations viz. Larji, Khauli, Ghanvi, Baner and Gaj was deducted to arrive at the net generation from the Board's own stations.

2.11 HPSEB submitted the actuals for FY08 and projected the energy availability from its own generation for the Control Period FY09 to FY11 as detailed in the table below:

Table 3: HPSEB Projection - Own Hydel Generation

Gross Generation (MU)	FY08	FY09	FY10	FY11
	Actuals	R.E	Projected	Projected
Bhaba	452	597	572	572
Bassi	285	220	315	315
Giri	177	212	171	171
Andhra	66	75	63	63
Baner	43	40	40	40
Gaj	46	41	47	47
Binwa	32	29	30	30
Thirot	9	8	5	5
Ghanvi	78	81	75	75
Gumma	8	9	10	10
Holi	11	8	10	10
Larji	586	631	566	566
Khauli	45	46	48	48
Micros (< 3 MW)	27	23	24	24

Gross Generation (MU)	FY08	FY09	FY10	FY11
	Actuals	R.E	Projected	Projected
Bhaba Aug			26	26
Total	**1865**	**2020**	**2002**	**2002**
Less : Auxiliary Consumption	6	8	9	9
Less: GoHP 12 % Share in Larji, Khauli, Baner , Ghanvi & Gaj	96	101	93	93
Net Hydel Generation	**1763**	**1911**	**1900**	**1900**

Power Purchase Quantum from Other Sources

2.12 The station-wise power purchase quantum for FY08 was submitted based on actuals. The revised estimates for FY09 and the projections for the remaining two years of the Control Period viz. FY10, FY11 were made as detailed in the table below:

Table 4: HPSEB Projection - Power Purchase Quantum

Revised Power-Purchase for FY10 & FY11	FY08	FY09	FY10	FY11
(in MU)	Actuals	RE	Proj	Proj
Stations				
BBMB Old	44	44	44	44
BBMB New	118	123	125	125
Dehar	79	79	79	79
Sub Total	**241**	**246**	**247**	**247**
NTPC Stations				
Anta(LNG)	21	7	11	11
Anta(GF)	93	76	88	88
Anta (LF)	0	7	5	5
Auraiya(LNG)	23	10	10	10
Auraiya(GF)	123	106	120	120
Auraiya (LF)	0	8	5	5
Dadri(LNG)	47	11	10	10
Dadri(GF)	118	125	138	138
Dadri (LF)	0	12	5	5
Unchahar-I	62	50	53	53
Unchahar-II	125	93	89	89
Unchahar-III	79	61	58	58
Rihand-1 STPS	339	251	244	244
Rihand-2 STPS	326	266	251	251

Revised Power-Purchase for FY10 & FY11	FY08	FY09	FY10	FY11
(in MU)	Actuals	RE	Proj	Proj
Kehalgaon	0	44	158	158
Singrauli	124	0	0	0
Barh I& II			0	68
Sub Total	**1479**	**1126**	**1245**	**1313**
NHPC Stations				
Koteshwar	0	0	0	29
Koldam (NTPC)	0	0	0	276
Parbati III	0	0	0	56
Parbati II	0	0	0	0
Chamera – III	0	0	0	53
Salal	32	29	30	30
Tanakpur	14	14	15	15
Chamera-I	58	62	48	48
Chamera-II	58	53	54	54
Uri	69	68	69	69
Dhauliganga	47	39	40	40
Dhulasti	12	0	0	0
Sub Total	**290**	**266**	**256**	**671**
Other Stations				
NAPP	17	43	73	73
RAPP	0	0	79	79
Nathpa Jhakri SoR	170	165	169	169
Shanan	5	5	5	5
Shanan Extn	45	45	45	45
Yamuna (UJVNL)	392	428	380	380
Khara (UPJVNL)	51	66	59	59
Baspa –II	1121	1050	1050	1050
Baspa II Sec Energy		145	140	140
Tehri I	85	82	71	71
Patikari	6	63	49	49
Market Purchase	62	40	330	350
Sub Total	**1954**	**2131**	**2450**	**2470**
Free Power & Equity Power				
Baira Suil	26	19	35	35

Revised Power-Purchase for FY10 & FY11	FY08	FY09	FY10	FY11
(in MU)	Actuals	RE	Proj	Proj
Chamera-I	62	70	60	60
Chamera –II	35	58	67	67
Shanan Share	3	3	2	2
Ranjeet Sagar Dam	70	63	21	21
Malana	50	55	18	18
Baspa – II	153	160	42	42
Nathpa Jhakri	132	196	248	248
Nathpa Jhakri Equity	241	397	289	289
Patikari	1	9	7	7
Ghanvi	9	10	9	9
Baner	5	5	5	5
Gaj	6	5	6	6
Larji	70	74	68	68
Khauli	5	6	6	6
Koldam	0	0	0	45
Parbati III	0	0	0	38
Chamera III	0	0	0	23
Total	**868**	**1129**	**882**	**988**
Banking Power	286	780	600	500
Unallocated Share	0	312	331	331
Private Micros	142	263	290	342
UI	171	52	0	0
Sub Total	**600**	**1407**	**1221**	**1173**
Gross Power Purchase	**5433**	**6305**	**6302**	**6862**
External Loss %	3.50%	3.50%	3.50%	3.50%
Net Power Purchase	**5243**	**6085**	**6081**	**6622**

2.13 The Board submitted that the power purchase quantum from the NTPC stations for the remaining Control Period (FY10 & FY11) has been calculated by applying the average of previous three years (FY05-FY07) month-wise PLF, except for Rihand II and Unchahar III which have been commissioned recently. In case of Rihand II, the average of previous two years month-wise PLF has been used to calculate the month-wise gross generation and for Unchahar III the PLF of 90.86% has been assumed.

2.14 Also, the Board submitted that the power purchase quantum from NHPC Stations for the rest of the Control Period (FY10 & FY11) has been calculated as per the month-wise design energy shown by each plant in their respective water studies. The effective share of the HPSEB was applied on the total month-wise ex-bus generation to estimate the month-wise energy purchases from the respective stations. The 12% free power share of GoHP from the corresponding plants has been worked out in a similar manner. For FY10 and FY11, the GoHP 12% free power share has been considered only for seven months i.e. from October to April to meet the deficit in the state. The above methodology was adopted for Baspa II, Nathpa Jhakri and Tehri hydel stations. In case of Baspa II, HPSEB has also projected the secondary energy to the tune of 140 MU based on the past year trends.

2.15 As per the Board's projections, a nominal power purchase quantum from the liquid-fuelled Anta, Auraiya and Dadri stations has been considered for the Control Period. The Board did this to account for the winter period when HPSEB shall be facing shortage of power and also to account for the possibility of liquid fuel power being booked to HPSEB on the basis of governing frequency during real-time operation. The Board conveyed in its petition that the power quantum from the NAPP has been worked out at 68.5% PLF based on the GOI tariff notification applicable for NAPP. It also considered the share from RAPP in the Control Period on the same PLF taken for NAPP.

2.16 Power purchase from Malana has been calculated as per the month-wise design energy shown in the water study. The 15% free power share has been considered only for seven months i.e. October to April to meet the deficit in the state.

New Generation Stations

2.17 In the previous year's MYT filing, the Board has considered the generation from five new generating stations namely Koldam, Koteshwar, Parbati-III, Chamera-III and Barh during the Control Period. The table below summarizes the revised COD for the aforesaid plants:

Table 5: Revised COD of new plants

Station	Previous COD	Revised COD
Koldam (unit I)	Apr-09	Jun-10
Parbati III	Nov-10	Nov-10
Koteshwar	Apr-10	Jun-10
Chamera III	Aug-10	Aug-10
Barh (unit I)	Mar -09	Jan-11

2.18 In addition to this, the Board has submitted that 11 new Small Hydel Plants (SHPs) were commissioned in FY09 the details of which are provided in the table below:

Table 6: New SHP Projects commissioned in FY09

Name of the Project	Capacity (MW)
Brahmganga	5.00
Sahu	5.00
Sarbari	4.50
Upper Awa	5.00
Purthi	0.10
Sural	0.10
Lingti	0.10
Iku-II	5.00
Toss	5.00
Shyang	3.00
Tarella-II	5.00

2.19 Also, the Board submitted a revised list of the new SHP projects expected to be commissioned in FY10 as shown below:

Table 7: SHP Projects expected to be commissioned in FY10

Name of the Project	Capacity (MW)	District
Chirchind	5.00	Chamba
Drinidhar	5.00	Kullu
Baner-III	5.00	Kangra
Lower Baijnath Kuhl	1.00	Kangra
Luni-III	5.00	Kangra
Luni-II	5.00	Kangra
Andhra Stage-II	5.00	Shimla
Dehar-II	1.50	Chamba
Neogal	15.00	Kangra
Karmul	2.40	Kullu
Maijhi-II	5.00	Kangra

Outside State Sales

2.20 The Board has projected the surplus power available for sale outside the state during the MYT Control Period as shown below:

Table 8: Outside State Sales Projection

Energy Sales outside State	FY09	FY10	FY11
	Projected	Projected	Projected
Energy available for outside state sale	1330	684	529
Less: Banking Power return	600	600	500
Net Energy available for sale outside state	**730**	**84**	**29**

Energy Balance

2.21 The Board prepared the Energy Balance based on the estimated and projected sales data, own generation data & power purchase data. The Board thus quantified the overall T&D losses as 12.92%, 13.71% and 13.60% for FY09, FY10 and FY11 respectively. The Energy Balance for the MYT Control Period is as shown below:

Table 9: HPSEB Projection - Energy Balance

Energy Balance (MU)	FY08	FY09	FY10	FY11
	Actuals	R.E	Proj	Proj
Purchase of Energy				
Net Power from Own Stations	1763	1911	1900	1900
Net Power from Other Sources	5243	6085	6081	6622
Total Energy Available for Sale	**7006**	**7996**	**7981**	**8522**
Energy Sales within the State	5029	5633	6203	6834
Proposed T&D Loss % within the State	**13.41%**	**15.50%**	**15.00%**	**14.50%**
Energy Requirement for sale within the State	5808	6666	7297	7993
Energy Available for inter state sale	1199	1330	684	529
Total Sale (within & Outside the State)	6227	6963	6887	7363
Overall Losses	779	1033	1095	1159
Overall T&D Losses %	**11.12%**	**12.92%**	**13.71%**	**13.60%**

Annual Revenue Requirement

2.22 The Board submitted the ARR for the whole Control Period, the components of which are as discussed below:

Cost of Power Purchase

2.23 The Board projected the cost of power available from various stations considering the following:

NTPC

2.24 The annual fixed charges for FY08 have been taken from the tariff orders for the respective NTPC stations according to HPSEB's share. The Board considered an escalation of 3% annually for the annual fixed charges for the Control Period.

2.25 The variable costs for FY08 were based on actual power purchase bills, including Fuel Purchase Agreement (FPA), received by the Petitioner during FY07 and an escalation factor of 3% has been considered for estimating the variable cost for FY08. The variable cost for the Control Period (FY09-FY11) has been escalated by 3% annually.

2.26 For Anta (LF), Anta (LNG), Auraiya (LF), Auraiya (LNG), Dadri (LF) and Dadri (LNG) the rates for FY09 are based on the latest bills available for these plants (weighted average has been used) and an escalation of 3% has been considered for the projections for FY 10 and FY 11.

NHPC

2.27 The power purchase cost for NHPC stations for FY08 and FY09 are derived from the CERC tariff orders for the capacity charges, primary and secondary energy charges.

2.28 Other charges for NHPC stations for FY08 are based on the actual power purchase bills received by the Petitioner during FY07. No escalation has been considered for FY08 as other charges are expected to remain the same. An escalation of 3% has been considered thereafter.

NPCIL

2.29 The Board has submitted that single-part tariff for NPCIL stations based on the actual power purchase bills received during FY08 and an escalation of 3% has been applied to it.

New Generating Stations

2.30 The average cost of 204 Paisa per unit has been considered for Kahelgaon thermal power plant phase II in FY09. For the future years average cost with an escalation of 3% has been considered.

2.31 The average cost of 250 Paisa per unit has been considered for Barh-I in FY11. For the future years average cost with an escalation of 3% has been considered.

2.32 The Board conveyed that the average cost of 300 Paisa per unit has been considered with no escalation for new central hydel projects like Koteshwar, Koldam (NTPC), Parbati –II and III and Chamera-III.

Other Generating Stations

2.33 For the shared generation projects viz. Bhakra (old), Bhakra (new), Dehar, Shanan BSS, Shanan Ext, Yamuna Share (UJVNL), Khara (UPPCL) the cost for the Control Period has been taken from the actual bills of FY07 except for Bhakra (old) for which data from the tariff order has been taken. For the purpose of projections an escalation rate of 3% has been applied except for Bhakra (old) for which an escalation of 5 Paisa has been taken as no rate was available from the tariff order.

2.34 The Annual Fixed Cost (AFC) for Baspa-II for the current year FY09 has been calculated using the actual bills received during FY08, which is according to the tariff order of the plant. For the remaining years of the Control Period, per unit cost has been assumed to be declined by 1.5%. The secondary energy charge has been considered at Rs. 2.97 per unit.

2.35 The Board submitted that the arrears for Baspa II have been claimed separately for the current year and Control Period. The Board claims to be paying Rs. 2.92 Cr every month as arrears.

2.36 The rate for Nathpa Jhakri power (SOR Share) for the current year has been calculated by the Board using the actual bills of FY08. For the remaining years of the Control Period, an escalation factor of 3% has been used.

2.37 For FY09, the equity power from Nathpa Jhakri has been taken at Rs. 3.65 per unit based on the weighted average actual cost of FY08. No escalation has been considered for the remaining years of the Control Period. For Tehri HEP, an escalation factor of 3% has been considered on the actual per unit rate for FY08 for projecting the cost for the current year as well as the remaining years of the Control Period.

2.38 The rate of purchase for free power share of GoHP in the existing as well as in the new hydel plants has been taken as Rs. 3.04 per unit as per the latest bills received by the Board.

2.39 For the Control Period, the private micros (existing as well as new) have been calculated at the fixed rate of Rs. 2.50 per unit.

2.40 HPSEB has not considered any financial rates for the banking power projected for the current year and remaining years of the Control Period.

PGCIL Charges

2.41 HPSEB has estimated the inter-state transmission charges, payable to PGCIL (Power Grid Corporation of India Ltd.) for FY09 based on the recent bills received during the year at the rate of 80000/MW/month.

2.42 The Board has submitted that it has taken into account the additional capacity share in the new stations and an escalation of 3% for the future years during the remaining years of the Control Period for estimation of Inter-State transmission charges.

2.43 The table below summarizes the station wise power purchase costs for current and ensuing year:

Table 10: Power Purchase Cost for the Control Period

Power Purchase for MYT	FY09 R.E.		FY10 Proj		FY11 Proj	
	Rs/U	Rs Cr	Rs/U	Rs Cr	Rs/U	Rs Cr
Stations						
BBMB Old	0.52	2.28	0.57	2.50	0.62	2.72
BBMB New	0.28	3.55	0.29	3.65	0.30	3.76
Dehar	0.54	4.24	0.55	4.36	0.57	4.49
Sub Total		**10.07**		**10.52**		**10.98**
NTPC Stations						
Anta(LNG)	4.37	4.61	4.50	4.75	4.63	4.90
Anta(GF)	1.90	16.72	1.95	17.22	2.01	17.73
Anta (LF)	8.52	4.26	8.77	4.39	9.04	4.52
Auraiya (LNG)	4.51	4.40	4.65	4.53	4.79	4.67
Auraiya(GF)	2.41	28.99	2.48	29.86	2.56	30.76
Auraiya (LF)	7.73	3.86	7.96	3.98	8.20	4.10
Dadri (LNG)	4.48	4.69	4.61	4.83	4.75	4.98
Dadri (GF)	2.56	35.28	2.64	36.34	2.72	37.43
Dadri (LF)	7.12	3.56	7.34	3.67	7.56	3.78
Unchahar-I	1.85	9.88	1.91	10.18	1.97	10.48
Unchahar-II	1.91	16.92	1.97	17.43	2.03	17.95
Unchahar-III	2.11	12.17	2.17	12.54	2.23	12.92
Rihand-I STPS	1.56	37.96	1.60	39.10	1.65	40.27
Rihand-II STPS	1.70	42.73	1.75	44.01	1.80	45.33
Kahelgaon – Extn	2.50	39.52	2.58	40.70	2.65	41.92
Singrauli	0.92	0.00	0.94	0.00	0.97	0.00
Barh I& II	0.00	0.00	2.50	85.65	2.58	170.83
Sub Total		**265.57**		**359.19**		**452.57**
NHPC Stations						
Koteshwar	0.00	0.00	0.00	0.00	3.00	12.96
Koldam (NTPC)	0.00	0.00	3.00	164.48	3.00	164.48
Parbati III	0.00	0.00	0.00	0.00	3.00	16.87
Parbati II	0.00	0.00	0.00	0.00	3.00	20.93

Power Purchase for MYT	FY09 R.E.		FY10 Proj		FY11 Proj	
	Rs/U	Rs Cr	Rs/U	Rs Cr	Rs/U	Rs Cr
Chamera – III	0.00	0.00	0.00	0.00	3.00	22.82
Salal	0.76	2.29	0.77	2.34	0.79	2.39
Tanakpur	1.34	1.98	1.37	2.02	1.39	2.06
Chamera-I	1.55	7.39	1.53	7.30	1.51	7.21
Chamera-II	2.90	15.79	2.83	15.40	2.76	15.04
Uri	1.51	10.49	1.38	9.59	1.27	8.81
Dhauliganga	1.88	7.54	1.89	7.57	1.90	7.59
Dulhasti	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total		**45.48**		**208.70**		**281.15**
Other Stations						
NAPP	1.97	14.48	2.03	14.91	2.09	15.36
RAPP	3.13	24.59	3.23	25.33	3.32	26.09
Nathpa Jhakri SoR	3.04	51.35	3.13	52.89	3.22	54.47
Shanan	0.41	0.22	0.42	0.22	0.44	0.23
Shanan Extn	0.41	1.85	0.42	1.91	0.44	1.97
Yamuna (UJVNL)	0.38	14.47	0.39	14.91	0.40	15.35
Khara (UPJVNL)	0.38	2.25	0.39	2.32	0.40	2.39
Baspa –II	3.09	324.72	3.19	334.46	3.28	344.50
Baspa II Sec Energy	2.97	41.58	2.97	41.58	2.97	41.58
Tehri I	5.05	35.70	5.20	36.77	5.36	37.88
Market Purchase	4.85	269.18	6.00	90.00	6.00	120.00
Sub Total		**780.39**		**615.30**		**659.82**
Free Power & Equity Power						
Baira Suil	6.00	11.66	6.00	11.66	6.00	11.66
Chamera-I	6.00	22.23	6.00	22.23	6.00	22.23
Chamera –II	6.00	21.60	6.00	21.60	6.00	21.60
Shanan Share	6.00	0.66	6.00	0.66	6.00	0.66
Ranjeet Sagar Dam	6.00	7.82	6.00	7.82	6.00	7.82
Malana	6.00	4.67	6.00	4.67	6.00	4.67
Baspa – II	6.00	16.35	6.00	16.35	6.00	16.35
Nathpa Jhakri	6.00	94.69	6.00	94.69	6.00	94.69
Nathpa Jhakri (Equity)	4.01	116.02	4.01	116.02	4.01	116.02
Ghanvi	6.00	1.23	6.00	1.23	6.00	1.23
Baner	6.00	0.69	6.00	0.69	6.00	0.69
Gaj	6.00	0.84	6.00	0.84	6.00	0.84
Larji	6.00	6.60	6.00	6.60	6.00	6.60

Power Purchase for MYT	FY09 R.E.		FY10 Proj		FY11 Proj	
	Rs/U	Rs Cr	Rs/U	Rs Cr	Rs/U	Rs Cr
Khauli	6.00	0.84	6.00	0.84	6.00	0.84
Koldam (NTPC)	0.00	0.00	6.00	27.28	6.00	27.28
Parbati III	0.00	0.00	0.00	0.00	6.00	22.81
Parbati II	0.00	0.00	0.00	0.00	6.00	28.30
Sub Total		**305.90**		**333.18**		**384.29**
Baspa – II Arrears		35.04		35.04		35.04
Banking Power	0.00	0.00	0.00	0.00	0.00	0.00
Unallocated Share	1.90	46.74	1.90	46.74	1.90	46.74
Private SHPs	2.50	37.55	2.50	39.43	2.50	41.40
UI	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total		**84.29**		**86.17**		**88.14**
PGCIL Charges		87.63		108.35		120.99
Grand Total		**1614.37**		**1756.45**		**2032.97**

Repair & Maintenance Cost

2.44 The Board submitted the O&M monitoring data for only the first 3 quarters of FY09 and its revised estimates for FY09 were not based on the actuals for FY09, but on the compiled data of the previous years. Also, it is to be mentioned that the O&M data was not segregated into its constituents i.e. R&M, A&G and Employee expenses.

2.45 The Board has indicated that it has followed the similar methodology for determination of R&M expenses for FY09, FY10 and FY11 as the methodology adopted while filing the MYT Petition in the preceding year (FY08).

2.46 The Board proposes to use the average of R&M Costs as % of Opening Gross Fixed Assets of the previous two years i.e. FY06 and FY07 to calculate the K-factor, as the provisional data for FY08 is not available. The R&M Costs as % of Opening Gross Fixed Assets of the previous two years i.e. FY06 and FY07 has been submitted as 0.84% and 1.18% respectively. Taking the average of 0.84% and 1.18% the K-factor comes to1.01% which the Board claims to be more realistic than the approved K-factor of 1.18%,

2.47 For the purpose of projections of R&M expenses for the Control Period, K-factor of 1.01% has been used on the opening GFA for the corresponding years of the Control Period. HPSEB would like to bring it to commission’s notice that, the 1.01% R&M as a percentage of GFA is very nominal as compared to other power utilities in India.

2.48 The Board, in its petition, also indicated that most of the contract work in R&M is subject to service tax. Similarly, the VAT which has replaced sales tax has also resulted as an additional liability. This increase in rate, the Board claims, has resulted in substantial increase in O&M expenditure, especially in R&M works. Also, the price of most of the basic commodities like iron, copper, zinc and cement used in the repairs and maintenance has increased tremendously over the last 5 years.

2.49 The following table illustrates the R&M figures projected by the Board for the MYT Control Period FY09-FY11:

Table 11: Proposed R&M Expenses for the Control Period

R&M Expenses (Rs Cr)	FY08	FY09	FY10	FY11
	Actuals	R.E.	Proj.	Proj.
Plant & Machinery	2.02	2.81	3.43	3.90
Buildings	0.46	0.64	0.78	0.89
Civil Works	0.29	0.41	0.49	0.56
Hydraulic Works	0.30	0.41	0.50	0.57
Lines, Cables networks	20.84	29.45	35.94	40.88
Vehicles	1.60	2.23	2.72	3.09
Furniture & Fixtures	0.01	0.01	0.02	0.02
Office Equipments	0.02	0.03	0.03	0.03
Net R&M Costs	**25.52**	**35.98**	**43.91**	**49.94**
Opening GFA	3556.08	3564.76	4351.28	4948.46
R&M Costs as % of GFA	0.72%	1.01%	1.01%	1.01%

Employee Cost

2.50 The Board has committed that for FY10 and FY11, the employee cost has been computed considering the impact of Pay Commission.

2.51 The Board has taken an escalation of 2.05% in basic salary component of the employee expense excluding DP and DA for FY07. HPSEB has merged the actual DA paid during FY07 with the actual Basic Salaries of the same year, for projecting the basic salaries for the ensuing years including FY10 and FY11.

2.52 The estimated basic salary (including DA after merger) as per Pay Commission for FY09 has been escalated by 3% annually during FY10 and FY11. This 3% increase in salaries & allowances is mainly due to annual increments on which HPSEB has no control as this forms part of the service conditions of the employees. In the revised projections, the Board has also kept a provision for the grade pay and no escalation has been considered on the same.

2.53 The provision of DA is also kept in the revised salary structure computed from FY07 onwards. The provision for DA component is in line with the recommendations made by the Sixth Central Pay Commission, which is applicable at 16% of basic salary during the current year. A provision of 20% and 24% is kept for DA for FY10 and

FY11 respectively.

2.54 The Board submitted that the State Government allows two instalments of DA increase of 4 to 5% effective in July and January every financial year. HPSEB allows DA increase at the same rate to its employees as the increases in pay & allowances to its existing employees has to be at par with the State Government employees. The DA for FY09 has been calculated at 47% (8 months) and 54% (4 months) of the total basic salary projected for FY09. Thereafter, further addition in DA every year is assumed as per revised salary structure for the FY10 and FY11.

2.55 The Board also indicates that the leave salary contribution, LTC, earned leave encashment, staff welfare expenses and payment under workmen's compensation for the current year and the remaining years of the Control Period have been projected to increase by 4.16% to cover the cost of inflation. Medical expense reimbursement, fee & honorarium for FY08 and the Control Period have also been escalated by 4.16%. Other allowances have been escalated by 8% for FY10 and FY11 because of impact of revised basic salary.

2.56 Regarding capitalization, the Board submitted that the capitalization shown during the previous years was on a higher side due to the commissioning of Larji and Khauli HEPs. It also claims that for the generation projects under HPC, only 40% of the equity will be provided by HPSEB. Therefore, Board can not claim the capitalization for the projects under HPC.

2.57 The Board submitted that the likely increase due to Pay Commission will be effective from January 1, 2006. Therefore, the arrears for the FY06 (3 months), FY07, FY08 and FY09 have been claimed at 40% and 60% in the employee cost for FY09 and FY10. The arrears have been claimed under the head arrears due to 6th Pay Commission. The employee costs of the Board for the Control Period have been tabulated below:

Table 12: HPSEB Projection - Employee Cost (Rs Cr)

Employee Cost	FY08	FY09	FY10	FY11
Rs in Cr	**Actuals**	**RE**	**Proj.**	**Proj.**
Salaries & Allowances				
Salaries (Basic) + Dearness Pay	301.17	310.51	437.58	450.71
Revised DA			87.52	108.17
Grade pay	0.00	0.00	20.30	19.80
DA	117.61	153.19		
Arrears due to the 6th Pay Commission	0.00	78.66	117.98	
Other Allowances	30.63	31.90	34.46	37.21
Overtime	1.54	1.60	1.67	1.74
Bonus	0.52	0.54	0.56	0.59

Employee Cost	FY08	FY09	FY10	FY11
Rs in Cr	**Actuals**	**RE**	**Proj.**	**Proj.**
Salaries – Total	**451.47**	**576.41**	**700.07**	**618.22**
Medical expense Reimbursement	7.58	7.90	8.22	8.57
Fee & Honorarium	0.01	0.01	0.01	0.01
Earned Leave encashment	15.48	16.12	16.79	17.49
Leave Salary Contribution	0.00	0.00	0.00	0.00
Payment under workmen's compensation	1.21	1.26	1.31	1.37
LTC	0.32	0.33	0.35	0.36
Staff Welfare expenses	0.99	1.03	1.07	1.12
Other Staff Costs – Total	**25.59**	**26.66**	**27.77**	**28.92**
Provident Fund Contribution	0.02			
Pension	100.92	113.03	131.12	152.09
Gratuity	23.81	26.67	30.93	35.88
Any other items	2.80	3.14	3.64	4.22
Terminal benefits – Total	**127.55**	**142.86**	**165.71**	**192.23**
Gross Employee cost	**604.61**	**745.92**	**893.55**	**839.37**
Less: capitalization	56.54	46.71	54.29	58.76
Net Employee costs	**548.07**	**699.21**	**839.26**	**780.61**

2.58 The Board also made submissions regarding the expected ramifications of the Pay Commission and made projections for the arrears payable for the period FY07 to FY09. The details are shown in the table below:

Table 13: Ramifications of the Pay Commission

Pay Commission (Likely Impact) Rs Cr	FY06	FY07	FY08	FY09	FY10	FY11
Basic(as per Pay Commission)		400.45	412.46	424.83	437.58	450.71
Grade Pay		20.80	20.80	20.80	20.30	19.80
Total Basic Salary		421.25	433.26	445.63	457.88	470.51
DA (As per Pay Commission)		10.01	20.42	67.97	87.52	108.17
(A) Salary As per Pay Commission		**431.26**	**453.68**	**513.61**	**545.40**	**578.68**
Actual payout of Basic & IR		195.34	207.91	214.15		

Pay Commission (Likely Impact) Rs Cr	FY06	FY07	FY08	FY09	FY10	FY11
DP Paid		80.00	93.26	96.37		
DA Paid		92.50	117.61	153.19		
(B) Total Paid		**367.84**	**418.78**	**463.70**		
(C) Arrears = (A)-(B)		63.42	34.90	49.91		
(D) Terminal Benefit Arrears		11.38	12.76	14.29		
Total Arrears (C) + (D)	**10.0**	**74.8**	**47.7**	**64.2**		

Administrative & General Expenses

2.59 The Board, in its submissions, calculated that the inflation factor by giving CPI a weight of 0.55 and WPI a weight of 0.45. Therefore, inflation index $INDX_n$ = 0.55*(4.10%) + 0.45*(4.24%) = 4.16%, where the CPIs and WPIs are the averages of years FY07-FY11.

2.60 The Board submitted that the Regulatory & Consultancy expenses for the Control Period had been projected as per the existing agreements, contracts with the consultants and the best estimates for future regulatory and consultancy works. The summary of the proposed A&G expenses for the Control Period is provided below:

Table 14: HPSEB Projection – A&G Expenses (Rs Cr)

A&G Expenses (Rs Cr)	FY08	FY09	FY10	FY11
	Actuals	**R.E.**	**Proj.**	**Proj.**
Administration Charges				
Rent, Rates & Taxes	2.35	2.45	2.55	2.66
Telephone, Postage & Telegrams	2.86	2.98	3.10	3.23
Consultancy Charges	0.09	18.00	13.00	6.00
Conveyance & Travel	13.69	14.26	14.85	15.47
Regulatory Expenses	2.23	2.60	3.50	3.50
Income Tax Updating Charges	0.01	0.01	0.01	0.01
Insurance	0.91	0.95	0.99	1.03
Other Charges	0.00	0.00	0.00	0.00
Incentive awards to employees/outsiders	0.01	0.01	0.01	0.01
Sub Total	**22.15**	**41.25**	**38.01**	**31.91**

A&G Expenses (Rs Cr)	FY08	FY09	FY10	FY11
Other Charges				
Fees & Subscriptions, Books & Periodicals	0.23	0.24	0.25	0.26
Printing & Stationery	1.49	1.55	1.62	1.68
Advertisement Expenses	0.39	0.41	0.42	0.44
Electricity Charges	2.34	2.44	2.54	2.64
Water Charges/ Cold weather expenses	0.44	0.46	0.48	0.50
Miscellaneous Expenses	0.06	0.06	0.07	0.07
Legal Charges	0.11	0.11	0.12	0.12
Audit Fee	2.00	2.08	2.17	2.26
Freight Material related Expenses	0.81	0.84	0.88	0.92
Entertainment Charges	2.00	2.08	2.17	2.26
Training to Staff	3.23	3.36	3.50	3.65
Public Interaction Program	0.16	0.17	0.17	0.18
Public Expenses/Other professional charges	0.15	0.16	0.16	0.17
Provision of free CFL bulb to Domestic Consumers	0.00	0.00	------	------
A&G Expenses – Total	**35.56**	**55.22**	**52.56**	**47.06**
Less: Capitalisation	4.19	6.51	6.19	5.55
Net A&G Costs	**31.37**	**48.72**	**46.37**	**41.52**

**Includes expenditure on R&D and promotion of energy efficiency*

Depreciation

2.61 The Board submitted that the depreciation is charged on the basis of straight-line method, on the fixed assets in use at the beginning of the year. Depreciation for the current year and remaining years of the Control Period is determined by applying FY08 actual depreciation rate on the opening balance of Gross Fixed assets and average of the addition during the year projected for FY09, FY10 and FY11.

2.62 The Board has committed that it has revised its capital expenditure plan which would be funded through both debt and equity. For the current year, HPSEB has proposed to finance its entire capital expenditure plan only through debt. The Board also claims that no depreciation has been charged on assets created through the funds in the form of grants for T&D.

2.63 The Board submitted an explanation for a discrepancy in the numbers of the GFA of the generation wing which cropped up earlier. The Board claims that the decrease in the gross fixed assets of generation business during FY 08 was due to extra-ordinary internal transfer of assets worth Rs. 350.02 Cr. to another division under the Board. The asset was in transit till the end of FY08. The transfer has been reflected in the GFA of FY09, wherein this extraordinary item of Rs. 350.02 Cr is added back to the GFA.

2.64 The Board has indicated that it is taking all efforts to pursue capitalization of its assets. HPSEB is planning to capitalize the entire amount of existing CWIP by the end of the Control Period. The table below summarizes the capitalization plan which the Board intends to follow during the Control Period.

Table 15: Capitalization Plan - % of Assets to be capitalized

Capitalization Plan	FY09	FY10	FY11	FY12
Opening balance for FY09 (CWIP)	33%	33%	33%	0
Capex during FY 09	20%	20%	30%	30%
Capex during FY 10	0%	20%	20%	30%
Capex during FY 11	0%	0%	20%	20%

2.65 The HPSEB has provided the segregated depreciation costs for various wings as summarized in the table below:

Table 16: HPSEB Projection – Depreciation (Rs Cr)

Depreciation	FY08	FY09	FY10	FY11
	Actuals	**R.E.**	**Proj.**	**Proj.**
GFA - Opening Balance				
Generation	1793.01	1630.01	2133.08	2342.59
Transmission	726.68	789.80	842.10	922.17
Distribution	1036.39	1144.95	1376.16	1683.77
Others	0.00	0.00	0.00	0.00
Total	**3556.08**	**3564.76**	**4351.35**	**4948.53**
Net Additions during the Year				
Generation	-163.00	503.07	209.51	269.03
Transmission	63.12	52.30	80.07	122.80
Distribution	108.56	231.21	307.61	352.12
Others	0.00	0.00	0.00	0.00

Depreciation	FY08	FY09	FY10	FY11
Total	**8.68**	**786.59**	**597.19**	**743.95**
GFA – Closing Balance				
Generation	1630.01	2133.08	2342.59	2611.62
Transmission	789.80	842.10	922.17	1044.98
Distribution	1144.95	1376.16	1683.77	2035.88
Others	0.00	0.00	0.00	0.00
Total	**3564.76**	**4351.35**	**4948.53**	**5692.48**
Depreciation for the Year				
Generation	44.36	47.04	55.95	61.93
Transmission	17.98	20.40	22.05	24.59
Distribution	25.58	31.51	38.25	46.50
Grant Deduction	0.00	-0.17	-1.00	-2.63
Total	**87.92**	**98.78**	**115.25**	**130.38**
Depreciation Rate %				
Generation	2.72%	2.50%	2.50%	2.50%
Transmission	2.28%	2.50%	2.50%	2.50%
Distribution	2.23%	2.50%	2.50%	2.50%

Interest & Finance Charges

2.66 The Board submitted to the Commission that the grants for T&D have been deducted from the proposed debt component of the proposed capital expenditure plan to calculate the interest and finance charges.

2.67 Cost of raising finances has been calculated based on the new bank loans required for funding the proposed capital expenditure plan. 0.50% has been considered as cost of raising finances. Interest on working capital has been assumed at 11.75%.

2.68 The Board has committed that the interest rate for REC loans has been assumed in the range of 7% to 12.5% depending upon the nature and tenure of various loans. PFC loans interest rate has been assumed to be in the range of 5.25% to 12.75%. LIC and Co-operative bank loans have been assumed at 9%. Market Bonds bear an interest rate in the range of 11.50% to 13.50%.

2.69 The Board has restructured the loans taken from PNB bank with the KCC and Cooperative Bank during the current year for the generation business. The various Interest and Financing details of the Board are tabulated below:

Table 17: HPSEB Projection – Interest Expenses (Rs Cr)

Interest Cost	FY08	FY09	FY10	FY11
	Actuals	**R.E.**	**Proj.**	**Proj.**
REC	18.05	26.60	45.65	65.92
RGGVY*	0.04		1.35	1.35
LIC	21.66	21.33	21.00	18.70
Market Bonds	3.77	3.09	1.94	0.92
Co-operative Bank*	21.86	25.20	21.20	9.72
UBI Bank	0.00	0.00	0.00	0.00
PFC*	56.81	70.00	70.00	63.54
PNB Loan*	8.20	8.20	0.00	0.00
Bank of India	0.04	0.00	0.00	0.00
Non SLR Bond (board)*	34.34	38.25	31.55	23.68
Non SLR Bond (govt.)*	0.83	0.00	0.00	0.00
UCO Bank	8.71	3.43	0.00	0.00
Other Negotiated Loan*	0.00	2.81	17.69	39.10
KCC (STL)*	5.70	1.85	4.05	5.31
CBI (STL)	4.95	6.85	0.00	0.00
State Govt. Loan	2.12	2.02	2.72	2.73
Interest on Overdraft	0.00	0.00	0.00	0.00
Interest on GPF	2.78	2.50	2.25	2.03
Cost of raising finances	0.01	0.65	0.18	0.00
Other Charges	1.39	0.00	0.00	0.00
Interest on Security Deposits	6.47	7.53	8.37	9.22
Rebate allowed for timely payment	8.81	0.00	0.00	0.00
Interest on WC borrowing & Other Charges	43.92	46.38	51.6	55.25
Interest & Finance Charges – Total	**250.46**	**266.68**	**279.56**	**297.47**
Less: Interest capitalized	72.99	66.67	69.89	74.37
Net Interest & Financing Costs	**177.47**	**200.01**	**209.67**	**223.10**

**Includes sum of interest expenses of PFC, RGGVY, Co-operative Bank, PNB, Non-SLR Bonds & KCC*

Working Capital Requirement

2.70 HPSEB has calculated the working capital requirement for FY08 and the Control

Period according to the MYT Regulations, 2007. The estimated figures for the MYT Control Period are tabulated below:

Table 18: Working Capital Requirement (Rs Cr)

Working Capital Requirement	FY09	FY10	FY11
2/12 of Receivables	328.17	360.29	395.88
1/12 of O&M	65.33	77.46	72.67
Maintenance spares @ 40% of R&M	1.20	1.46	1.66
Total working capital	**394.70**	**439.22**	**470.22**
Interest on WC @ 11.75%	**46.38**	**51.61**	**55.25**

Return on Equity

2.71 The Board has submitted that it has revised its equity infusion plan for the Control Period. For the current year, HPSEB has declared that its capital expenditure plan would be funded entirely through debt and grants. In FY10 and FY11, the Board is planning to invest equity in the generation business.

2.72 HPSEB has taken 14% return on equity for generation and transmission businesses and 16% return for the distribution business. The Board has submitted that it is planning to invest equity to the tune of Rs. 120 Cr in the existing as well as new generation schemes during FY10 and FY11. The Board's estimates of RoE for the MYT Control Period are tabulated below:

Table 19: Return on Equity (Rs Cr)

Return on Equity	FY08	FY09	FY10	FY11
	Actuals	**R.E.**	**Proj**	**Proj**
Generation (14%)	20.30	20.30	28.70	37.10
Transmission (14%)	11.31	11.31	11.31	11.31
Distribution (16%)	17.02	17.02	17.02	17.02
Total	**48.62**	**48.62**	**57.02**	**65.42**

Non Tariff Income & Other Income

2.73 The Board has followed a similar methodology for determination of Non Tariff Income expenses for FY09, FY10 and FY11 as the methodology adopted while filing the MYT Petition in the preceding year (FY 08)

2.74 Non Tariff and Other Income as shown in table below, is estimated to increase at around 5% p.a. An escalation of 5% p.a. is applied on FY07 actual figures for the future projections. The Board's projections for the Non-Tariff Income are tabulated below:

Table 20: Non-Tariff Income & Other Income (Rs Cr)

Non-Tariff Income	FY08	FY09	FY10	FY11
	Actuals	**R.E.**	**Proj**	**Proj**
a) Meter Rent/Service line rentals	28.85	30.28	31.80	33.39
b) Recovery for theft of power/malpractices	18.72	0.08	0.09	0.09
c) Wheeling Charges recovery	37.54	6.12	6.42	6.74
d) Miscellaneous charges from consumers	3.32	3.50	3.67	3.85
Non Tariff Income – Total	**88.43**	**39.98**	**41.98**	**44.08**
Other Income				
a) Interest on Staff loans & advances	0.69	0.74	0.77	0.81
b) Income from Investments	0.00	0.00	0.00	0.00
c) Interest on loans & advances to licensees	0.00	0.00	0.00	0.00
d) Delayed payment charges from consumers	7.10	7.46	7.83	8.22
e) Interest on advances to suppliers/contractors	0.03	0.03	0.03	0.03
f) Interest on banks (other than on fixed deposits	0.00	0.00	0.00	0.00
g) Income from trading	1.13	1.20	1.26	1.32
h) Income from staff welfare activities	0.04	0.04	0.04	0.04
i) Miscellaneous receipts	35.97	45.00	47.25	49.61
Total	**44.98**	**54.45**	**57.18**	**60.03**
Total Non Tariff Income & Other Income	**133.41**	**94.43**	**99.15**	**104.11**

Aggregate Revenue Requirement

2.75 The Table below summarizes the HPSEB's Aggregate Revenue Requirement for the Control Period (FY09, FY10 & FY11) as per the review petition:

Table 21: Aggregate Revenue Requirement for the Control Period (Rs Cr)

Annual Revenue Requirement	FY09	FY10	FY11
	R.E.	Proj	Proj
Costs			
Power Purchase Cost	1519.81	1640.84	1861.1
Employee Cost	699.21	839.3	780.6
Repairs & Maintenance	35.98	43.9	49.9
Admin & General	48.72	46.37	41.52
Interest	200.01	209.67	223.10
Depreciation	98.78	115.27	130.43
Total Costs	**2,602.51**	**2,895.33**	**3,086.68**
Add: Return on Equity	48.62	57.02	65.42
Less: Non-Tariff Income	94.43	99.15	104.11
Annual Revenue Requirement	**2,556.70**	**2,853.20**	**3,047.99**

Revenue from Sale of Power at Existing Tariffs

2.76 Revenue from sale of power for the Control Period is determined based on the energy sales estimated in by the Board and the category wise tariffs approved by the Commission in its ARR & Tariff Order for FY08. The table below summarizes HPSEB's estimates of the revenue realized at current tariff for the Control Period.

Table 22: Sale of Power Revenue at Existing Tariff

Revenue @ Existing Tariff	FY09	FY10	FY11
(Rs Cr)	Proj.	Proj.	Proj.
Domestic (DS)	308.40	329.86	352.94
NDNCS	36.22	39.80	43.74
Commercial Supply	137.38	143.37	149.63
Small & Medium Supply	74.63	79.24	84.15
Large Supply (HT)	674.30	755.21	845.83
Large Supply (EHT)	469.45	525.78	588.87
Agriculture	5.83	6.30	6.80
WPS	169.69	184.19	200.01

Revenue @ Existing Tariff	FY09	FY10	FY11
(Rs Cr)	Proj.	Proj.	Proj.
Street Lighting	5.19	5.43	5.68
Bulk Supply	73.17	75.59	78.09
Temporary	14.77	16.99	19.54
Total Revenue	**1,969.05**	**2,161.76**	**2,375.28**

Revenue Gap

2.77 The Board has submitted that the revenue from the sale of power outside state has been considered at Rs. 6 per unit for the Control Period.

2.78 The Board has submitted the revised revenue gap for Control Period at existing tariff at Rs. 122.66 Cr, Rs. 641.09 Cr and Rs. 655.12 Cr for FY09, FY10 and FY11 respectively. The Board proposes to revise tariff to cover the revenue gap of Rs. 1296.21 Cr for the FY 09-10 and FY 10-11 claimed by the Board. The revenue gap details are summarized below:

Table 23: Revenue Gap during the Control Period

Revenue Gap (Rs. Cr)	FY08	FY09	FY10	FY11
	Actuals	R.E.	Proj	Proj
Annual Revenue Requirement	**2,315.06**	**2,556.70**	**2,853.20**	**3,047.99**
Covered by				
Revenue @ Existing Tariff	**1,601.89**	**1,969.05**	**2,161.76**	**2,375.28**
Revenue from Sale outside state	617.12	465.00	50.35	17.59
Revenue @ Existing Tariff + GoHP Subsidy	**2,219.01**	**2,434.05**	**2,212.11**	**2,392.87**
Revenue Gap/(Surplus)	**96.04**	**122.66**	**641.09**	**655.12**

Segregation of ARR for the Control Period

2.79 The following key points, submitted by the Board, are part of its segregation methodology:

(a) Power purchase costs have been fully allocated to Distribution function.

(b) Interest & Finance charges for FY07 have been apportioned in principle of allocated loans (scheme specific). Interest & Finance charges for FY08 & the first Control Period have been allocated based on outstanding principle amount against loans raised for specific schemes, according to the capital expenditure plan.

(c) Consumer contribution has been fully allocated to Distribution business. Capital subsidies have been allocated based on the nature of the subsidy. Interest on Security deposits has been fully allocated to Distribution business.

(d) Return on equity has been allocated according to the equity invested for each of the segments for HPSEB.

(e) Expenses capitalised under various expense items have been allocated based on actual capitalization for FY07. Interest capitalised has been allocated based on the gross interest for that particular segment of the business.

(f) All income items other than delayed payment surcharge from consumers that form part of other income and non-tariff income have been allocated based on the nature of income. Delayed payment surcharge from consumers has been allocated to Distribution entirely.

2.80 The following tables below summarize the segregated ARR for the Control Period for generation, transmission and distribution respectively.

Table 24: Function-wise segregated ARR for Generation (Rs Cr)

Generation	FY08	FY09	FY10	FY11
Rs. Cr	Actuals	R.E.	Proj	Proj
Power Purchase Cost	0.00	0.00	0.00	0.00
Employee Cost	77.23	95.28	114.13	107.21
R & M Expenses	3.26	4.60	5.61	6.38
A & G Expenses	7.60	7.05	6.71	6.01
Depreciation	44.36	47.04	55.95	61.93
Interest & Finance Charges	134.56	135.40	141.12	132.76
Less: Interest Capitalised	41.98	38.34	40.19	42.77
Less: Other Expenses Capitalized	34.12	6.80	7.73	8.21
Return on Equity	20.30	20.30	28.70	37.10
Less: Non Tariff Income	9.66	6.78	7.12	7.48
Total ARR	**201.55**	**257.73**	**297.17**	**292.93**

Table 25: Function-wise segregated ARR for Transmission (Rs Cr)

Transmission	FY08	FY09	FY10	FY11
Rs. Cr	Actuals	R.E.	Proj	Proj
Power Purchase Cost	0.00	0.00	0.00	0.00
Employee Cost	45.17	55.73	66.76	62.71
R & M Expenses	1.91	2.69	3.28	3.73
A & G Expenses	4.17	4.13	3.93	3.52
Depreciation	17.98	20.40	22.05	24.59
Interest & Finance Charges	33.63	16.11	24.12	57.36
Less: Interest Capitalised	11.10	10.14	10.63	11.31
Less: Other Expenses Capitalized	8.88	3.98	4.52	4.80
Return on Equity	11.31	11.31	11.31	11.31
Less: Non Tariff Income	6.76	3.97	4.17	4.38
Total ARR	**87.42**	**92.28**	**112.13**	**142.72**

Table 26: Function-wise segregated ARR for Distribution (Rs Cr)

Distribution	FY08	FY09	FY10	FY11
Rs. Cr	Actuals	R.E.	Proj	Proj
Power Purchase Cost	1529.49	1519.81	1640.84	1861.08
Employee Cost	482.21	594.91	712.66	669.44
R & M Expenses	20.36	28.69	35.02	39.83
A & G Expenses	23.80	44.04	41.92	37.54
Depreciation	25.58	31.18	37.27	43.92
Interest & Finance Charges	82.26	115.34	114.32	107.34
Less: Interest Capitalized	19.91	18.19	19.06	20.28
Less: Other Expenses Capitalized	17.74	42.44	48.24	51.28
Return on Equity	17.02	17.02	17.02	17.02
Less: Non Tariff Income	116.99	83.68	87.86	92.26
Total ARR	**2026.08**	**2206.70**	**2443.89**	**2612.34**

Transmission & Wheeling Tariff for Control Period

2.81 The total losses in the system are projected at 17.00%, 16.50% and 16.00% for FY09, FY10 and FY11 respectively. The transmission losses are estimated at 3.71% for the Control Period. The distribution losses are estimated at 13.80%, 13.28% and 12.76% for the FY09, FY10 and FY11 respectively.

Table 27: Transmission & Wheeling Charges

Particulars (MU)	FY09	FY10	FY11
Power Availability			
Net Own Generation Sources	1911	1900	1900
Net Power Purchase Sources (CGS, Inter-state etc.)	6085	6081	6622
Total Availability	7996	7981	8522
Transmission Losses	247	271	297
Net Power Available for Sale at Transmission Level	**7749**	**7710**	**8226**

2.82 The Board has submitted that the total cost of own generation and power purchase for FY09 as Rs. 257.73 Cr and Rs. 1519.81 Cr respectively. Per unit cost of power for FY09 was calculated as (257.73 + 1519.81)/7996 = 2.22 per unit. The total cost of own generation and power purchase for the FY10 is projected as Rs. 297.17 Cr and Rs. 1640.84 Cr respectively. Per unit cost of power for FY10 was calculated as (297.17 + 1640.84)/7981 = 2.43 per unit. The total Cost of own generation and power purchase for the FY11 is projected as Rs. 292.93 Cr and Rs. 1861.08 Cr respectively. Per unit cost of power for FY11 was calculated as (292.93 + 1861.08)/8522 = 2.53 per unit.

2.83 The following table summarizes the projected ARR requirement of the Transmission business as estimated the Board:

Table 28: Transmission ARR

Transmission	FY 08-09	FY 09-10	FY 10-11
Rs. Cr	**R.E.**	**Proj**	**Proj**
Power Purchase Cost	0.00	0.00	0.00
Employee Cost	55.73	66.76	62.71
R & M Expenses	2.69	3.28	3.73
A & G Expenses	4.13	3.93	3.52
Depreciation	20.40	22.05	24.59
Interest & Finance Charges	16.11	24.12	57.36
Less: Interest Capitalised	10.14	10.63	11.31
Less: Other Expenses Capitalized	3.98	4.52	4.80

Transmission	FY 08-09	FY 09-10	FY 10-11
Rs. Cr	R.E.	Proj	Proj
Return on Equity	11.31	11.31	11.31
Less: Non Tariff Income	3.97	4.17	4.38
Total ARR	**92.28**	**112.13**	**142.72**
Add: Transmission Losses	54.98	65.74	74.95
Total Revenue Requirement at Transmission Level	**147.25**	**177.87**	**217.67**

Transmission Tariff for the Control Period

2.84 The Transmission Tariff for FY09 has been estimated at 19 Paisa/unit (147.25 Cr / 7749 MU). Similarly, tariff for FY10 and FY11 was proposed as 23 Paisa/unit and 26 Paisa/unit respectively.

Wheeling Tariff for the Control Period

2.85 The Board submitted that the wheeling tariff was calculated by deducting the power purchase cost from total distribution cost. The distribution cost is estimated at Rs. 2206.70 Cr, Rs. 2443.89 Cr and Rs. 2612.34 Cr for FY09, FY10 and FY11 respectively. The Board submitted that the wheeling tariff for FY09 was calculated as Rs. 1.22/unit ((2206.70-1519.81)/5633). Similarly, wheeling tariff for FY10 and FY11 was taken as Rs.1.29/unit and Rs. 1.10/unit respectively.

Conclusion

2.86 In conclusion, the Board, in its petition made an appeal to:

(a) Approve the Aggregate Revenue Requirement of FY10 and FY11 as well as the revised estimates for the FY09.

(b) Approve proposed O&M cost that takes cares of the entire proposed employee expenses, R&M and A&G expenses.

(c) Approve Capital Expenditure Plan as submitted.

(d) Allow taxes, FBT, cess, etc as pass through on actual basis.

A3: OBJECTIONS FILED AND ISSUES RAISED BY CONSUMERS DURING PUBLIC HEARINGS

3.1 There were eight objectors who filed written objections to the revised petition filed by the Board for the remaining years of the Control Period. The objectors listed at Sr. No (c), (d) and (e) have filed their objections jointly. The list of the objectors is as follows:

(a) CII, PIA & BBNIA, KACCI Industries Association

(b) M/s Auro Spinning Mills, Baddi

(c) M/s H.M. Steels Ltd., Kala Amb

(d) M/s Sri Rama Steels Ltd., Barotiwala

(e) M/s J.B. Steel Rolling Mills, District Sirmour

(f) M/s Sukhjit Agro Industries Ltd.

(g) Gujarat Ambuja Cement Ltd., Darlaghat

(h) ACC Gagal Cement Works, Barmana

(i) Laghu Udyog Bharti

(j) Consumer Representative

3.2 The public hearing was held on July 21, 2009 at the Commission's Court Room in Shimla. Names of objecting organization/companies and their respective representatives, who presented their cases before the Commission during public hearing, are given below:

Table 29: List of Objectors present during Public Hearing

S. No.	Objector/Organization	Represented by
1	CII, PIA & BBNIA, KACCI Industries Association	Sh. Rajinder Gularia
2	M/s Auro Spinning Mills, Baddi.	Er. D.R. Sharma
3	M/s H.M. Steels Ltd., Kala Amb.	Er. P.C. Deewan
4	M/s Sri Rama Steels Ltd., Barotiwala	
5	M/s J.B. Steel Rolling Mills, Distt. Sirmour.	
6	M/s Sukhjit Agro Industries Ltd.	
7	Gujarat Ambuja Cement Ltd., Darlaghat.	Sh. D.R.Sood
8	ACC Gagal Cement Works, Barmana.	Sh. S.K.Kala
9	Laghu Udyog Bharti	Sh Masesh Bhasin

S. No.	Objector/Organization	Represented by
10	Consumer Representative.	Sh. P. N. Bhardwaj

3.3 Issues raised by the objectors along with the replies given to the objections by HPSEB and views of the Commission are mentioned in the sections below:

General comments on Petition filed by the Board

3.4 The objectors pointed out the following issues related to the Multi Year Tariff petition filed by the Board:

(a) The petition contains no information on installed capacity of the Power Plants as well as design energy as per the DPR, including augmentation works of power plants.

(b) The revised estimates of generation in respect of Larji HEP for the current year are indicated as 568 MU but target for FY10 onwards has been reduced whereas 631 MU has already been achieved in FY09.The Bhaba augmentation plant is under implementation for the last nearly 15 years. In case projected generation is revised the proposed power purchase quantum from different sources would be reduced for the remaining years of the Control Period.

(c) Power purchase management has improved significantly for the FY09 and purchase of costlier power from Anta (LF), Auriya (LF) and Dadri LF) has been kept minimum which amounts to good economics. The availability of cheaper power from new projects be expedited on priority. The efforts should be made by GoHP to persuade GOI for increasing allocation to the state during winter months from the unallocated quota of Central Generating Stations, on account of the peculiar geographical conditions of the state.

(d) The projected figures of energy sales within the state in respect of Domestic, NDNC and BPL families seems to be higher in view of the CFL distribution by GoHP. Details of saving due to free distribution of CFLs have not been indicated. There is wide variation in the projected growth of energy sales when compared to the actual growth in case of different categories of industries.

(e) The growth in annual sale of energy for the remaining years of the Control Period has been projected at 10.66% as against 12.01% already achieved during the FY09. The justification for underestimation has not been given.

(f) The actual figure of power purchase cost for FY09 should be taken for making projections of the remaining years of the Control Period. The generation for the 5 projects namely Koldam (Unit-I), Parbati-III, Koteshwar, Chamera III and Barh (Unit I) should be expedited and projections for remaining years of the Control Period be made on the basis of revised COD.

(g) No details in the ARR on the subsidy due and received from the Government. Revenue arrears from the Government departments/ local bodies be recovered on priority. The subsidy from the Govt. has not been accounted for in the ARR for FY09.

(h) No fixed asset register prepared by the Board. Depreciation not to be allowed until supported by fixed asset registers.

(i) The ARR petition filed by the Board is incomplete and lacks consistency on various issues such as power purchase, loans, revenue and cost estimates. Details of domestic loan, bonds & financial leasing are not available with respect to Generation. The Capital Investment Plan has been prepared in an arbitrary manner.

(j) The information given in the Quality of Service Formats, both in respect of Transmission and Distribution do not appear reliable.

(k) No mention of the source of funding, amounting to Rs. 120.00 Cr, for equity contribution during second and third year of the Control Period.

(l) In the public hearing, it was pointed out that presently, no labelling is being done on CFLs distributed by the Board regarding mercury toxicity. Proper recycling and disposal of CFLs is very important and proper guidelines also need to be framed to control mercury pollution.

Board's response:

3.5 The compilation of the replies to the above issues filed by HPSEB is as follows:

(a) The data in respect of design energy of older plants is not available. Therefore, actual energy was considered for estimating generation. The Board has considered the average generation for the record four years for projecting own generation for FY10 and FY11 and revised estimates for the current year. The six months actual generation. (April 2008 to Sept., 2008) has been factored while estimating the revised generation for the current year.

(b) The generation for Larji, Khauli and Holi HEP for FY09 has been estimated based on the trend of actual generation during the first six months of financial year 2008-09. For the remaining two years of the Control Period, the energy generation from these plants has been considered at design energy levels. The Board has adequately factored the increase in generation level of 35 MU from Bassi due to proposed RMU in the beginning of FY10. The projection of generation from Bhaba augmentation has been considered in the FY10 keeping in mind the actual work completed at the site.

(c) The Board has stated that it is making all efforts for improvement of power purchase management by using free power, equity power and purchase from the liquid fuel to meet the winter demand as well as peak shortages.

(d) The Board submitted that the CFL scheme has been recently implemented and the benefits of it would become visible in the current as well as in ensuing years. During the hearing the Board informed that a saving of 200 MU is estimated to result from the CFLs.

(e) The latest energy sale figures for FY09 also reveal a lower consumption in the industrial sector as compared to previous years. The current economic slow down has led to decline in consumption has been taken into account for projections.

(f) The Board has submitted the information on the actual power purchase cost incurred during FY09 along with revised projections for FY10 and FY11 to the Commission for approval. The tariff during initial years of operation of any new plant is generally high on account of heavy debt repayment requirements; therefore power purchase from new plants may vary and will be subject to true up based on the actual cost at the end of the financial year. In case delay in COD of new plants, there will be additional impact on the power purchase cost.

(g) The Board has received the due subsidy for the past years from the Government on account of domestic tariff.

(h) The Board is in the process of implementing GIS/GPS mapping after which the Board will be in a position to finalize the fixed asset registers.

(i) The purpose of MYT regime was to fix the targets for the Control Period and the information that has remained unchanged has not been submitted again with the revised ARR. There have been changes subsequent to the filing through validation sessions with the Commission and on account of more authentic figures on power purchase, loans, revenue and cost estimates. The Board acknowledged that there is an inadvertent error in representation of interest rate in the Format F9a and the same stands corrected.

(j) The Quality of Service formats stands submitted to the Commission vide submission dated February 5, 2009.

(k) The Board has proposed to infuse Rs. 120 Cr. as equity contribution towards on going projects and the same will be funded through the return allowed by the regulator in the tariff orders. Any shortage in the return is not envisaged to be met through the market borrowings.

(l) In the tariff proposal filed for FY10, the Board has taken steps towards cost of supply tariff, which can be witnessed from the substantial increment in the proposed tariff for domestic consumers as well. Regarding framing of employee yardstick, the Board suggests that such a study would make more sense when different aspects of business operate as separate entities as opposed to bundled operations where there is certain overlap in the costs.

Commission's observations:

3.6 The Commission agrees with the objectors that the tariff petition has many information gaps on many aspects, which necessitated multiple correspondences pointing out information deficiencies, which were supplied by the Board during the course of processing the petition.

3.7 Regarding the design energy of the various generation plants of the Board, the Commission fails to understand why the Board did not supply the requisite information. The Commission in its earlier order had directed the Board to undertake a study of the declining generation and in response to this, the Board has submitted a detailed position of the various plants, including the design energy. From the scrutiny of the report it was seen that some of the plants of the Board had not been able to achieve design energy, perhaps due to the fact that the capacity of some of the projects was over assessed. The Commission is concerned at the low generation of some plants and therefore has directed the Board to draw up a plan to increase the PLF of the various plants and initiate RMU of the older plants. For the purpose of this tariff order, the Commission has based the generation of Board's own plants on the data of actual generation of the last five years.

3.8 The Commission has exercised prudence checks and taken into consideration the concerns expressed by the various objectors while analyzing and evaluating the data submitted by the Board. The Commission's views have been brought out in the ensuing chapters where the various issues relating to the Board have been discussed in details.

Performance and functioning of the Board

3.9 The Objectors in their submissions cited various shortcomings in the functioning of the Board as well as highlighted operational deficiencies which are as follows:

(a) The Transmission & Distribution losses are projected at 15.50 % and the Board is claiming incentive on it for remarkable achievement, whereas the Board has achieved level of 13.41% during the year FY08. The high T&D losses projected for the Control Period indicates lack of commitment and commercial orientation on the part of the Board. T&D loss trajectory for the Control Period needs to review keeping in view the given actual loss level of 13.41% within the State for FY08.

(b) The move of the Board not to buy power from GoHP from certain projects as mentioned in Para 6.2 of the petition from FY10 onward is harmful for its business interests, as the total volume handled by Utility will reduce without any reduction in the fixed cost of the utility and the surplus generated by it will be badly affected.

(c) The excess employee cost claimed by the Board for FY08. It should be capped at the approved level and any increase against the approved level should not be allowed, as this is one of the controllable parameters. Employees of the Board should be absorbed with the newly created corporations. The Commission should not pass on the burden of increase in employee cost to the consumers due to Pay Commission's recommendations.

(d) The Board has estimated high loan amount and interest charges thereon against the approved loan and interest amount approved by the Commission for the Control Period, which shows inclusion of some loans for unapproved activities also. The details of same be given by the Board and the same may be disallowed also.

(e) The Board has projected excess interest on working capital @ 11.75% (to the tune of Rs.73 Cr) for the Control Period. The same should not be allowed and any reduction in interest rate may also be taken into account for working out interest on working capital loans.

(f) The return on equity is highly exaggerated. The equity of the Board might have been eroded by the cumulative losses over the past period and as such no equity is left for claiming any return. The increase in equity by Rs. 60 Cr (each year) in generation has been projected in FY10 and FY11 and the return on equity has been claimed accordingly. On the other than while projecting interest charges the Board claimed to finance the entire expansion from the procured capital. It should be stated that from where and for what purpose this increased equity would be infused.

(g) The present rate of purchase of free power (Rs. 3.04/Unit) seems to be on higher side and it should be close to average cost of power purchase from long-term sources.

(h) The Board to explore the funding of consultancies from different organizations such as USAID, World Bank, ADB etc.

(i) No justification of increase from Rs. 20.84 Cr to Rs. 29.45 Cr (nearly 50%) in the repair and maintenance cost during FY08. The projections made for Administrative and General Expenses as well as for Repair & Maintenance Expenses for the Control Period are on the higher side. As this falls under controllable parameters, no increase should be pass through to the consumers.

(j) The collection efficiency of the Board is unacceptably low.

(k) The depreciation claimed/projected during the Control Period is less than approved.

(l) The Board should take due consideration and suitability and appropriateness of the timing of the RMU activity so that the loss of generation on this account is reduced to the minimum.

(m) The GOI needs to be approached by GoHP to make special and increased allocation from the unallocated quota of CGSs. No justification of purchasing power from Barh-I during FY11 at average cost of 250 Paisa per unit as against 204 Paisa per unit considered for other thermal stations in Central Sector. No justification of purchasing power at rate of 300 Paisa per unit in case of power share from Koteshwar, Koldam, Parbati-III and Chamera-III.

(n) Whether the payment to PGCIL for wheeling of power over their system at the rate of Rs. 80000/MW/month is in accordance with the approved rates by the CERC.

(o) The revised ARR stipulates heavy revision in the controllable parameters, which is not permitted as per MYT regulations.

(p) There are hidden costs such as debt restructuring, loans raised to bridge the revenue gaps, interest on loans to meet the deficit, and these should not form part of the ARR.

(q) The generation cost of Larji and Khauli HEPs has been worked out on the basis of original cost and not the Capital Cost firmed up by the Commission.

(r) The loss arising out of under-performance for controllable parameters shall be to the licensee's account.

(s) A safe distribution network be ensured to minimise loss of human life.

Board's response:

3.10 The compilation of the replies to the above issues as filed by HPSEB is as follows:

(a) The Board has revised and proposed to achieve the same loss level of 14.5% by the end of Control Period in line with the trajectory set by the Commission and has considered the same level of T&D losses for computing the power purchase quantum. The Commission at the end of the Control Period shall true up any possible saving on account of lower T&D losses and benefit of the same will be passed on to the consumers.

(b) The Board has considered the availability of GoHP 12% free power share for the period Oct to April during FY10 and FY11. The quantum of sale outside the State may vary in case there is any decrease/increase in projections made for the sales within the State. The impact of the same will be factored at the end of each year of the Control Period, as this is considered as uncontrollable factor.

(c) The pay and allowances to the employees of the Board are linked to the increase in pay allowances of State Govt. employees. The apparent increase in the employees cost is due to partial approval of D.A. for the employees of the Board resulting into accumulation of heavy difference between actual payout made by the Board and that approved by the Commission.

(d) Interest and finance charges are based on the proposed capital expenditure plan for the Control Period and the existing loans raised by the Board. The Board has taken re-cognizance of the existing interest costs on account of new loans due to capital investments in the generation projects. The Board is actively seeking opportunities to restructure the high cost debts and pass on the benefit of restructuring to the consumers in subsequent years. The Board is not in a position to control interest costs at the level approved by the Commission and the borrowed funds are used to meet these expenses.

(e) It was informed by the Board in the hearing that major cost components apart from power purchase have remained constant over a period of time, in fact there has been a gradual decrease in two major cost components (employee cost & interest).

(f) The Board submitted that the details of actual interest paid on working capital are available in the MYT formats filed along with the petition. It has computed the working capital requirement for current and remaining years of Control Period as per MYT regulations. The working capital requirement has been revised due to increase in receivables projected for the Control Period.

(g) The Board has revised its equity infusion plan for the Control Period and is planning to invest equity to the tune of Rs. 120 Cr. in the existing as well as new generation schemes during FY10 and FY11.

(h) The cost of free power considered in the ARR is approved by the Commission and any downward revision is subject to the approval of the Commission.

(i) The projections made by the Board regarding consultancy charges are in line with the view taken by the Commission in the MYT order where the Commission has recognized and approved these expenses under head 'Provision for IT and other expenses'. These are one-time expenses and would lead to substantial benefits over a long period.

(j) The Board is taking due consideration of suitability and appropriateness of the timing of the RMU activity to gain maximum advantage both in terms of additional availability of power or revenue.

(k) To improve the collection efficiency, metering and consumer services have been considered a priority by the Board.

(l) The depreciation for the Control Period has been projected by applying FY08 actual depreciation rate on the opening balance of GFA and average of addition during the year has been projected for the Control Period. The decrease in the GFA of Generation Business during FY08 was due to extra ordinary internal transfer of assets worth Rs. 350.02 Cr to another division in the Board.

(m) The Board does take due consideration of suitability and appropriateness of the timing of the R&M activity so as to gain maximum advantage both in terms of additional availability of power or revenues. In spite of the ongoing R&M activity, Board is able to generate additional 44 MU during the FY09.

(n) An escalation of 3% per annum in the variable cost of power from NTPC station has been projected keeping in mind the rising fuel prices. The average cost of 204 Paisa per unit has been considered for Kahalgaon Thermal Power Plant Phase-II in FY09 and for future years average cost with an escalation of 3% has been considered. An average cost of 300 Paisa per unit has been considered for new central hydel projects like Koteshwar, Kodam (NTPC), Parbati-III and Chamera-III, with no escalation.

(o) The Transmission charges at rate of 80,000/-MW/month are payable to PGCIL by the Board for FY09. The inter-state transmission charges are based on the recent bills received during the year. The increase in transmission charges is due to the laying of new transmission lines in the northern region by PGCIL as well as increase in power quantum from the new plants being commissioned during FY10.

(p) The costs approved for the controllable factors in the MYT order were on much lower side and these need to be brought to justified level that leaves sufficient space for the licensee to improve.

(q) The Board was constrained to raise loans to fund its losses to continue its operations. The Commission has not approved the short-term loans raised to meet the revenue gap. Although comments have been made on the benefits accruing due to CFL scheme but neither of the objectors have expressed concern on the financing part.

(r) While computing the capital cost for small hydro plants, the Commission has used the current price levels and not the price levels indicated in the DPRs. The same approach should have been followed by the Commission for determination of capital cost for Larji and Khauli HEPs as well.

(s) The Commission has disallowed certain appropriate costs such as employee cost, interest cost etc. that were fairly projected by the Board. The Board has again submitted its' claim in the revised petition and has also requested in the public hearing that as per clause 5.5 of the MYT Order, the Commission may revisit the controllable costs based on the actuals after the true up of FY08.

(t) The Board has adopted the standards specified under APDRP and RGGVY schemes. The equipments and distribution lines are laid as per the norms fixed/ adopted at national level. These standard and norms are being followed in case of new lines and sub-stations being constructed with Board's own capital expenditure and with consumer cost sharing as per HPERC regulations. It is expected that the number of accidents would reduce in future.

Commission's observations:

3.11 The Commission has trued up the T&D loss trajectory over the control period, based on the actual T&D loss for FY08 as contained in the true-up order for FY08 and the revised trajectory has been mentioned in ChapterA4: of this order

3.12 The Commission has exercised prudence checks and taken into consideration the concerns expressed by the various objectors while analyzing and evaluating the data submitted by the Board. The Commission's views have been brought out in the ensuing chapters where the various issues relating to the Board have been discussed in details.

Regulatory Issues

3.13 The Objectors made the following submissions with respect to the regulatory principles adopted for the petition as well as their requests to the Commission:

(a) The quality of power is not to the desired extent. The standards provided under 'The Distribution Licensee's Standards of Performance Regulations, 2005,' be enforced strictly for the benefit of the consumers and more specifically to the continuous process industries.

(b) The Standards of Performance are not being followed in letter and spirit by the licensee with special reference to section 5 of the Regulations. The format of the consumer complaint (Form No. P3) does not indicate any details of the timeframe within which consumer complaints have been redressed. The reporting formats be revised to make it more meaningful.

Board's response:

3.14 The compilation of the replies to the above issues as filed by HPSEB is as follows:

(a) The quality and reliability of power is much better in comparison to the adjoining states. There are no/minimal outage on EHV system and sometimes load shedding is done due to technical reasons.

(b) The timeframe within which consumer complaints should have been redressed has been omitted in the P3 format. However, the time frame and details regarding fine and compensation paid are being submitted to the Commission on the quarterly and annual basis.

Commission's views:

3.15 The Commission has already finalized the key indices as per the Standards of Performance Regulations for each operation circle of the Board and the quality of supply would be monitored based on the improvement trajectory as decided by the Commission.

Tariff Related Issues

General

3.16 The objectors pointed out the following general issues related to the Tariff petition filed by the Board:

(a) The tariff projections made by the Board does not show the cost of supply (Generation plus purchase of power) as is worked out for the Board at different voltage levels. No effort on the part of the Board to reduce cross-subsidy while fixing tariff for various categories for the Control Period.

(b) The cost of supply of EHT category should not be enhanced from the present one i.e. at 120% of the cost of supply.

(c) Non-tariff income should be computed considering the demand charges, service charges, peak load exemption charges, penalties and departmental charges.

(d) Differential tariff for different geographical areas and incentivise the belts where low line losses or theft is reported and early payment incentives be also.

Board's response:

3.17 The compilation of the replies to the above issues as filed by HPSEB is as follows:

(a) Increase in retail tariff has been proposed in view of the estimated increased costs of the Board. The Commission to take an independent view on the issue of cross-subsidy.

(b) The Board is gradually moving towards the recommendations of the NTP so that tariff in the State is in the range of + 20% of the cost of supply. The Commission has also acknowledged the need for rationalizing the tariff gradually towards the cost of supply over a period of time.

(c) The revenue generated from demand charges is not booked under the non-tariff income and the same is reflected in the revenue from energy sales.

(d) The change in the rebate structure for supply of power at higher voltage level would require an increase in energy charges to maintain overall revenue neutrality. The Commission to take an independent view.

Commission's views:

3.18 For determining tariffs, the Commission would consider all the suggestions in the light of the provisions under section 61 of the Electricity Act 2003, the National Electricity Policy and the National Tariff Policy and the tariff philosophy the Commission has adopted over the last several years.

Small and Medium Industries

3.19 The objectors pointed out the following issues related to the Tariff petition for small and medium industries filed by the Board:

(a) Small and Medium power be clubbed and considered small power upto 100 KW.

(b) Tariff for the SMS sector (i.e. upto 100 KW) be fixed as par with agriculture sector. If not feasible, tariff be brought at par with the Small Sector for tariff upto 100 KW i.e. at Rs. 3.05 per unit without demand charges.

(c) Increase in Demand Charges from Rs. 75/- to Rs. 100/- per KW be waived off, otherwise bill should be on the basis of power consumed or demand charges, whichever is more.

Board's response:

3.20 The compilation of the replies to the above issues filed by the Board is as follows:

(a) No rationale for clubbing small and medium power together. Differential tariff is important so that consumers having high-connected load should be benefited by moving to higher voltage levels.

(b) It would be unreasonable to treat MSME at par with the agriculture sector as the profitability of the latter is subject to much adverse conditions and unpredictability of weather. The increase in the tariff has been proposed in view of the estimated increased costs of the Board during the Control Period.

(c) The revision in tariff proposed for small and medium power based on connected load is reasonable and does not merit change.

Commission's views:

3.21 The Commission is guided by the provisions of section 61 of the Electricity Act 2003 and also the National Electricity Policy (NEP) and National Tariff Policy with regard to tariff making. The Commission has addressed these issues in the Chapter A6 Tariff Philosophy and Design.

Large Industrial Power Supply

3.22 The objectors pointed out the following issues relating to Large Industrial Power Supply in the tariff petition filed by the Board:

(a) The Standard Supply Voltage should be based on Contract Demand of the consumers and not on the connected load as the contract demand would be the actual load on the system.

(b) The Standard Voltage up to 50 kVA contract demand be specified at LT voltage.

(c) Provision be made to charge demand charges on pro-rata basis providing relief for non-supply period. This will force the Board to provide continuous power.

(d) Corresponding reduction in Peak Load Exemption Charges on pro-rata basis should be allowed.

(e) One-time charges for seeking peak load exemptions. Additional charges be imposed on incremental increase.

(f) Need to rationalize the Peak Load Violation Charges- violation penalty to be imposed with the frequency of faults.

(g) Night hour concession be increased from 6 hours to 8 hours.

(h) Tariff increase proposed for the LIP category is very high.

(i) The peak hour supply charges are very high as compared to other States. No differential charges be imposed because the pooled rate of power for purchase of energy is worked out for the entire chunk of power over the year irrespective of the TOD.

(j) The Contract Demand Violation Charges are very high in the State. The penalty may be charged on pro-rata number of hours in a month.

(k) No peak load restrictions to continuous process industries.

Board's response:

3.23 The compilation of the replies to the above issues as filed by the Board is as follows:

(a) The Standard Voltages for supply were defined by HPERC in its Tariff Order for 2005-06 and surcharge was payable in case the supply is drawn at lower voltage level. This has been done to ensure quality and reliable power to consumers. The Board would like these provisions to continue in the ensuing years.

(b) There is merit in charging demand charges on the basis of contract demand as the consumers pay in proportion of the capacity blocked by them. The change in the basis of working out demand charges would require an increase in demand charges per kVA to maintain overall revenue neutrality.

(c) Any reduction in demand charges on account of non-availability of power would require alternate mode of recovery to ensure full recovery of the approved ARR. All possible efforts are made by the Board to ensure uninterrupted power supply and power cuts are imposed for reasons beyond its control. It may not be feasible to make any adjustment in tariff on this account.

(d) Peak load restrictions are imposed to bring discipline to the system and to flatten the load curve. These restrictions are reviewed periodically based on the power supply situations.

(e) Peak Load Exemption Charges are levied as approved by the Commission.

(f) Peak Load Violation charges are imposed to act as a deterrent to ensure grid discipline. Any violation during peak load restrictions cannot be ignored.

(g) The night time concessions are offered for effective demand side management and these are reviewed periodically based on the power supply situation. The existing provisions shall be reviewed after commissioning of new plants/capacity additions during the Control Period.

(h) The increase in tariff for the LIP category has been proposed in view of the estimated increased costs of the Board during the Control Period.

(i) The kVAH based demand charges automatically benefit the consumers who have a higher power factor. However, proposal for higher load factor incentives is being routed.

(j) The existing power supply constraints in the State do not permit a system where consumers can freely choose their consumption pattern, because of shortages in peak capacity. Moreover, these restrictions are imposed to bring discipline to the system and flatten the load curve.

(k) Peak Load Violation Charges are levied to act as a deterrent to ensure grid discipline. Any instance of peak load hour violation cannot be ignored and as such the Board levies the penalty even in case of a single instance of peak load violation.

Commission's views:

3.24 Regarding re-categorisation on kVA basis, the Commission is of the opinion that the data available with the Board is presently on KW basis and in the absence of proper data, correct assessment of the impact of the re-categorization would not be possible. Further, in view of the two-part tariff put in place, the connected load has no relevance with respect to tariffs.

3.25 For determining tariffs, the Commission would consider all the suggestions in the light of the provisions under section 61 of the Electricity Act 2003, the National Electricity Policy and the National Tariff Policy.

A4: ANALYSIS OF THE REVISED AGGREGATE REVENUE REQUIREMENT (ARR) OF HPSEB FOR FY10, FY11

Introduction

4.1 The Commission has analyzed the revised Aggregate Revenue Requirement (ARR) petition for FY10 and FY11 submitted by the Petitioner (HPSEB) for approval of revised Aggregate Revenue Requirement (ARR) of HPSEB and determination of Wheeling and Retail Supply Tariffs for FY10.

4.2 The Commission held several rounds of technical discussions to validate the data submitted by the Petitioner and sought further clarifications on various issues. The Commission has considered all information submitted by the Petitioner as part of the review petition, audited accounts for past years, responses to various queries raised during the discussions and also during the public hearing, for determination of tariff.

4.3 This section contains detailed analysis of the revised MYT petition and various parameters approved by the Commission for determination of ARR for HPSEB as a whole.

Aggregate Revenue Requirement (ARR) of HPSEB as per MYT order

4.4 The Aggregate Revenue Requirement approved by the Commission for the HPSEB for the Control Period (FY09-FY11) under its MYT order dated May 30, 2008 is summarized in the table below:

Table 30: Approved ARR for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Power Purchase Expenses	1194.09	1458.40	1798.94
PGCIL Charges	81.30	97.58	117.78
Baspa Arrears	43.83	43.83	43.83
Operation & Maintenance Costs	641.70	675.91	714.73
Provision for New Recruitments	5.40	7.97	7.97
Provision for IT & Other Initiatives	18.16	23.30	1.28
Interest & Financing Charges	178.90	174.97	177.49
Depreciation	100.15	118.03	133.71
Return on Equity	41.69	41.69	41.69
Less: Interest & Expenses Capitalisation	83.34	75.02	61.56
Less: Non Tariff Income	94.92	99.66	104.64
True up FY07	(105.51)		
Aggregate Revenue Requirement	**2021.47**	**2467.01**	**2871.23**

4.5 The Commission has also approved the segregated ARR for Generation , Transmission and Distribution as shown below:

Total Generation ARR/AFC as per MYT order

4.6 The Commission had added the individual ARR/AFC of the HEPs to arrive at the total generation ARRs/AFC. Considering the total loan repayment and the accumulated depreciation for the total generation business, there was no requirement for providing for AAD in FY09 and FY10.

Table 31: Total Generation ARR/AFC

Particular	Unit		Control Period		
		FY08	FY09	FY10	FY11
Gross Generation	MU	1864.94	1780.83	1962.11	1962.11
Total Auxiliary	MU	19.16	18.71	20.19	20.19
Net Generation at Bus	MU	1845.78	1762.12	1941.92	1942.00
Less: Free Power to GoHP	MU	94.68	89.97	89.97	89.97
Energy available for Sale	**MU**	**1751.10**	**1672.15**	**1851.95**	**1851.95**
O & M Expenses	Rs Cr	53.84	56.00	59.13	61.49
Repair & Maintenance	Rs Cr	6.33	6.58	6.95	7.23
Employee Expenses	Rs Cr	40.07	41.68	44.01	45.77
A & G Expenses	Rs Cr	7.44	7.74	8.17	8.50
Depreciation	Rs Cr	46.08	46.08	47.33	48.59
AAD	Rs Cr	0.00	0.00	0.00	62.44
Interest Charges	Rs Cr	91.52	82.32	74.16	65.92
Return on Equity	Rs Cr	13.04	13.04	13.04	13.04
Interest on Notional Loan	Rs Cr	0.00	0.00	0.00	0.00
Interest on Working Capital	Rs Cr	6.00	6.31	6.26	6.22
Less: Expense Capitalization	Rs Cr		9.73	0.80	2.97
Annual Fixed Charge	**Rs Cr**	**210.47**	**194.00**	**199.12**	**192.29**
Sale Rate of Energy	P/kWh	120	116	108	104

4.7 The total ARR/AFC for the generation business of the Board as determined by the Commission for the Control Period was Rs 194.00 Cr for FY09, Rs 199.12 Cr for FY10 and Rs 192.29 Cr for FY11.

ARR of Transmission Business as per MYT order

4.8 The ARR of Transmission business for the Control Period as approved by the Commission in its MYT Order dated May 30, 2008 is summarized in the table below:

Table 32: ARR of Transmission business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Operation & Maintenance Costs	63.97	67.29	70.24
Interest & Financing Charges	21.13	25.96	37.68
Depreciation	21.21	25.65	30.92
Return on Equity	11.07	11.07	11.07
Less: Interest & Expenses Capitalised	10.43	9.23	6.56
Less: Non Tariff Income	0.00	0.00	0.00
Aggregate Revenue Requirement	**106.94**	**120.73**	**143.34**

ARR of Distribution Business as per MYT order

4.9 The ARR of Distribution business for the Control Period as approved by the Commission in its MYT Order is summarized in the table below:

Table 33: ARR of Distribution business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Power Purchase Expenses	1388.09	1657.51	1991.23
Transmission Charges	188.24	218.30	261.12
Baspa Arrears	43.83	43.83	43.83
Operation & Maintenance Costs	521.73	549.50	583.00
- Employee Cost	479.37	502.25	528.57
- R&M Cost	17.42	22.11	27.97
- A&G Cost	24.94	25.15	26.47
Provision for New Recruitments	5.40	7.97	7.97
Provision for IT & Other Initiatives	18.16	23.30	1.28
Interest & Financing Charges	69.15	68.59	67.67
Depreciation	32.87	45.05	54.20
Total Return	17.59	17.59	17.59
Less: Non Tariff Income	94.92	99.66	104.64
Less: Capitalisation of Interest & Expenses	63.18	64.99	52.04
True up FY07	(105.51)		
Aggregate Revenue Requirement	**2021.47**	**2467.01**	**2871.23**

4.10 The Distribution Business was further segregated in Wheeling Business and Retail Supply Business. The Aggregate Revenue Requirement of Wheeling and Retail Supply for the Control as approved by the Commission in its MYT Order is summarized in the tables below:

Table 34: ARR of Wheeling business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Operation & Maintenance Costs	366.20	386.56	411.05
Provision for New Recruitments	5.40	7.97	7.97
Interest & Financing Charges	68.82	66.85	64.37
Depreciation	32.87	45.05	54.20
Return on Equity	15.39	15.39	15.39
Less: Non Tariff Income	6.22	6.53	6.85
Less: Capitalisation of Interest & Expenses	48.07	48.90	36.15
Aggregate Revenue Requirement	**434.40**	**466.39**	**509.98**

Table 35: Approved ARR of Retail Supply business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Power Purchase Expenses	1388.09	1657.51	1991.23
Transmission Charges	188.24	218.30	261.12
Baspa Arrears	43.83	43.83	43.83
Operation & Maintenance Costs	155.56	162.97	171.98
Provision for IT & Other Initiatives	18.16	23.30	1.28
Interest & Financing Charges	0.32	1.74	3.30
Supply Margin	2.20	2.20	2.20
Less: Non Tariff Income	88.70	93.13	97.79
Less: Capitalisation of Interest & Expenses	15.11	16.08	15.89
True up FY07	(105.51)		
Aggregate Revenue Requirement	**1587.07**	**2000.62**	**2361.25**

Rationale for the Review

4.11 As per the MYT Regulations issued by the Commission, the base year of the Control Period is the financial year immediately preceding the first year of the Control Period i.e. FY08. The Commission had further clarified in the MYT Order that all the expenses projection and trajectory for the Control Period may be trued up by the Commission as and when the audited accounts for FY08 are made available.

4.12 The Commission in its True up Order for FY07 had presumed that the T&D loss number for FY07 of 14.19% as per True up petition and overall T&D loss of 13.77% as per audited accounts, were on account of accounting error in sales figure which was distorting the T&D loss figure and had accordingly accepted revised figure of sales and T&D loss (17%) given by the Board and also directed the Board to inquire into the lapse, if any and submit the report to the Commission. The Board however did not submit any report in this matter. The Commission in its MYT Tariff Order had approved T&D loss figure of 16.5% for FY08 based on the revised T&D loss for FY07 at 17% and had accordingly used this as a base figure for MYT projections.

4.13 Now the Commission observes that the T&D loss for FY08 is 13.41% as per the True up petition filed by the Board and overall T&D losses are 13.52% as per audited accounts, evidently confirming that there is a secular trend in T&D loss figure since FY07.

4.14 On the basis of the analysis of the audited accounts for FY08 submitted by the Board for truing up, it is observed that the actual T&D loss figure for the Board, as per the true up order dated 11-8-2009, stood at 13.49%.

4.15 For the Control Period (FY09-FY11) in MYT order dated May 30, 2008, the Commission had considered the T&D loss reduction trajectory of 0.75%, 0.75% and 0.5% in FY09, FY10 and FY11 respectively to reach a level of 14.5% by the end of the Control Period from base level of 16.5% at the start of the MYT period (FY08).

4.16 Since the Board has stood by the audited figures for T&D losses, the Commission is left with no option but to revise the T&D loss trajectory for the Control Period. In fact, all the objectors had also pointed out that in view of the Board having achieved a T&D loss level of 13.52% in the FY08, the much higher level of T&D loss assumed by the Commission for MYT period should be reviewed on the basis of actual figures of FY08.

4.17 The Commission is therefore revising the T&D loss trajectory for the Control Period based on the actual T&D loss levels in the base year FY08. Consequent to the revision of the T&D loss trajectory for the Control Period, the Commission has revised the energy balance, quantum of power purchase and the corresponding cost of power purchase for the Control Period.

4.18 The Commission has trued up the ARR and revenue projections of the Board for FY08 based on the audited accounts submitted by the Board. As there are significant changes in the base year (FY08) projections made by the Commission in its MYT Order and the values approved by the Commission in the True Up Order dated 11-8-2009 for FY08, the Commission reviews the trajectory for the following uncontrollable and controllable components:

(a) Power purchase expenses;

(b) Operation and maintenance expenses;

(c) Interest and finance charges;

(d) Depreciation; and

(e) Non tariff income.

4.19 The Board, in its petition, has also sought revision of these parameters citing clause 5.3 of the MYT Order dated May 30, 2008.

T&D Losses

4.20 As per the true up order dated 11-8-2009 for FY08, the Board has already achieved T&D loss level of 13.49% in FY08. For the Control Period, the Commission has now considered a revised T&D loss reduction trajectory of 0.35%, 0.35% and 0.30% in FY09, FY10 and FY11 respectively to reach a level of 12.49% by the end of the Control Period.

4.21 The revised T&D loss trajectory for the Control Period (FY09-FY11) shall be as shown in the table below:

Table 36: Approved T&D losses for the Control Period

Losses (%)	FY09	FY10	FY11
	Approved	Approved	Approved
Opening T&D Loss (%)	13.49%	13.14%	12.79%
T&D Loss Reduction (%)	0.35%	0.35%	0.30%
T&D Losses for the year (%)	13.14%	12.79%	12.49%
Transmission Losses (%)	3.71%	3.71%	3.71%
Distribution Losses (%)	9.79%	9.43%	9.12%

4.22 For the purpose of calculating the incentive/ penalty on account of over/under achievement of T&D loss reduction target, the Commission would consider the following:

(a) **First year of the Control Period**: The Petitioner shall be eligible for an incentive if the T&D loss reduction in the first year of the Control Period is above 0.35%. Any under recovery in the revenue realized, if the T&D loss reduction in the first year of the Control Period is below 0.20%, shall be to the account of the Petitioner. The Petitioner shall not be eligible for any incentive or penalty if the T&D loss reduction in the first year of the Control Period is between 0.20% and 0.35%.

(b) **Second year of the Control Period**: The Petitioner shall be eligible for an incentive if the cumulative value of loss reduction in that year and in the previous year is over 0.70%. Any under recovery in the revenue realized, if the T&D loss reduction in the second year of the Control Period is below 0.20% and that the cumulative value of loss reduction in that year and in the previous year is below 0.55%, shall be to the account of the Petitioner. The Petitioner shall not be eligible for any incentive or penalty if the cumulative T&D loss reduction in the first and second year of the Control Period is between 0.55% and 0.70%.

(c) **Last year of the Control Period**: The Petitioner shall be eligible for an incentive if the cumulative value of loss reduction at the end of the Control Period is over 1.0%. Any under recovery in the revenue realized, if the T&D

loss reduction in the last year of the Control Period is below 0.20% and that the cumulative value of loss reduction at the end of the Control Period is below 1%, shall be to the account of the Petitioner.. The Petitioner shall not be eligible for any incentive or penalty if the cumulative T&D loss reduction at the end of the Control Period is 1.0%.

4.23 As per the clause 8 (3) of MYT Distribution Regulations, the incentives/ profits arising from achieving loss level better than specified in the loss reduction trajectory shall be shared in the ratio of 2/3rd with the licensee and 1/3rd in the contingency reserve for the first Control Period.

Energy Requirement

4.24 The Commission's estimates of energy requirement at distribution periphery for the Control Period are based on the approved sales figure in its MYT order dated May 30, 2008 and the revised T&D loss reduction trajectory now approved by the Commission. The Commission's estimates for energy requirement are tabulated below:

Table 37: Approved Energy Requirement for the Control Period

Energy Requirement	FY09	FY10	FY11
	Approved	Approved	Approved
Sales (MU)	5782.16	6501.48	7156.58
Distribution Losses (%)	9.79%	9.43%	9.12%
Energy Requirement at distribution periphery (MU)	6409.90	7178.39	7874.61

Power Purchase

4.25 The Commission has not changed its plant-wise projection of energy availability and power purchase cost. The power purchase cost of the Petitioner has changed due to the change in the quantum of energy requirement now approved by the Commission.

Source of Power

4.26 Following power generating stations have been considered for the purpose of estimation of power availability for the Control Period.

(a) HPSEB own generating stations

(b) Purchase from Central Generating Stations of NTPC, NHPC, SJVNL, NPC and Tehri

(c) Purchase from Baspa, Patikari HEPs and private SHPs upto 5 MW

(d) Purchase from BBMB and shared stations

(e) Purchase of Free & Equity power from GoHP

(f) Purchase through bilateral short term arrangements

(g) New Plants expected to be commissioned during the Control Period

(h) Banking arrangements

Allocation in Generating Stations

Allocation from HPSEB own stations

4.27 The Commission has considered the following allocation from HPSEB's own generating stations while estimating the power availability to HPSEB from these stations.

Table 38: Allocation from HSPEB own stations

Station	FY09 to FY11 Allocated
Bhaba	100.00%
Bassi	100.00%
Giri	100.00%
Andhra	100.00%
Ghanvi	88.00%
Baner	88.00%
Gaj	88.00%
Binwa	100.00%
Thirot	100.00%
Gumma	100.00%
Holi	100.00%
Larji	88.00%
Khauli	88.00%
SHPs	100.00%

Allocation from Central Sector Generating Stations (CSGS)

4.28 HP has firm allocated share in Central Sector Generating Stations (CSGS) of NTPC, National Hydroelectric Power Corporation (NHPC), Tehri Hydro Development Corporation (THDC), Satluj Jal Vidyut Nigam Limited (SJVNL) and Nuclear Power Corporation Limited (NPCIL).

4.29 In addition to the firm share allocation, most of these stations (except Bairasuil, Salal, Tanakpur, Chamera-I and Uri stations of NHPC) have 15% unallocated power. The distribution of this unallocated power among the constituents of Northern Region is decided from time to time, based on the power requirement and power shortage in different States.

4.30 The Commission has considered allocation of firm power of CSGS as per the allocations effective from 27 October, 2007 as specified in the notification no. NRPC/SE(O)/Allocations/2008-09 dated 11 April, 2008 of Northern Regional Power Committee.

4.31 The Petitioner's share in CSGS unallocated quota vary from time to time based on the allocation made to HP depending upon power requirement and power shortage in different States. Therefore, the Commission has considered monthly share of firm and unallocated power for HP in CSGS FY07 and FY08 sourced from the Final REA of March 2007 and Provisional REA of March 2008.

4.32 State's share in Central Sector Generating Stations is summarized below:

Table 39: Firm Allocation from Central Sector Generating Stations (CSGS)

Station	FY09 to FY11
	Allocated
NTPC	
Anta GPP	3.58%
Auriya GPP	3.32%
Dadri GPP	3.01%
Unchahar-I	1.67%
Unchahar-II	2.86%
Unchahar-III	3.81%
Rihand-1 STPS	3.50%
Rihand-2 STPS	3.30%
Singrauli STPS	0.00%
Kahelgaon – II	1.53%
NPCIL	
NAPP	3.18%
RAPP (V & VI)	3.40%
NHPC	
Salal	0.99%
Tanakpur	3.84%
Chamera I	2.90%
Chamera II	3.67%
Uri	2.71%
Dhauliganga	3.57%
THDC	
Tehri	2.80%

Station	FY09 to FY11
	Allocated
SJVNL	
Nathpa Jhakri HEP	2.47%
BBMB	
BBMB (Old)	Fixed[1]
BBMB (New)	2.12%
Dehar	Fixed[2]

Table 40: Unallocated Share from Central Sector Generating Stations (CSGS)

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
NTPC												
Anta GPP	1.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.32%	1.37%	1.47%	1.47%	1.46%
Auriya GPP	0.95%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.91%	0.96%	1.01%	1.01%	1.02%
Dadri GPP	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.62%	0.64%	0.67%	0.69%	0.69%
Unchahar-I	0.47%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.49%	0.49%	0.49%	0.47%	0.49%
Unchahar-II	1.51%	0.73%	0.00%	0.00%	0.00%	0.00%	0.25%	1.53%	1.54%	1.54%	1.51%	1.53%
Unchahar-III	1.38%	0.57%	0.00%	0.00%	0.00%	0.00%	0.24%	1.53%	1.52%	1.53%	1.47%	1.53%
Rihand-1 STPS	1.46%	0.52%	0.00%	0.00%	0.00%	0.00%	0.37%	1.54%	1.54%	1.54%	1.51%	1.54%
Rihand-2 STPS	1.47%	0.50%	0.00%	0.00%	0.00%	0.00%	0.24%	1.54%	1.54%	1.55%	1.52%	1.54%
Singrauli STPS	1.47%	0.52%	0.00%	0.00%	0.00%	0.00%	0.23%	1.54%	1.54%	1.54%	1.54%	1.54%
Kahelgaon – II	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NPCIL												
NAPP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.24%	1.49%	1.49%	0.00%	1.52%	1.49%
RAPP (V & VI)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NHPC												
Salal	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Tanakpur	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Chamera I	1.76%	0.68%	0.00%	0.00%	0.00%	0.00%	0.26%	1.98%	1.98%	1.99%	2.01%	1.88%
Chamera II	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Uri	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Dhauliganga	1.49%	0.53%	0.00%	0.00%	0.00%	0.00%	0.16%	1.61%	1.67%	1.67%	1.66%	1.59%
Dulhasti	1.47%	0.63%	0.00%	0.00%	0.00%	0.00%	0.20%	1.58%	1.65%	1.66%	1.65%	1.53%
THDC												
Tehri	0.98%	0.35%	0.00%	0.00%	0.00%	0.00%	0.17%	1.09%	1.11%	1.10%	1.11%	1.05%

[1] BBMB (old) share: 1.2 LU per day

[2] Dehar share: 15 MW at 60% PLF

Stations	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
SJVNL												
Nathpa Jhakri	0.96%	0.35%	0.00%	0.00%	0.00%	0.00%	0.15%	1.07%	1.09%	1.11%	1.11%	1.04%

Allocation from Shared Stations

4.33 HP has firm allocated share in Shanan, Shanan (ext), UJVNL and Khara. The allocation from these stations considered by the Commission for the Control Period is shown below:

Table 41: Allocation from Shared Stations

Station	FY09 to FY11
	Allocated
Shanan	Fixed[3]
Shanan Ext	Fixed[4]
Yamuna (UJVNL)	24.68%
Khara	20.00%

Allocation from IPPs & Private projects

4.34 The allocation from IPPs and other private projects as considered by the Commission for the Control Period is shown below:

Table 42: Allocation from IPPs & Private projects

Stations	FY09 to FY11
	Allocated
Baspa-II	88.00%
Patikari	88.00%
Pvt SHPs	100.00%

Allocation from Free & Equity Power

4.35 GoHP has free power & equity power entitlements in several stations as shown in the table below. HPSEB gets free & equity power from GoHP during the winter months.

Table 43: Free & Equity Power Entitlement to GoHP

Station	FY09 to FY11
	Allocated
Baira Suil	12.00%

[3] Shanan Share: Fixed share of 1000 kW at 60% PLF

[4] Shanan Ext: Fixed share of 45 MU per annum

Station	FY09 to FY11
	Allocated
Chamera-I	12.00%
Chamera –II	12.00%
Shanan Share	Fixed[5]
Ranjeet Sagar Dam Share	4.60%
Malana	15.00%
Baspa – II	12.00%
Patikari	12.00%
Nathpa Jhakri	12.00%
Ghanvi	12.00%
Baner	12.00%
Gaj	12.00%
Larji	12.00%
Khauli	12.00%
Equity Power	
Nathpa Jhakri	22.00%

Allocation from New Projects

4.36 The Commission has considered the Board's entitlement in upcoming projects while projecting the availability to HPSEB from these stations for the Control Period. The summary of the same is shown in the table below.

4.37 In the review petition the Board has provided revised COD schedule for some of the projects which have been considered in the MYT order. The Commission shall take into consideration the actual status of the new projects scheduled to be commissioned during the Control Period (FY09-FY11) during the True-up.

Table 44: Allocation from New Projects

Station	FY09 to FY11		
	Allocated	Unallocated	Total
Barh I & II	5.00%	1.53%	6.53%
Koldam	2.75%	15.00%	17.75%
Chamera III	2.75%	15.00%	17.75%
Parbati II	2.75%	15.00%	17.75%
Parbati III	2.75%	15.00%	17.75%
Koteshwar	2.51%	0.00%	2.51%

[5] Shanan Free Power Share: Fixed share of 500 kW at 60% PLF

Energy Availability

Energy Availability from HPSEB own stations

4.38 The Commission has estimated net energy available to the Petitioner during the Control Period as approved in the MYT order shown in table below:

Table 45: Energy Available from HPSEB Own Stations in FY09 (MU)

Station	FY09			
	Generation	Aux Consumption	Allocation	HPSEB Share
Bhaba	530.02	1.20%	100.00%	523.65
Bassi	176.00	0.70%	100.00%	174.77
Giri	173.34	0.70%	100.00%	172.13
Andhra	60.60	1.00%	100.00%	59.99
Ghanvi	70.34	1.20%	88.00%	61.16
Baner	43.40	1.00%	88.00%	37.81
Gaj	48.75	1.00%	88.00%	42.47
Binwa	31.95	0.70%	100.00%	31.73
Thirot	6.51	0.70%	100.00%	6.47
Gumma	8.46	0.70%	100.00%	8.40
Holi	10.23	0.70%	100.00%	10.16
Larji	546.25	1.20%	88.00%	474.93
Khauli	49.60	0.70%	88.00%	43.34
SHPs	25.39	0.92%	100.00%	25.15
Total	**1780.82**	**-**	**-**	**1672.15**

Table 46: Energy Available from HPSEB Own Stations in FY10 (MU)

Station	FY10			
	Generation	Aux Consumption	Allocation	HPSEB Share
Bhaba	572.29	1.20%	100.00%	565.42
Bassi	315.00	0.70%	100.00%	312.80
Giri	173.34	0.70%	100.00%	172.13
Andhra	60.60	1.00%	100.00%	59.99
Ghanvi	70.34	1.20%	88.00%	61.16
Baner	43.40	1.00%	88.00%	37.81
Gaj	48.75	1.00%	88.00%	42.47
Binwa	31.95	0.70%	100.00%	31.73
Thirot	6.51	0.70%	100.00%	6.47
Gumma	8.46	0.70%	100.00%	8.40
Holi	10.23	0.70%	100.00%	10.16
Larji	546.25	1.20%	88.00%	474.93

Station	FY10			
	Generation	Aux Consumption	Allocation	HPSEB Share
Khauli	49.60	0.70%	88.00%	43.34
SHPs	25.39	0.92%	100.00%	25.15
Total	**1962.10**	**-**	**-**	**1851.95**

Table 47: Energy Available from HPSEB Own Stations in FY11 (MU)

Station	FY11			
	Generation	Aux Consumption	Allocation	HPSEB Share
Bhaba	572.29	1.20%	100.00%	565.42
Bassi	315.00	0.70%	100.00%	312.80
Giri	173.34	0.70%	100.00%	172.13
Andhra	60.60	1.00%	100.00%	59.99
Ghanvi	70.34	1.20%	88.00%	61.16
Baner	43.40	1.00%	88.00%	37.81
Gaj	48.75	1.00%	88.00%	42.47
Binwa	31.95	0.70%	100.00%	31.73
Thirot	6.51	0.70%	100.00%	6.47
Gumma	8.46	0.70%	100.00%	8.40
Holi	10.23	0.70%	100.00%	10.16
Larji	546.25	1.20%	88.00%	474.93
Khauli	49.60	0.70%	88.00%	43.34
SHPs	25.39	0.92%	100.00%	25.15
Total	**1962.10**	**-**	**-**	**1851.95**

Energy Availability from the Central Sector Generating Stations (CSGS)

4.39 For all the generating stations that are in the Northern Region and wherein the power comes through PGCIL network to HP, regional losses of 3.50% has been considered by the Commission. For Kahalgaon-II and Barh-I & II, Eastern Region losses of 3.0% have also been considered.

4.40 The energy availability from the CSGS for the Control Period has been considered as approved in the MYT order. The effective share of the Petitioner is applied on the energy sent out to estimate the energy availability for the Petitioner from respective stations. Energy sent out from the CSGS and the Petitioner's share of energy in each station are summarized below in the table:

Table 48: Energy Available from Central Sector Generating Stations (CSGS)

Station	Capacity (MW)	PLF (%)	Aux Consumption	Energy sent Out (MU)	HPSEB share (MU)
NTPC					
Anta GPP	419.33	77.41%	3.00%	2758.26	118.02

Station	Capacity (MW)	PLF (%)	Aux Consumption	Energy sent Out (MU)	HPSEB share (MU)
Auriya GPP	663.36	75.62%	3.00%	4262.64	162.19
Dadri GPP	829.78	75.51%	3.00%	5324.21	177.67
Unchahar-I	420.00	95.13%	8.77%	3192.98	61.81
Unchahar-II	420.00	92.53%	9.00%	3098.03	115.12
Unchahar-III	210.00	95.43%	9.00%	1597.55	73.98
Rihand-1 STPS	1000.00	86.98%	8.50%	6972.04	302.14
Rihand-2 STPS	1000.00	94.82%	7.50%	7683.48	316.79
Singrauli STPS	2000.00	87.19%	7.75%	14092.20	115.98
Kahalgaon – II	1500.00	80.00%	9.00%	10308.91	158.07
NPCIL					
NAPP	440.00	40.00%	9.50%	976.70[6]	36.07
RAPP (V & VI)	440.00	60.00%	9.50%	1883.65[7]	64.04
NHPC					
Salal	690.00		1.00%	3020.67	29.90
Tanakpur	94.20		1.00%	443.19	17.02
Chamera I	540.00		1.00%	1628.13	47.22
Chamera II	300.00		1.00%	1467.07	64.38
Uri	480.00		1.00%	2530.77	68.58
Dhauliganga	280.00		1.00%	1109.86	43.84
Dulhasti	390.00		1.00%	1698.84	8.73
THDC					
Tehri	1000.00		1.00%	2745.27	86.18
SJVNL					
Nathpa Jhakri	1500.00		1.20%	6323.20	181.34
BBMB					
BBMB (Old)	1480.30			Fixed	43.80
BBMB (New)	1480.30		1.00%	6286.50	133.27
Dehar	990.00			Fixed	78.84

[6] NAPS Plant Availability – 70%

[7] RAPS Plant Availability – 90%

Energy Available from Shared Stations

4.41 The energy availability from shared stations has been approved as shown in the table below:

Table 49: Energy Available from Shared Stations

Station	Capacity (MW)	Aux Consumption	Energy sent Out (MU)	HPSEB share (MU)
Shanan	60.00		Fixed	5.26
Shanan (Ext)	50.00		Fixed	45.00
Yamuna	474.75	1.00%	1596.59	394.04
Khara	72.00	1.00%	281.87	56.37

Allocation from IPPs & Private projects

4.42 The total energy available from Baspa-II HEP has been considered at design energy of Baspa i.e. 1193 MU and the energy available to HPSEB out of it has been considered as per the existing PPA i.e. 1050.06 MU. The total energy availability from Patikari HEP has been considered at. 78.02 MU as per the existing PPA and share of HPSEB from Patikari HEP has been considered at 68.66 MU, after reducing the 12% free power entitlement of GoHP.

Table 50: Energy Available from Baspa & Patikari

Station	Capacity (MW)	Design Energy (MU)	HPSEB Share (MU)
Baspa-II	300.00	1193.25	1050.06
Patikari	16.00	78.02	68.66

4.43 The energy available from private SHPs during the Control Period as considered by the Commission is shown in the table below.

Table 51: Energy Available from Private SHPs (MU)

Station	FY08	FY09	FY10	FY11
Existing Generation	147.34			
Capacity Addition (MW)		50	50	50
Additional Generation (MU)		100	300	500
Energy Available (MU)		247.34	447.34	647.34

Energy Available from Free & Equity Power (Existing projects)

4.44 The GoHP has 12% free power share in 5 of the HPSEB power plants viz. Ghanvi, Baner, Gaj, Larji & Khauli. The GoHP also has free power share of 12% in three of the NHPC plants (i.e. Baira Suil, Chamera I & Chamera II), Shanan (500 kW), 4.6% in Ranjeet Sagar Dam, 12% in Baspa II & Nathpa Jhakri and 15% in Malana. GoHP also has 22% equity share in Nathpa Jhakri.

4.45 The GoHP has agreed to provide free power from these plants to the Board during October to April, when the Board is deficit in energy. The equity power from Nathpa Jhakri is considered to be made available during the winter months (Nov – Mar).

4.46 The table below shows the Commission's estimates of energy availability to HPSEB plant-wise:

Table 52: Energy Available Free Power (MU)

Station	Total Energy Available	Aux Consumption	Energy Sent Out	Free Power Available to GoHP	Free Power Available to HPSEB (Oct - Apr)
Baira Suil	726.36	1.00%	719.09	86.29	32.81
Chamera-I	1644.58	1.00%	1628.13	195.38	59.69
Chamera –II	1481.89	1.00%	1467.07	176.05	65.99
Shanan Share	2.63	Fixed	2.63	2.63	1.53
Ranjeet Sagar Dam	1546.34	1.00%	1530.87	70.42	24.65
Malana	350.00	1.00%	346.50	51.98	17.61
Baspa – II	1213.18	1.64%	1193.25	143.19	42.44
Patikari	78.02	0.00%	78.02	9.36	2.87
Nathpa Jhakri	6400.00	1.20%	6323.20	758.78	267.21
Ghanvi	70.34	1.20%	69.50	8.34	3.40
Baner	43.40	1.00%	42.97	5.16	2.18
Gaj	48.75	1.00%	48.26	5.79	2.49
Larji	546.25	1.20%	539.70	64.76	19.83
Khauli	49.60	0.70%	49.25	5.91	2.39
Total	**14201.33**		**14038.44**	**1584.04**	**545.08**

Table 53: Energy Available from Nathpa Jhakri (Equity Power) (in MU)

Station	Total Energy Available	Aux Consumption	Energy Sent Out	Equity Power Available to GoHP	Equity Power Available to HPSEB (Nov - Mar)
Nathpa Jhakri-Equity Power	6400.00	1.20%	6323.20	1391.10	324.04

Energy Available from New Projects

4.47 The Board has submitted revised commissioning schedule for new projects in the review petition. The Commission has not revised the commissioning schedule as approved in the MYT order as the same shall be taken care of during the true-up for power purchase for FY09.

4.48 Energy available from the future stations has been considered as per the allocation share specified earlier in this section. The Commission has assumed PLF of 80% for thermal and design energy for hydro plants respectively auxiliary consumption has been assumed at 9% for coal fired thermal projects and 1% for hydro projects (including 0.5% transformational loss).

4.49 Energy availability to the Petitioner in the Control Period from future projects as considered by the Commission is summarized below in the table:

Table 54: Energy Available from New Projects (MU)

Station	FY09	FY10	FY11
Barh I & II	0.00	342.62	663.40
Koldam	0.00	230.90	548.26
Koldam (Free Power)	0.00	52.89	125.57
Chamera III	0.00	0.00	75.56
Parbatti II	Unlikely to be commissioned during the Control Period		
Parbatti III	0.00	0.00	56.23
Parbatti III (Free Power)	0.00	0.00	12.88
Koteshwar	0.00	0.00	43.19

Other Sources, Bilateral and Short Term Arrangements and Banking

4.50 For the purpose projecting the power purchase from Bilateral, short term arrangements and Banking, the Commission has carried out a month-wise demand supply analysis for each year of the Control Period. The summary of the same is shown in the tables below:

Table 55: Monthly Demand Supply Position (MU) in FY09

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Total Sales (MU)	419.64	446.27	457.59	483.39	465.04	493.54	485.59	488.94	488.45	517.82	506.14	529.76	**5782.16**
Distribution Losses (MU)	45.56	48.45	49.68	52.48	50.49	53.58	52.72	53.08	53.03	56.22	54.95	57.51	**627.74**
Demand at Distribution Periphery (MU)	465.20	494.72	507.26	535.87	515.53	547.12	538.31	542.02	541.48	574.04	561.08	587.27	**6409.90**
Power Purchase Outside State (MU)	370.97	325.11	408.15	436.10	446.25	360.32	315.78	400.38	384.19	363.60	338.82	402.66	**4552.32**
PGCIL Transmission Losses (MU)	13.36	11.77	14.66	15.65	16.01	12.99	11.44	14.39	13.84	13.11	12.21	14.48	**163.91**
Balance Available at HP Periphery (MU)	357.61	313.34	393.49	420.45	430.24	347.33	304.34	385.99	370.35	350.48	326.61	388.18	**4388.41**
Power Purchase within State (MU)	251.89	237.46	229.82	272.66	325.96	251.88	191.20	121.26	104.81	95.97	101.09	176.77	**2360.78**
Intra State Transmission Losses (MU)	22.61	20.43	23.12	25.71	28.06	22.23	18.38	18.82	17.63	16.56	15.87	20.96	**250.39**
Net Availability at Distribution Periphery (MU)	586.89	530.37	600.18	667.39	728.15	576.98	477.15	488.43	457.53	429.89	411.83	543.99	**6498.79**
Deficit at Distribution Periphery (MU)	0.00	0.00	0.00	0.00	0.00	0.00	61.15	53.59	83.95	144.15	149.26	43.28	**535.38**
Surplus at Distribution Periphery (MU)	121.69	35.66	92.92	131.52	212.62	29.86	0.00	0.00	0.00	0.00	0.00	0.00	**624.26**

Table 56: Monthly Demand Supply position (MU) in FY10

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Total Sales (MU)	471.85	501.78	514.51	543.52	522.90	554.94	546.00	549.76	549.22	582.24	569.10	595.66	**6501.48**
Distribution Losses (MU)	49.13	52.24	53.57	56.59	54.44	57.78	56.85	57.24	57.18	60.62	59.25	62.02	**676.91**
Demand at Distribution Periphery (MU)	520.97	554.03	568.08	600.11	577.34	612.71	602.84	607.00	606.40	642.86	628.35	657.68	**7178.39**
Power Purchase Outside State (MU)	399.93	363.93	451.53	488.48	499.42	399.06	337.49	413.50	394.74	373.40	350.63	422.71	**4894.82**
PGCIL Transmission Losses (MU)	15.21	14.25	17.44	19.00	19.41	15.46	12.83	15.23	14.51	13.74	12.97	15.76	**185.81**
Balance Available at HP Periphery (MU)	384.72	349.68	434.10	469.48	480.01	383.59	324.66	398.28	380.23	359.65	337.67	406.95	**4709.00**
Power Purchase within State (MU)	318.26	304.67	298.02	354.76	414.04	320.16	243.30	154.67	136.57	122.24	131.15	226.51	**3024.36**
Intra State Transmission Losses (MU)	26.08	24.28	27.16	30.58	33.17	26.11	21.07	20.51	19.17	17.88	17.39	23.50	**286.91**

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Net Availability at Distribution Periphery (MU)	676.90	630.07	704.96	793.66	860.88	677.64	546.89	532.43	497.63	464.01	451.43	609.96	**7446.46**
Deficit at Distribution Periphery (MU)	0.00	0.00	0.00	0.00	0.00	0.00	55.95	74.57	108.77	178.85	176.93	47.72	**642.79**
Surplus at Distribution Periphery (MU)	155.93	76.04	136.88	193.54	283.54	64.92	0.00	0.00	0.00	0.00	0.00	0.00	**910.86**

Table 57: Monthly Demand Supply position (MU) in FY11

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Total Sales (MU)	519.39	552.34	566.35	598.29	575.59	610.85	601.01	605.16	604.56	640.91	626.44	655.68	**7156.58**
Distribution Losses (%)	52.11	55.42	56.82	60.03	57.75	61.29	60.30	60.72	60.66	64.30	62.85	65.79	**718.03**
Demand at Distribution Periphery (MU)	571.50	607.76	623.18	658.32	633.34	672.14	661.31	665.88	665.21	705.21	689.30	721.47	**7874.61**
Power Purchase Outside State (MU)	430.71	405.17	497.63	544.14	555.91	440.22	360.57	427.45	405.96	383.82	363.19	444.02	**5258.79**
PGCIL Transmission Losses (MU)	17.07	16.75	20.23	22.37	22.83	17.96	14.23	16.07	15.19	14.37	13.73	17.05	**207.84**
Balance Available at HP Periphery (MU)	413.63	388.43	477.40	521.77	533.09	422.26	346.34	411.38	390.77	369.44	349.47	426.97	**5050.95**
Power Purchase within State (MU)	394.09	373.05	371.06	446.11	509.52	393.43	303.08	192.70	172.12	152.10	166.65	285.18	**3759.08**
Intra State Transmission Losses (MU)	29.97	28.25	31.48	35.91	38.68	30.26	24.09	22.41	20.88	19.35	19.15	26.42	**326.85**
Net Availability at Distribution Periphery (MU)	777.75	733.23	816.98	931.97	1003.93	785.43	625.32	581.67	542.01	502.20	496.97	685.73	**8483.17**
Deficit at Distribution Periphery (MU)	0.00	0.00	0.00	0.00	0.00	0.00	35.99	84.21	123.20	203.01	192.33	35.74	**674.48**
Surplus at Distribution Periphery (MU)	206.25	125.46	193.81	273.65	370.59	113.29	0.00	0.00	0.00	0.00	0.00	0.00	**1283.05**

4.51 As shown in the tables above, HPSEB is power deficit in winter months and power surplus in summer months. Thus, it is considered that the Board would enter into banking arrangements with other states during the summer months to partly offset the deficit in the winter months. Any deficit, if remaining after banking arrangement, has been considered to be purchased from short term arrangements/ market purchase.

4.52 The summary of banking and short term power purchase approved by the Commission is shown below:

Table 58: Power Purchase through Banking & Short Term Arrangements (MU)

Particulars	FY09	FY10	FY11
Total Deficit at Distribution Periphery (MU)	535.38	642.79	674.48
Intra State Transmission Losses (%)	3.71%	3.71%	3.71%
Inter State Transmission Losses (%)	3.50%	3.50%	3.50%
Total Deficit at Ex- Bus (MU)	**576.17**	**691.77**	**725.88**
Deficit Power Procured through -			
Banking	550.00	600.00	600.00
Market Purchase & Bilateral Arrangements	26.17	91.77	125.88

Power Purchase Cost

Generation cost of HPSEB own stations

4.53 Since Board is still a bundled entity, the cost of generation from the Board's own generating stations are being shown as the part of Board's expenses under various heads such as employee cost, R&M cost, A&G cost, interest cost, deprecation etc. Thus, the Commission has not considered the generation cost of Board's own generating stations as part of the power purchase cost in the total ARR of the Board.

Cost of Power of Central Sector Generating Stations (CSGS)

NTPC

4.54 The Commission has derived annual fixed charges (in proportion to the Petitioner's share) applicable in FY08 and FY09 for various central sector generating stations from the relevant Tariff Orders issued by CERC. The annual fixed charges for FY10 and FY11 have been considered at same level as that for FY09 on the assumption that any increase in Operation & Maintenance cost will be offset by the decrease in other fixed charges.

4.55 The variable cost including Fuel Price Adjustment (FPA) for the Control Period has been based upon the power purchase data for FY07, as submitted by Board. An escalation of 3% has been applied for the variable cost for subsequent years.

4.56 Other Charges has been considered as the average of other charges paid per unit in FY06 and FY07 by the Board.

4.57 For the recently commissioned Kahalgaon-II, the variable & fixed charges have not been approved yet by CERC. Thus, in the absence of the tariff order for Kahalgaon-II, the Commission has considered the composite rate estimated by the Board for FY08 in its petition and has escalated the same by 3% each year to arrive at the composite variable rate for the Control Period.

4.58 The summary of the variable charges (including FPA), fixed charges and other charges considered by the Commission for NTPC stations for the Control Period is shown in the table below:

Table 59: Variable Charges (P/unit) considered for NTPC Stations

Station	FY09	FY10	FY11
Anta GPP	163.47	168.38	173.43
Auriya GPP	196.17	202.05	208.12
Dadri GPP	193.18	198.97	204.94
Unchahar-I	135.18	139.23	143.41
Unchahar-II	136.56	140.65	144.87
Unchahar-III	139.93	144.13	148.45
Rihand-1 STPS	98.80	101.77	104.82
Rihand-2 STPS	99.78	102.77	105.86
Singrauli STPS	90.07	92.78	95.56
Kahelgaon – II	250.00	257.50	265.23

Table 60: Fixed & Other Charges considered for NTPC Stations for the Control Period

Station	Fixed Charges (Rs Cr)	Other Charges (P/ unit)
Anta GPP	78.08	0.19
Auriya GPP	116.18	0.24
Dadri GPP	159.51	0.28
Unchahar-I	142.46	0.21
Unchahar-II	177.87	0.04
Unchahar-III	119.40	0.00
Rihand-1 STPS	341.62	0.25
Rihand-2 STPS	526.68	0.42
Singrauli STPS	350.68	0.12

NHPC

4.59 For NHPC hydro stations annual fixed charges as specified in the respective CERC tariff orders has been considered and the net charges payable has been derived after deducting the free share of power, if any, in the respective stations.

4.60 The summary of the fixed charges considered by the Commission for NHPC stations for the

Control Period is shown in the table below.

Table 61: Fixed Charges considered for NHPC Stations for the Control Period

Station	Fixed Charges (Rs Cr)
Salal	176.74
Tanakpur	46.83
Chamera I	199.53
Chamera II	327.37
Uri	274.16
Dhauliganga	173.70
Dulhasti	497.40

NPCIL

4.61 For NPCIL plants, based on the actual power purchase bill for FY07, single part tariff with 1% annual escalation has been considered. For newly commissioned units V & VI of RAPS, the Commission has considered the tariff estimated by Board for FY08 in its MYT petition and has escalated the same by 1% for the Control Period.

4.62 The summary of the composite variable charges considered by the Commission for NPCIL stations for the Control Period is shown in the table below.

Table 62: Variable Charges (P/ unit) considered for NPCIL Stations

Station	FY09	FY10	FY11
NAPS	196.66	202.56	208.64
RAPS	313.12	322.51	332.19

THDC

4.63 For Tehri HEP, the Commission has considered a composite variable rate of 350 P/ unit for the Control Period.

SJVNL (Nathpa Jhakri)

4.64 For Nathpa Jhakri HEP the annual fixed charge for FY08 i.e. Rs 1278.12 Cr has been considered and the net charges payable have been derived after deducting the free share of power.

BBMB

4.65 As per the power purchase agreement with BBMB stations, HPSEB bears proportionate O&M charges towards cost of energy. For BBMB (old), the Commission has considered the variable charges (O&M charges) payable by the Board in FY08 and has escalated the same by 5 Paisa/unit, as per the submission made by the Board.

4.66 For BBMB (new) and Dehar, the Commission has considered variable charges (O&M charges) paid by the Board in FY07 and have escalated the same by 3% for the Control Period.

4.67 The summary of the variable charges considered by the Commission for BBMB stations for the Control Period is shown in the table below:

Table 63: Variable Charges (P/ unit) considered for BBMB Stations

Station	FY09	FY10	FY11
BBMB (old)	52.00	57.00	62.00
BBMB (new)	28.78	29.64	30.53
Dehar	54.12	55.74	57.42

Cost of Power from Shared Stations

4.68 The cost of power from Shanan and Shanan (ext) has been considered at 40 P/unit and for Khara HEP at 37 P/unit as per the existing practice. For UJVNL, the Commission has considered the latest Tariff Order (FY09) for UJVNL and has derived the pooled cost of power payable to UJVNL in FY09 by HPSEB.

Table 64: UJVNL Variable charges calculation

	Total AFC approved less RoE and Interest Charges (Rs Cr)	Salable Primary Energy (MU)	Primary Energy Charges (P/unit)
Chibroo	22.13	743.25	29.77
Khodri	13.80	342.58	40.28
Dhalipur	8.25	190.66	43.29
Dhakrani	5.59	155.78	35.88
Kulhal	5.32	152.83	34.81
Pooled Average	**55.09**	**1585.1**	**34.76**

Table 65: Variable Charges (P/ unit) considered for Shared Stations

Station	FY09	FY10	FY11
Shanan	40.00	40.00	40.00
Shanan (Ext)	40.00	40.00	40.00
Yamuna (UJVNL)	34.76	34.76	34.76
Khara	37.00	37.00	37.00

Cost of Power from IPPs & Private projects

4.69 The Commission has considered the tariff for Baspa-II for the Control Period as approved in the MYT Order dated March 30, 2009.

4.70 The Commission has considered the tariff for Patikari HEP as Rs. 2.25/unit for the Control

Period.

4.71 Cost of power from private SHPs has been considered at two different rates. The energy rate for private SHPs having PPA with the Board prior to July 2006 has been considered at 250 P/unit and the energy rate for private SHPs having PPA after July 2006 with the Board has been considered at 287 P/unit.

Cost of Power of Free & Equity Power

4.72 As per the Commission's Order dated August 21, 2009 the rate of free power available to the Board from GoHP has been fixed at 287 P/unit for FY10. For the purpose of projecting the power purchase cost for the Control Period the Commission has considered 304 P/unit as the rate of free power available to the Board from GoHP for FY09 and the rate of free power at 287 P/unit for FY10 & FY11 of the Control Period. The Commission, here, would like to clarify that the rate of free power considered by the Commission for FY11 is provisional and would be trued up.

Cost of power from New Projects

4.73 The summary of composite rate considered by the Commission for the new projects is shown in the table below:

Table 66: Variable Charges (P/unit) of New Projects

Station	FY09	FY10	FY11
Barh I & II	NA	250.00	258.00
Koldam	NA	300.00	300.00
Chamera III	NA	NA	300.00
Parbatti II	NA	NA	300.00
Parbatti III	NA	NA	300.00
Koteshwar	NA	NA	300.00

Cost of Power Purchase from Other Sources, Bilateral, Short Term Arrangements and Banking

4.74 The Commission has considered the purchased power through UI and market purchases at an average rate Rs 5.50/ unit. For Banking and Return Banking no cost has been assumed as both the transaction are happening in the same financial year.

4.75 The Commission has, considered the rate of sale of surplus power available to the Board at a rate of Rs 7.01/ unit.

4.76 The summary of power purchase cost approved by the Commission for the Control Period is shown in the table below:

Table 67: Approved Power Purchase Cost (Rs Cr) for the Control Period

Station	FY09		FY10		FY11	
	Quantum (MU)	Cost (Rs Cr)	Quantum (MU)	Cost (Rs Cr)	Quantum (MU)	Cost (Rs Cr)
NTPC						
Anta GPP	118.02	22.66	118.02	23.24	118.02	23.83
Auriya GPP	162.19	36.28	162.19	37.23	162.19	38.21
Dadri GPP	177.67	39.69	177.67	40.72	177.67	41.78
Unchahar-I	61.81	11.13	61.81	11.38	61.81	11.63
Unchahar-II	115.12	22.33	115.12	22.81	115.12	23.29
Unchahar-III	73.98	15.88	73.98	16.19	73.98	16.51
Rihand-1 STPS	302.14	44.73	302.14	45.63	302.14	46.55
Rihand-2 STPS	316.79	53.46	316.79	54.41	316.79	55.38
Singrauli STPS	115.98	13.35	115.98	13.66	115.98	13.98
Kahelgaon – II	158.07	39.52	158.07	40.70	158.07	41.92
NPCIL						
NAPS	36.07	7.09	36.07	7.31	36.07	7.53
RAPS	64.04	20.05	64.04	20.66	64.04	21.27
NHPC						
Salal	29.90	1.99	29.90	1.99	29.90	1.99
Tanakpur	17.02	2.04	17.02	2.04	17.02	2.04
Chamera I	47.22	6.58	47.22	6.58	47.22	6.58
Chamera II	64.38	16.32	64.38	16.32	64.38	16.32
Uri	68.58	8.44	68.58	8.44	68.58	8.44
Dhauliganga	43.84	7.80	43.84	7.80	43.84	7.80
Dulhasti	8.73	2.91	8.73	2.91	8.73	2.91
THDC						
Tehri	86.18	30.16	86.18	30.16	86.18	30.16
BBMB						
BBMB Old	43.92	2.28	43.80	2.50	43.80	2.72
BBMB New	133.27	3.84	133.27	3.95	133.27	4.07
Dehar	78.84	4.27	78.84	4.39	78.84	4.53
Shared Stations						
Shanan	5.26	0.21	5.26	0.21	5.26	0.21
Shanan Ext	45.00	1.80	45.00	1.80	45.00	1.80
Yamuna	394.04	13.70	394.04	13.70	394.04	13.70

Station	FY09		FY10		FY11	
	Quantum (MU)	Cost (Rs Cr)	Quantum (MU)	Cost (Rs Cr)	Quantum (MU)	Cost (Rs Cr)
Khara	56.37	2.09	56.37	2.09	56.37	2.09
SJVNL						
Nathpa Jhakri (SOR)	181.34	41.65	181.34	41.65	181.34	41.65
IPPs						
Baspa – II	1050.06	289.24	1050.06	263.88	1050.06	271.10
Patikari	68.66	15.45	68.66	15.45	68.66	15.45
Private SHPs						
Old PPA	247.34	61.84	397.34	99.34	497.34	124.34
New PPA	0.00	0.00	50.00	14.35	150.00	43.05
Free Power						
Baira Suil	32.81	9.97	32.81	9.42	32.81	9.42
Chamera-I	59.69	18.14	59.69	17.13	59.69	17.13
Chamera –II	65.99	20.06	65.99	18.94	65.99	18.94
Shanan Share	1.53	0.46	1.53	0.44	1.53	0.44
Ranjeet Sagar Dam Share	24.65	7.49	24.65	7.07	24.65	7.07
Malana	17.61	5.35	17.61	5.05	17.61	5.05
Baspa – II	42.44	12.90	42.44	12.18	42.44	12.18
Patikari	2.87	0.87	2.87	0.82	2.87	0.82
Nathpa Jhakri	267.21	81.23	267.21	76.69	267.21	76.69
Koldam	0.00	0.00	52.89	15.18	125.57	36.04
Parbatti II	0.00	0.00	0.00	0.00	0.00	0.00
Parbatti III	0.00	0.00	0.00	0.00	12.88	3.70
Ghanvi	3.40	1.03	3.40	0.97	3.40	0.97
Baner	2.18	0.66	2.18	0.63	2.18	0.63
Gaj	2.49	0.76	2.49	0.71	2.49	0.71
Larji	19.83	6.03	19.83	5.69	19.83	5.69
Khauli	2.39	0.73	2.39	0.69	2.39	0.69
Equity Power						
Nathpa Jhakri	324.04	93.92	324.04	94.77	324.04	95.65
New Projects						
Barh I & II	0.00	0.00	342.62	85.66	663.40	171.16
Koldam	0.00	0.00	230.90	69.27	548.26	164.48

Station	FY09		FY10		FY11	
	Quantum (MU)	Cost (Rs Cr)	Quantum (MU)	Cost (Rs Cr)	Quantum (MU)	Cost (Rs Cr)
Chamera III	0.00	0.00	0.00	0.00	75.56	22.67
Parbatti II	0.00	0.00	0.00	0.00	0.00	0.00
Parbatti III	0.00	0.00	0.00	0.00	56.23	16.87
Koteshwar	0.00	0.00	0.00	0.00	43.19	12.96
Banking	550.00	0.00	600.00	0.00	600.00	0.00
Bilateral	26.17	14.39	91.77	50.47	125.88	69.23
HPSEB own Stations	1672.15	0.00	1851.95	0.00	1851.95	0.00
Grand Total	**7489.26**	**1112.77**	**8610.94**	**1345.24**	**9743.74**	**1692.02**

Periodic Review & True up of Power Purchase Cost

4.77 As per the MYT Regulations, power purchase is an uncontrollable parameter and needs to be trued up every year based on actual. Hence, any variation in the power purchase cost shall be trued up at the end of every year of the Control Period.

Energy Balance

4.78 The month wise energy balance for the Board for the Control Period is shown in the tables below:

Table 68: Energy Balance for FY09 (MU)

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Power Purchase from Outside the State	370.97	325.11	408.15	436.10	446.25	360.32	315.78	400.38	384.19	363.60	338.82	402.66	**4552.32**
Bilateral & Banking Power Purchase	0.00	0.00	0.00	0.00	0.00	0.00	65.81	57.67	90.34	155.13	160.63	46.58	**576.17**
Total Purchase from outside the State	370.97	325.11	408.15	436.10	446.25	360.32	381.59	458.05	474.53	518.73	499.45	449.24	**5128.49**
Surplus Power Sold Outside State	130.96	38.37	100.00	141.55	228.82	32.14	0.00	0.00	0.00	0.00	0.00	0.00	**671.83**
Net Power Purchased for the State	240.01	286.74	308.15	294.55	217.43	328.18	381.59	458.05	474.53	518.73	499.45	449.24	**4456.65**
Less: PGCIL Losses	8.78	10.42	11.16	10.70	8.00	11.86	13.74	16.41	17.00	18.54	17.83	16.11	**160.56**
Balance Available	231.23	276.31	296.99	283.85	209.43	316.32	367.85	441.65	457.53	500.18	481.61	433.13	**4296.10**
Power Purchase within State	251.89	237.46	229.82	272.66	325.96	251.88	191.20	121.26	104.81	95.97	101.09	176.77	**2360.78**
Total Power Available at State Periphery	483.12	513.78	526.81	556.52	535.40	568.20	559.05	562.91	562.34	596.16	582.70	609.90	**6656.87**
Less: Intra State Transmission Losses	17.92	19.06	19.54	20.65	19.86	21.08	20.74	20.88	20.86	22.12	21.62	22.63	**246.97**
Net Available for sale within the State	**465.20**	**494.72**	**507.26**	**535.87**	**515.53**	**547.12**	**538.31**	**542.02**	**541.48**	**574.04**	**561.08**	**587.27**	**6409.90**

Table 69: Energy Balance for FY10 (MU)

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Power Purchase from Outside the State	399.93	363.93	451.53	488.48	499.42	399.06	337.49	413.50	394.74	373.40	350.63	422.71	**4894.82**
Bilateral & Banking Power Purchase	0.00	0.00	0.00	0.00	0.00	0.00	60.21	80.25	117.06	192.48	190.41	51.36	**691.77**
Total Purchase from outside the State	399.93	363.93	451.53	488.48	499.42	399.06	397.71	493.76	511.80	565.87	541.04	474.07	**5586.58**
Surplus Power Sold Outside State	167.81	81.84	147.31	208.29	305.14	69.87	0.00	0.00	0.00	0.00	0.00	0.00	**980.26**
Net Power Purchased for the State	232.12	282.09	304.22	280.19	194.28	329.18	397.71	493.76	511.80	565.87	541.04	474.07	**4606.32**
Less: PGCIL Losses	9.34	11.39	12.28	11.71	8.73	13.02	14.94	18.04	18.61	20.48	19.63	17.56	**175.72**
Balance Available	222.78	270.70	291.94	268.47	185.55	316.16	382.77	475.72	493.19	545.39	521.41	456.51	**4430.61**
Power Purchase within State	318.26	304.67	298.02	354.76	414.04	320.16	243.30	154.67	136.57	122.24	131.15	226.51	**3024.36**
Total Power Available at State Periphery	541.05	575.37	589.97	623.24	599.58	636.32	626.07	630.39	629.76	667.63	652.56	683.02	**7454.97**
Less: Intra State Transmission Losses	20.07	21.35	21.89	23.12	22.24	23.61	23.23	23.39	23.36	24.77	24.21	25.34	**276.58**
Net Available for sale within the State	**520.97**	**554.03**	**568.08**	**600.11**	**577.34**	**612.71**	**602.84**	**607.00**	**606.40**	**642.86**	**628.35**	**657.68**	**7178.39**

Table 70: Energy Balance for FY11 (MU)

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Power Purchase from Outside the State	430.71	405.17	497.63	544.14	555.91	440.22	360.57	427.45	405.96	383.82	363.19	444.02	**5258.79**
Bilateral & Banking Power Purchase	0.00	0.00	0.00	0.00	0.00	0.00	38.73	90.63	132.59	218.48	206.99	38.46	**725.88**
Total Purchase from outside the State	430.71	405.17	497.63	544.14	555.91	440.22	399.30	518.08	538.55	602.30	570.18	482.48	**5984.66**
Surplus Power Sold Outside State	221.97	135.02	208.57	294.50	398.83	121.92	0.00	0.00	0.00	0.00	0.00	0.00	**1380.81**
Net Power Purchased for the State	208.74	270.15	289.05	249.64	157.09	318.30	399.30	518.08	538.55	602.30	570.18	482.48	**4603.85**
Less: PGCIL Losses	9.31	12.02	12.93	12.06	8.87	13.69	15.58	19.24	19.83	22.02	20.97	18.40	**184.92**
Balance Available	199.43	258.13	276.13	237.58	148.22	304.61	383.72	498.83	518.72	580.28	549.21	464.08	**4418.94**
Power Purchase within State	394.09	373.05	371.06	446.11	509.52	393.43	303.08	192.70	172.12	152.10	166.65	285.18	**3759.08**
Total Power Available at State Periphery	593.52	631.18	647.19	683.68	657.74	698.04	686.79	691.53	690.84	732.38	715.85	749.26	**8178.01**
Less: Intra State Transmission Losses	22.02	23.42	24.01	25.36	24.40	25.90	25.48	25.66	25.63	27.17	26.56	27.80	**303.40**
Net Available for sale within the State	**571.50**	**607.76**	**623.18**	**658.32**	**633.34**	**672.14**	**661.31**	**665.88**	**665.21**	**705.21**	**689.30**	**721.47**	**7874.61**

PGCIL Charges

4.79 The summary of the PGCIL Charges approved by the Commission for the Control Period are shown in the table below:

Table 71: Approved PGCIL Charges (Rs Cr) for the Control Period

	FY09	FY10	FY11
PGCIL Charges	81.30	97.58	117.78

4.80 The Commission, would true up the PGCIL charges for each year of the Control Period based on actual amount paid at the end of each year.

Operation and Maintenance (O&M) Expenses

4.81 The Commission, in the MYT order last year had clearly specified that, the O&M trajectory for the Control Period would be trued up once the audited accounts of FY08 is made available and/or the utility is unbundled and/or recommendations of the 6th Pay Commission are implemented during the Control Period.

4.82 Since the Board has submitted the audited accounts for FY08 and on the basis of the availability of CPI & WPI figures for FY08 the Commission has revised the O&M expenses.

4.83 As per the MYT Regulations, employee and A&G expenses for the Control Period shall be determined using the following methodology:

$$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX_n / INDX_{n-1})$$

4.84 The inflation factor for the nth year (INDXn) is determined using a combination of Consumer Price Index (CPI) and Wholesale Price Index (WPI) for the nth year.

4.85 The weightages of CPI and WPI for projecting the employee expenses and A&G expenses for the Control Period as per MYT order is mentioned below:

$$INDX_n \text{ (Employee)} = 0.75*CPI_n + 0.25*WPI_n$$

$$INDX_n \text{ (A\&G)} = 0.25*CPI_n + 0.75*WPI_n$$

Determination of Inflation Factor

4.86 The inflation factor used for indexing the employee expenses and A&G expenses is determined using a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI). The table below shows the actual CPI and WPI:

Table 72: Actual CPI and WPI

Year	CPI (Overall)	% Growth YoY	WPI (Overall)	% Growth YoY
2000-01	444.17		155.70	
2001-02	463.33	4.3%	161.34	3.6%
2002-03	481.75	4.0%	166.78	3.4%
2003-04	500.33	3.9%	175.92	5.5%
2004-05	519.50	3.8%	187.29	6.5%
2005-06	542.41	4.4%	195.57	4.4%
2006-07	578.75	6.7%	206.18	5.4%
2007-08	614.63	6.2%	215.80	4.7%

Source: Ministry of Statistics

4.87 Based on these values, the Commission has calculated the annual growth in values of CPI (overall) for Industrial Workers and WPI (overall) for the period FY01 – FY08 and has considered the same for determination of indices during the Control Period as given in the tables below:

Table 73: Projected CPI and WPI during the Control Period

Year	Projected Growth in CPI	CPI (Overall)	Projected Growth in WPI	WPI (Overall)
2008-09	4.8%	644.31	5.0%	226.53
2009-10	5.0%	676.34	5.2%	238.39
2010-11	5.2%	711.21	5.2%	250.78

4.88 The Commission has determined the inflation factor for the nth year (INDXn) using a weighted average of CPI and WPI. The inflation factor is then used to calculate the escalation factor for each year (INDXn / INDXn-1) which is used for projections of Employee and A&G expenses in each year of the Control Period, as shown in the table below:

Table 74: Escalation Factor for the Control Period

Year	Index used for Employee Expenses		Index used for A&G Expenses	
	Index	Escalation Factor	Index	Escalation Factor
2008-09	539.86	1.0484	330.97	1.0490
2009-10	566.85	1.0500	347.88	1.0511
2010-11	596.11	1.0516	365.89	1.0518

Employee Expenses

4.89 The Commission has determined the employee expenses of the Petitioner for the Control Period using the methodology detailed in the MYT Regulations, 2007. Hence, the employee expenses for the nth year of the Control Period (EMPn) shall be determined using the employee expenses for the (n-1)th year (EMPn-1) and the escalation factor as determined above (Table 74).

4.90 The revised employee expenses for Control Period on the basis of True up for FY08 is shown in the table below:

Table 75: Approved Employee Expenses for the Control Period (Rs Cr)

Particulars	FY08	FY09	FY10	FY11
Index(n)/ Index (n-1)		1.0484	1.0500	1.0516
Total Employee Cost approved	**600.75**	**629.85**	**661.33**	**695.46**
Less: Capitalisation		57.93	55.66	56.39
Net Employee Cost approved		**571.92**	**605.67**	**639.08**

Administrative and General (A&G) Expenses

4.91 The Commission has determined the A&G expenses of the Petitioner for the Control Period using the methodology detailed in the MYT Regulations, 2007. Hence, the A&G expenses for the nth year of the Control Period (A&Gn) shall be determined using the A&G expenses for the (n-1)th year (A&Gn-1) and the escalation factor as determined above (Table 74).

4.92 The summary of A&G expenses approved by the Commission for the Control Period on the basis of approved True-up for FY08 is shown below:

Table 76: Approved A&G Expenses for the Control Period (Rs Cr)

Particulars	FY08	FY09	FY10	FY11
Index(n)/ Index (n-1)		1.0490	1.0511	1.0518
Total A&G Cost Approved	**35.49**	**37.23**	**39.13**	**41.16**
Less: Capitalisation		7.97	4.63	5.18
Net A&G Cost approved		**29.26**	**34.50**	**35.98**

Repairs and Maintenance (R&M) Expenses

4.93 As per the MYT Regulations for Wheeling and Retail Supply and Transmission, the Repairs and Maintenance (R&M) Expenses of the Petitioner for the Control Period has to be determined based on the following formula:

$$R\&M_n = K * GFA_{n-1}$$

Where, ‘K’ is a constant (expressed in %) governing the relationship between R&M costs and Gross Fixed Assets (GFA) for the n^{th} year.

4.94 The Commission has considered the approved values of R&M Expenses and opening GFA, as contained in previous Tariff Orders and the approved True up for FY08 to calculate the respective values of ‘K’ for the previous years, as shown below:

Table 77: Determination of 'K'

Particulars	FY04	FY05	FY06	FY07	FY08
Opening GFA (Rs Cr)	1700.05	1793.89	2192.58	2322.34	3375.29
R&M Expenses (Rs Cr)	17.13	17.44	18.34	26.19	24.32
'K' (%)	1.01%	0.97%	0.84%	1.13%	0.72%

4.95 The Commission has determined the value of 'K' for the Control Period as 0.93%, which is the average 'K' for last 5 years. The Commission has determined the R&M Expenses for each year of the Control Period, considering the opening level of GFA as approved by the Commission and the K factor of 0.93%.

4.96 The summary of R&M Expenses approved by the Commission for the Control Period is as shown below:

Table 78: Approved R&M Expenses for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
GFA (Opening)	3546.97	4130.84	4977.54
K Factor	0.93%	0.93%	0.93%
R&M Expenses	**33.09**	**38.54**	**46.44**

Periodic Review & True up of O&M Expenses

4.97 As per the MYT Regulations, O&M expenses (viz. Employee expenses, A&G expenses and R&M expenses) is a controllable factor and hence the O&M expenses projected for the Control Period, as per the methodology specified in the MYT Regulations, 2007 are not subjected to truing-up in the ARR. Further, any surplus or deficit on account of O&M expenses shall be to the account of the licensee and shall not be trued up in ARR.

4.98 The Petitioner in its petition has considered the likely effect of Pay Commission while projecting the employee expenses for the Control Period.

4.99 The Commission acknowledges that there would be a likely impact of the recommendations of Pay Commission; however, it feels that any future liability, which is uncertain in terms of its outcome and impact, cannot be passed upfront to the Consumers. The reasons for not accounting for the recommendations of Pay Commission have been elaborated in the main MYT Order dated May 30, 2008.

4.100 The Commission acknowledges this as a contingent liability for the future but does not provide for the same in this order. Any impact on employee cost due to the recommendations of Pay Commission would be duly trued up as and when it is implemented.

Special Provisions

4.101 The Commission has retained the provision for new recruitment during the Control Period and the provision for IT & Other initiatives (GIS/GPS based asset mapping, MIS implementation for centralized billing & CRM and CoS Study & segregation of accounts into Generation, Transmission and Distribution) being undertaken by the Board as approved in the MYT order last year. The summary of approved expenses under these heads is shown as under:

Table 79: Provision for New Recruitment Approved for the Control Period

Particulars	FY09	FY10	FY11
AEs			
Additions	10	93	0
Cumulative Additions	51	144	144
Salary per month (Rs)	20000	20000	20000
Total Salary for the year (Rs Cr)	1.22	3.46	3.46
JEs			
Additions	232	0	0
Cumulative Additions	232	232	232
Salary per month (Rs)	15000	15000	15000
Total Salary for the year (Rs Cr)	4.18	4.18	4.18
MBAs			
Additions	0	14	0
Cumulative Additions	0	14	14
Salary per month (Rs)	20000	20000	20000
Total Salary for the year (Rs Cr)	0.00	0.34	0.34
Grand Total (Rs Cr)	**5.40**	**7.97**	**7.97**

Table 80: Provision for IT & other initiatives approved for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
GIS/ GPS mapping	4.00	15.00	0.00
MIS implementation	13.36	7.50	0.38
CoS Study, Segregation of accounts etc	0.80	0.80	0.90
Total	**18.16**	**23.30**	**1.28**

4.102 The Commission has also approved the expense for implementation of Automatic meter reading (AMR) to encourage AMR as a step in the direction of creating Advanced Metering Infrastructure (AMI) in the state. The approval of expense as submitted by the Board as per the indicated timelines for the implementation specified in the Chapter 6.10 of this order shall be Rs 6.91 Cr for FY10.

4.103 The Commission would however true-up the provisions kept above, based on the actual expenditure incurred by the Board, at the end of each year of the Control Period.

Capital Investment

4.104 The capital investment of the Board for the Control Period shall be the same as approved in the MYT order dated May 30, 2008, which however shall be trued up at the end of the Control Period based on the actual capital expenditure incurred by the Board.

Asset capitalization

4.105 The asset capitalization for the Control Period shall be the same as approved in the MYT order dated May 30, 2008.

4.106 The Commission would like to highlight that the capitalization approved is provisional and the same would be subjected to true-up at the end of the Control Period.

Depreciation

4.107 For approving the depreciation for the Control Period, the Commission has first determined the opening and closing GFA of all the function. For this the Commission has considered the closing value of assets approved for FY08 as per True up for the respective functions and the approved capitalization schedule for FY08 and for the Control Period.

4.108 The Board in its audited accounts for FY08 has shown a reduction in the generation assets to the tune of Rs 163 Cr, which was explained by the Board to be on account of failure to properly transfer the assets from the project division, as a result of this anomaly the GFA for FY07 also stands corrected.

4.109 Amount of Rs 2.23 Cr shown as reduction in the assets for the year FY07 as per the audited accounts has been included in the deductions of Rs 17.79 Cr for FY07.

4.110 The Commission has considered the rate of depreciation as 2.5% inline with the practice followed in the previous tariff orders.

4.111 The summary of the GFA & depreciation approved by the Commission for the Control Period is shown below:

Table 81: Approved GFA & Depreciation for the Control Period (Rs Cr)

Particulars	FY07	FY08	FY09	FY10	FY11
Opening	**2322.34**	**3375.29**	**3546.97**	**4130.84**	**4977.54**
Generation	723.68	1630.01	1630.01	1630.01	1730.53
Transmission	668.66	726.68	789.80	925.69	1145.18
Distribution	930.00	1018.60	1127.16	1575.14	2101.83
Addition	**1070.74**	**172.15**	**583.87**	**846.70**	**407.34**
Generation	906.33	0.00	0.00	100.52	0.00
Transmission	58.02	63.12	135.89	219.49	202.20

Particulars	FY07	FY08	FY09	FY10	FY11
Distribution	106.39	109.03	447.98	526.69	205.15
Reduction	**17.79**	**0.47**	**0.00**	**0.00**	**0.00**
Generation	0.00	0.00	0.00	0.00	0.00
Transmission	0.00	0.00	0.00	0.00	0.00
Distribution	17.79	0.47	0.00	0.00	0.00
Closing	**3375.29**	**3546.97**	**4130.84**	**4977.54**	**5384.88**
Generation	1630.01	1630.01	1630.01	1730.53	1730.53
Transmission	726.68	789.80	925.69	1145.18	1347.38
Distribution	1018.60	1127.16	1575.14	2101.83	2306.97
Depreciation Rate					
Generation		2.50%	2.50%	2.50%	2.50%
Transmission		2.50%	2.50%	2.50%	2.50%
Distribution		2.50%	2.50%	2.50%	2.50%
Depreciation		**84.38**	**95.97**	**113.85**	**129.53**
Generation		40.75	40.75	42.01	43.26
Transmission		18.17	21.44	25.89	31.16
Distribution		25.47	33.78	45.96	55.11

Working Capital Requirement

4.112 The Commission has determined the working capital requirement for each of the three functions viz. generation, transmission and distribution separately. The working capital expense for generation, transmission and distribution functions has been determined by allowing one month of O&M expense, receivables' equivalent to two months of average billing and 40% of R&M expense of one month of the Board for maintenance spares respectively for each of the functions of the Board.

4.113 The Commission has added up the working capital requirement for all the three functions to determine the total working capital requirement of the Board for the Control Period. The summary of same is shown below:

Table 82: Working Capital Requirement approved for Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Working Capital Approved for Generation	51.82	51.49	51.18
Working Capital Approved for Transmission	24.57	27.27	31.40
Working Capital Approved for Distribution	108.08	117.13	139.97
Total Working Capital Approved	**184.46**	**195.89**	**222.55**

Interest & Financing Charges

4.114 For the purpose of calculating the interest expenses for the Control Period the Commission prepared a source wise loan schedule. For this, the Commission has considered the outstanding loans at the end of FY08 as approved by the Commission in the True-up for FY08 and the repayment schedule of the respective loans in the Control Period.

4.115 The Commission has analyzed the means of finance for all three functions separately and has considered the following for approving the means of finance of the Board for the Control Period:

(a) As per the MYT Regulations, debt or equity would be allowed only on the capitalized assets and not on the capital works in progress. Thus, the Commission has considered the assets capitalized for each function in each year as the funding requirement for that year of the Control Period.

(b) The Commission has thereby reduced the consumer contribution from the funding requirement determined above. For this, the Commission has considered the consumer contribution submitted by the Board and has adjusted the same in the proportion of funding requirement approved by the Commission and that submitted by the Board.

(c) The balance has been considered to be funded through debt and/or equity. As per the MYT Regulations, the equity has been capped at a maximum of 30%; however, there is no cap on the debt funding. The Commission has analyzed the funding pattern of Board for the past projects and has observed that the most of the projects taken up by the Board have been funded entirely through debt. Thus, the Commission has considered 100% debt funding for the future projects as well.

4.116 The means of finance and debt requirement for each of the three functions Generation, Transmission and Distribution respectively stands at the same level as approved in the MYT order last year. The summary of means of finance approved by the Commission for HPSEB as a whole is shown in the table below:

Table 83: Means of Finance approved by the Commission for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Funding Requirement	157.31	420.14	407.34
Less: Consumer Contribution	52.41	100.71	122.02
Balance Remaining	104.90	319.42	285.32
Funded through Debt	104.90	319.42	285.32
Funded through Equity	0.00	0.00	0.00

4.117 The summary of the loans approved (source wise) by the Commission for the Control Period taking into account the approved figures in True-up for FY08 is shown in the table below:

Table 84: Loan Schedule approved for the Control Period (Rs Cr)

Closing Balance	FY07	FY08	FY09	FY10	FY11
LIC					
Opening	24.78	20.66	16.61	12.76	9.44
Addition	0.00	0.00	0.00	0.00	0.00
Repayment	4.11	4.06	3.84	3.33	3.33
Closing	20.66	16.61	12.76	9.44	6.11
PFC					
Opening	807.20	804.27	744.25	658.46	577.02
Addition	14.37	13.09	3.96	3.74	0.00
Repayment	17.29	73.11	89.74	85.19	90.57
Closing	804.27	744.25	658.46	577.02	486.45
REC					
Opening	126.16	155.21	212.72	170.90	134.12
Addition	57.34	80.59	0.00	0.00	0.00
Repayment	28.29	23.09	41.82	36.77	19.57
Closing	155.21	212.72	170.90	134.12	114.56
RGGVY					
Opening	0.00	0.75	0.75	0.67	0.60
Addition	0.75	0.00	0.00	0.00	0.00
Repayment	0.00	0.00	0.07	0.07	0.07
Closing	0.75	0.75	0.67	0.60	0.52
Bank Loan					
Opening	255.56	250.21	371.44	175.00	127.00
Addition	0.00	300.00	0.00	0.00	0.00
Repayment	5.35	178.76	196.45	48.00	48.00
Closing	250.21	371.44	175.00	127.00	79.00
Non NSLR Bonds					
Opening	762.38	333.61	333.61	267.79	201.97
Addition	0.00	0.00	0.00	0.00	0.00
Repayment	428.77	0.00	65.82	65.82	87.76
Closing	333.61	333.61	267.79	201.97	114.21
State Govt Loans					
Opening	20.13	20.13	18.40	17.35	16.30
Addition	0.00	0.00	0.00	0.00	0.00
Repayment	0.00	1.73	1.05	1.05	1.05
Closing	20.13	18.40	17.35	16.30	15.25
Market Bonds					
Opening	35.49	35.49	29.99	23.31	10.00
Addition	0.00	0.00	0.00	0.00	0.00
Repayment	0.00	5.50	6.68	13.31	4.50

Closing Balance	FY07	FY08	FY09	FY10	FY11
Closing	35.49	29.99	23.31	10.00	5.50
Short Term Loans					
Opening	0.00	0.00	3.12	1.52	0.0
Addition	0.00	3.12	0.00	0.00	0.0
Repayment	0.00	0.00	1.60	1.52	0.0
Closing	0.00	3.12	1.52	0.0	0.0
New loans taken for Capex					
Opening		0.0	0.0	94.41	371.40
Addition		0.0	104.90	319.42	285.32
Repayment		0.0	10.49	42.43	70.96
Closing		0.0	94.41	371.40	585.76
Total (Closing)					
Opening	2031.69	1620.33	1730.88	1422.18	1447.85
Addition	72.45	396.80	108.86	323.16	285.32
Repayment	483.82	286.25	417.57	297.49	325.81
Closing	1620.33	1730.88	1422.17	1447.85	1407.36

4.118 For approving the Interest and Financing charges for the Control Period, the Commission has considered the following:

(a) For calculation of interest charges the Commission has considered the interest rate of the respective loans. The interest on new loans has been considered at 10.25% and the interest on working capital loans has been considered at 12.25%.

(b) For capitalization of Interest expenses for the Control Period, the Commission has considered the capitalization of interest expenses proposed by the Petitioner and has adjusted the same in the ratio of approved capital works in progress (CWIP) and that proposed by the Petitioner.

4.119 Based on the loans and interest rates approved for the Control Period, the interest and financing charges approved by the Commission are tabulated below:

Table 85: Interest Charges approved for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
LIC	1.32	1.00	0.70
PFC	65.79	58.03	50.01
REC & RGGY	18.89	15.02	12.25
Bank Loan	22.90	13.52	9.20
Non NSLR Bonds	31.01	24.28	16.43
State Govt Loans	2.08	1.96	1.83
Market Bonds	3.09	1.94	0.92
Short Term Loans	0.21	0.07	0.0

Particulars	FY09	FY10	FY11
New loans for Capex	4.84	23.87	49.05
Interest on Consumer Deposit	4.73	5.21	5.73
Interest on Working Capital	22.60	24.00	27.26
Total Interest Charges	**177.46**	**168.90**	**173.39**
Less: Capitalisation	17.43	14.73	0.00
Net Interest Charges Approved	**160.03**	**154.17**	**173.39**

Return on Equity

4.120 The Commission had determined the equity invested in generation at Rs 93.11 Cr in the MYT Order for FY09-11 out of the total equity of Rs. 282.11 Cr of the Board as per the audited accounts for FY07. For FY08, the audited accounts submitted by the Board shows the equity capital of the Board at Rs 334 Cr, however, from the analysis of the audited accounts, the Commission observed that the increase in equity contribution is on account of the investments in share in projects- Uhl-III, Kasang-I, Kerang, Swara Kudu, being executed by the various SPVs and equity contribution by GoHP in Khauli. The Commission has disallowed the loans taken for investment in these SPVs where the Board would be entitled to earn return on equity once the projects are commissioned and the Commission determines the appropriate tariffs for these projects.

4.121 The Commission has considered the investment of Rs. 15.16 Cr as equity contribution for the Khauli project for FY08 and the entire increase has been made in the equity base for generation, with overall equity capital of the Board being approved at Rs 297.27 Cr. Splitting rest of the equity into transmission and distribution is a complex process as there is no project wise break available and thus it is difficult to map the equity infusion. Hence, the Commission has considered the equity amount infused into transmission and distribution function in proportion of the assets in these respective functions in FY07 (closing).

4.122 The Commission has approved ROE to the generation, transmission and distribution businesses based on the True up done for FY08, at the rate of 14%, 14% and 16%, respectively, in accordance with its Tariff Regulations, as detailed in the table below:

Table 86: Approved ROE for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Equity	**297.27**	**297.27**	**297.27**
Generation	108.27	108.27	108.27
Transmission	79.05	79.05	79.05
Distribution	109.95	109.95	109.95
Rate			
Generation	14.00%	14.00%	14.00%
Transmission	14.00%	14.00%	14.00%
Distribution	16.00%	16.00%	16.00%

Particulars	FY09	FY10	FY11
Approved ROE	**43.82**	**43.82**	**43.82**
Generation	15.16	15.16	15.16
Transmission	11.07	11.07	11.07
Distribution	17.59	17.59	17.59

Non Tariff Income (NTI)

4.123 The non tariff income has been revised on the basis of audited figures for FY08 by considering a yearly escalation of 5% for all the components of NTI except recovery from theft which has been kept at FY07 level.

Table 87: Approved NTI for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Interest Income from Investments	0.00	0.00	0.00
Interest on loans and Advances to staff	0.73	0.77	0.81
Interest on Advances to Suppliers / Contractors	0.03	0.04	0.04
Income from Trading (other than Electricity)	1.19	1.25	1.32
Income/Fee/Collection against staff welfare activities	0.04	0.04	0.05
Miscellaneous receipts	37.77	39.66	41.64
Delayed payment charges from consumers	7.46	7.83	8.22
Meter Rent	30.29	31.81	33.40
Recovery from theft of energy	4.16	4.16	4.16
Wheeling charges	39.43	41.40	43.47
Misc. charges from consumers	3.49	3.66	3.84
Total NTI	**124.59**	**130.61**	**136.93**

Baspa Arrears

4.124 HPSEB is liable to pay an arrear to M/s Jaiparkash Hydro Power Ltd. on account of revision in tariff for Baspa II HEP in accordance with the MYT tariff order dated March 30, 2009. The outstanding amount of arrears payable to Baspa in FY09 is Rs 49.02 Cr.

Aggregate Revenue Requirement of HPSEB

4.125 The table given below provides a summary view of the Aggregate Revenue Requirement as approved by the Commission for the Control Period.

Table 88: Approved ARR for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Power Purchase Expenses	1112.77	1345.24	1692.02
PGCIL Charges	81.30	97.58	117.78
Baspa Arrears	49.02		
Operation & Maintenance Costs	700.17	739.01	783.06
Provision for New Recruitments	5.40	7.97	7.97
Provision for IT & Other Initiatives	18.16	23.30	1.28
Provision for AMR	-	6.91	-
Interest & Financing Charges	177.46	168.90	173.39
Depreciation	95.97	113.85	129.53
Return on Equity	43.82	43.82	43.82
Less: Interest & Expenses Capitalisation	83.34	75.02	61.56
Less: Non Tariff Income	124.59	130.61	136.93
Net True Up as per True up Order dated 11th August 2009	(53.64)		
Aggregate Revenue Requirement	**2022.51**	**2340.94**	**2750.35**

Segregation of ARR for the Control Period

4.126 The Commission had carried out the exercise of determination of ARR for the Generation, Transmission and Distribution business of the Board as it is a prerequisite for implementation of the Multi Year Tariff regime. As the Board is a bundled entity the accounts are maintained for the Board as a whole and separate account for the three functions, namely, Generation, Transmission and Distribution are not maintained. Hence, the segregation of assets, liabilities, cost and revenues to the three functions is very much dependent on the availability of right data and prudent judgment. The segregation of assets, liabilities, cost and revenues to the three functions will only be possibly once the Board puts in place separate accounting system for the three functions or is unbundled into three separate entities.

4.127 Thus, the Commission has first determined and approved the ARR for total HPSEB as a whole and thereby allocated the total ARR into Generation, Transmission and Distribution functions.

4.128 The Commission has used the following approach while determining the ARR for Generation, Transmission and Distribution functions.

4.129 The Commission has not determined the revised ARR for each generating stations separately and then aggregating the same. The Commission shall re-determine the plant-wise generation cost after the unbundling of the Board and the successor generation entity files for the plant-wise ARR.

4.130 The Commission observes that the Board has tried to sneak in tariff petitions for Larji and Khauli generating stations, as part of the response submitted on February 5, 2009, to the deficiencies pointed out by the Commission. The Commission has already directed the Board on several occasions to submit separate and proper tariff petitions for these two Hydro Generating Plants, as per the MYT Regulations and Conduct of Business Regulations, which would be thereafter put in public domain and heard, since consumer interest is involved in view of the very high cost of these two plants.

4.131 For determining the ARR for generation, transmission and distribution function the Commission has considered the following:

(a) **Power Purchase**: Power purchase costs have been fully allocated to Distribution business.

(b) **O&M Expenses**: The Commission has arrived at the O&M expenses for the generation business by apportioning the increase/decrease in each component of revised O&M expenses for the Control period (with respect to the approved O&M expenses in last MYT Order) to the approved O&M expenses for generation function in the last MYT Order in the ratio of weights of individual components of O&M expenses to the overall O&M expenses as approved in the MYT Order dated May 30, 2008. For allocating the O&M expenses into transmission and distribution business, the Commission has first reduced the O&M expenses allocated to generation from the total O&M expenses approved and has allocated the balance using the following methodology:

(i) **Employee Expenses**: Employee expenses have been allocated between transmission and distribution in the same ratio as proposed by the Petitioner in its petition.

(ii) **R&M Expenses**: R&M expenses have been allocated between transmission and distribution in the ratio of assets allocated into transmission and distribution business for each year of the Control Period.

(iii) **A&G Expenses**: A&G expenses have been allocated between transmission and distribution in the same ratio as proposed by the Petitioner in its petition.

(c) **Interest & Finance Charges**: Interest & Finance charges have been allocated in principle of allocated loans (scheme specific) and based on the loans allocated their respective repayment schedule and interest rates; the Commission has determined the interest charges. For new loans taken during the Control Period, the Commission has considered the investment plan and capitalization schedule of the respective functions.

(d) **Depreciation**: Gross Fixed Assets & depreciation have been allocated to various functions on the basis of the Audited Accounts for FY08 and the capitalization schedule of the capital expenditure plan.

(e) **Return on equity**: The total equity of the Board is Rs. 297.27 Cr, the Commission has first determined amount of equity invested in the generation business and rest has been allocated to transmission and distribution function in the ratio of the asset base of the respective functions in FY07.

(f) **Special Provisions**: The special provision kept in the total ARR of HPSEB has been fully allocated into distribution business.

(g) **Non Tariff Income**: Non Tariff income has been fully allocated to the distribution business.

(h) **Consumer Contribution**: Consumer contribution and interest on Security deposits has been fully allocated to Distribution business.

4.132 The Commission would like to highlight that the ARR approved for Generation, Transmission and Distribution functions are based on certain assumptions as the accounts of HPSEB are not segregated and that the Commission would true up or revisit the ARR of all the three functions once the accounts are segregated and/or the Board is unbundled and the successor entities of the Board come with the review petitions for the same.

Approved Total Generation ARR/AFC

4.133 The revised approved aggregate generation ARR is shown in the table below. Considering the total loan repayment and the accumulated depreciation for the total generation business, there is no requirement for providing for AAD in FY09 and FY10.

Table 89: Total Generation ARR/AFC

Particular	Unit		Control Period	
		FY09	FY10	FY11
Gross Generation	MU	1780.82	1962.11	1962.11
Total Auxiliary	MU	18.71	20.19	20.19
Net Generation at Bus	MU	1762.12	1941.92	1941.92
Less: Free Power to GoHP	MU	89.97	89.97	89.97
Energy available for Sale	**MU**	**1672.15**	**1851.95**	**1851.95**
O & M Expenses	Rs Cr	60.03	63.59	66.37
Repair & Maintenance	Rs Cr	5.97	6.34	6.64
Employee Expenses	Rs Cr	46.15	48.87	51.00
A & G Expenses	Rs Cr	7.91	8.37	8.73
Depreciation	Rs Cr	40.75	42.01	43.26
Interest Charges	Rs Cr	82.93	75.39	67.40
Return on Equity	Rs Cr	15.16	15.16	15.16
Interest on Notional Loan	Rs Cr	0.00	0.00	0.00
Interest on Working Capital	Rs Cr	6.35	6.31	6.27
Less: Expense Capitalization	Rs Cr	9.73	0.80	2.97

Particular	Unit		Control Period	
		FY09	FY10	FY11
Annual Fixed Charge	**Rs Cr**	**195.49**	**201.66**	**195.49**
Sale Rate of Energy	P/kWh	117	109	106

4.134 The total ARR/AFC for the generation business of the Board as determined by the Commission for the Control Period is Rs 195.49 Cr for FY09, Rs 201.66 Cr for FY10 and Rs 195.49 Cr for FY11.

Aggregate Revenue Requirement (ARR) of Transmission Business

4.135 The table given below provides a summary view of the Aggregate Revenue Requirement of Transmission business as approved by the Commission for the Control Period.

Table 90: Approved ARR of Transmission business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Operation & Maintenance Costs	67.89	71.61	74.73
Interest & Financing Charges	21.25	26.10	37.82
Depreciation	21.44	25.89	31.16
Return on Equity	11.07	11.07	11.07
Less: Interest & Expenses Capitalised	10.43	9.23	6.56
Aggregate Revenue Requirement	**111.23**	**125.42**	**148.21**

Transmission Charges

4.136 Based on the ARR approved for transmission function, the Commission has determined the transmission charges for the Control Period as per the methodology specified in the MYT Regulations, 2007. The summary of the approved transmission charges for the Control Period is shown below:

Table 91: Approved Transmission Charges for the Control Period

Particulars	FY09	FY10	FY11
Transmission ARR (Rs Cr)	**111.23**	**125.42**	**148.21**
Capacity (MW)[8]	2043.21	2410.50	2616.24
Transmission Charges (Rs/ MW/Mon)	**45365.71**	**43358.92**	**47208.33**

4.137 The Annual Transmission Service Charge (ATSC) shall be divided between Beneficiaries of the Transmission System on monthly basis based on the Allotted Transmission Capacity or Contracted Capacity, as the case may be and the transmission losses would be borne by the beneficiary(ies).

[8] Contracted Capacity, which includes total of own generation, PPAs and share in various projects.

4.138 The charges from short-term open access customers, if any, shall be recovered in line with the provisions mentioned in the relevant open access regulations.

4.139 The transmission service charge shall be recovered fully, only if the transmission system availability is above 98%, as specified in the MYT regulations. The charges shall be recovered on a pro rata basis in case the availability is lower than the target level.

Aggregate Revenue Requirement (ARR) of Distribution Business

4.140 The table given below provides a summary view of the Aggregate Revenue Requirement of Distribution business as approved by the Commission for the Control Period.

Table 92: Approved ARR of Distribution business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Power Purchase Expenses	1308.27	1546.90	1887.52
Transmission Charges	192.53	223.00	265.99
Baspa Arrears	49.02	0	0
Operation & Maintenance Costs	572.24	603.81	641.97
- Employee Cost	530.80	557.76	589.01
- R&M Cost	15.95	20.28	25.76
- A&G Cost	25.50	25.77	27.20
Provision for New Recruitments	5.40	7.97	7.97
Provision for IT & Other Initiatives	18.16	23.30	1.28
Provision for AMR		6.91	
Interest & Financing Charges	66.93	61.10	61.90
Depreciation	33.78	45.96	55.11
Return on equity	17.59	17.59	17.59
Less: Non Tariff Income	124.59	130.61	136.93
Less: Capitalisation of Interest & Expenses	63.18	64.99	52.04
Net True Up as per True up Order dated 11th August 2009	(53.64)		
Aggregate Revenue Requirement	**2022.51**	**2340.94**	**2750.35**

Allocation of Distribution ARR into Wheeling and Retail Supply

4.141 As per the MYT Regulations, 2007 the total Distribution ARR for the Control Period has to be allocated between Wheeling and Retail Supply business. The wheeling charges would be calculated on the Wheeling ARR and the Retail Tariffs would be calculated on the Retail Supply ARR.

4.142 The Commission has allocated the Distribution ARR into Wheeling and Retail Supply business by considering the following allocation:

Table 93: Allocation of ARR of Distribution business for the Control Period

Particulars	Wheeling	Retail Supply
Power Purchase Expenses	0%	100%
Transmission Charges	0%	100%
Baspa Arrears	0%	100%
Employee Expenses	70%	30%
R&M Expenses	90%	10%
A&G Expenses	60%	40%
Provision for New Recruitments	100%	0%
Provision for IT & Other Initiatives	0%	100%
Interest & Financing Charges (other than interest on working capital)	100%	0%
Depreciation	100%	0%
Return on Equity on Wheeling Business	100%	0%
Supply Margin	0%	100%
Non Tariff Income (excluding wheeling charges received from other states)	0%	100%
Wheeling charges received from other states	100%	0%

4.143 The summary of Wheeling and Retail Supply ARR for the Control Period is shown below:

Table 94: Approved ARR of Wheeling business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Operation & Maintenance Costs	401.21	424.15	451.81
Provision for New Recruitments	5.40	7.97	7.97
Interest & Financing Charges	66.72	60.63	59.89
Depreciation	33.78	45.96	55.11
Return on Equity	15.39	15.39	15.39
Less: Non Tariff Income	39.43	41.40	43.47
Less: Capitalisation of Interest & Expenses	48.07	48.90	36.15
Aggregate Revenue Requirement	**435.01**	**463.80**	**510.55**

Table 95: Approved ARR of Retail Supply business for the Control Period (Rs Cr)

Particulars	FY09	FY10	FY11
Power Purchase Expenses	1308.27	1546.90	1887.52
Transmission Charges	192.53	223.00	265.99
Baspa Arrears	49.02	0	0
Operation & Maintenance Costs	171.03	179.67	190.16
Provision for IT & Other Initiatives	18.16	23.30	1.28
Provision for AMR	-	6.91	-
Interest & Financing Charges	0.20	0.47	2.02

Particulars	FY09	FY10	FY11
Supply Margin	2.20	2.20	2.20
Less: Non Tariff Income	85.16	89.21	93.47
Less: Capitalisation of Interest & Expenses	15.11	16.08	15.89
Net True Up as per True up Order dated 11th August 2009	(53.64)		
Aggregate Revenue Requirement	**1587.50**	**1877.15**	**2239.81**

Wheeling Charges

4.144 Based on the ARR approved for Wheeling business, the Commission has determined the Wheeling charges for the Control Period as per the methodology specified in the MYT Regulations, 2007. The summary of the approved Wheeling charges for the Control Period is shown below:

Table 96: Approved Wheeling Charges for the Control Period

Particulars	FY09	FY10	FY11
Wheeling ARR (Rs Cr)	435.01	463.80	510.55
Energy Sales (MU)	5782.16	6501.48	7156.58
Wheeling Charges (Paisa/ unit)	**75**	**71**	**71**

4.145 The above charges are applicable to all consumers connecting to distribution network and the distribution losses approved by the Commission would be borne by the beneficiary in kind.

A5: TARIFF PHILOSOPHY & DESIGN

Cost to Serve

5.1 In this Section, the Commission has elaborated on the detailed methodology and assumptions used for determination of the cost of supply giving reasons for the changes in assumptions, wherever applicable.

5.2 In the earlier Tariff Orders, the Commission had made an effort to reduce the cross-subsidies, by reducing the differential between the average revenue realisation and the cost of supply at the respective voltage. The Commission had also tried to ensure that no consumer category is subject to a tariff shock and reduction in cross-subsidy had to be in a gradual manner.

5.3 The tariffs proposed by the Board in ARR petition have little scientific basis as they are neither based on average cost nor on voltage wise cost of supply.

5.4 The Commission has developed a Cost to Serve Model based on information provided by the Board. In subsequent sections, detailed assumptions and the method of computation of the cost of supply for FY10 has been explained.

Assumptions

5.5 The Commission has considered the following assumptions:

(a) Energy Input – Only the energy input into the state transmission system is required for intra state consumption and it has not considered energy sale outside the state.

(b) Energy flows through each voltage level to reach Low-Tension (LT) consumer. So the losses and costs at higher voltages are shared at lower voltages. It was an assumption due to lack of load flow study information and accurate power flow diagram outlining the flow of energy from one voltage to another.

(c) Category-wise sales have been allocated to different voltages in the same proportion based on past information, except for the categories where sales data at different voltages is available like Large Industries, Water Pumping, and Bulk Supply.

(d) As the Board has failed to submit authentic information on losses at different voltage level, the losses at EHT level have been estimated at 3.71%, similar to past year. The overall losses in the Board system for sales within the state has been benchmarked at 13.49% for FY09, losses at 11 KV and above (HT) have been considered as 7.50% and resultant losses at voltage levels below 11 KV (LT) have been estimated at 10.65%.

(e) Cost segregation across voltage levels and consumer category wise is not available with the Commission. Segregation has been done based on the information provided by the Board in the past.

Methodology

5.6 Power Cost - The unit cost of generation and power purchase has been determined by dividing the total generation and power purchase cost with the total energy input into the system for the state's own consumption.

5.7 Cost of Supply to consumers at 66 kV and above has been determined by allocating the losses and cost according to the sales in this network (66 kV and above) and power wheeled through this network. Similarly, losses have been apportioned according to the sale at this system and the power wheeled through this system.

5.8 Cost of Supply to consumers at High Tension (11 kV and above) has been estimated by allocating costs and losses according to the sales to HT consumers and power wheeled to reach the LT network. It also proportionally includes the cost and losses incurred during the wheeling of power at 66 kV and above network.

5.9 Cost of Supply for the consumers at Low Tension (below 11 kV) level has been estimated by ascertaining the distribution cost (below 11 kV), losses (below 11 kV) and sales to LT consumers. It also includes the proportional costs (and losses) incurred for wheeling the power at higher voltage levels (from 220 kV till 11 kV).

Sales at various voltage levels

5.10 The sales at various voltage levels have been estimated based upon assumptions mentioned above, and are reproduced in the table below:

Table 97: Sales at Different Voltage Levels (MU)

S. No	Category	Total Sales (MU)	EHT (>=66kV)	HT (>=11kV)	LT (<11kV)
1	Domestic	1228.09	0.00	0.00	1228.09
2	NDNCS	95.89	0.00	28.77	67.12
3	Commercial	294.51	0.00	44.18	250.33
4	Small & Medium Industrial Power	209.68	0.00	0.00	209.68
5	Large Industrial Power Supply (LIPS)	4065.31	1567.40	2497.91	0.00
6	Water Pumping & Agricultural and Allied Activities	410.44	0.00	115.28	295.16
7	Street Lighting	14.15	0.00	0.00	14.15
8	Bulk supply	154.51	0.00	98.71	55.81
9	Temporary Supply	28.89	0.00	0.00	28.89
	Total (inside State)	**6501.48**	**1567.40**	**2784.84**	**2149.23**

Losses at various voltage levels

5.11 As discussed earlier, the losses at each voltage level have been assessed on the basis of certain assumptions. The losses at each voltage level are brought out in the Table below:

Table 98: T&D Losses at Different Voltage Levels

S. No	Particular	T & D Loss (MU)
1	66 kV and above (EHT)	276.58
2	11 kV and above (HT)	421
3	Below 11 kV (LT)	256
4	**Total**	**953.58**

Cost Segregation

5.12 All the costs are divided into Generation, Transmission, and Distribution, in the following manner.

5.13 **Generation and Power purchase cost**: The Commission has considered the approved generation and power purchase cost at Rs 1644.48 Cr.

5.14 **Transmission Cost**: The Commission has approved transmission cost of Rs. 130.42 Cr, (Transmission ARR of Rs 125.42 Cr plus Rs 5 Cr towards metering, billing and collection which is reflected in the distribution cost). This cost has been apportioned to the sale to industrial consumers, the power wheeled through this system and loss incurred in this network.

5.15 **Distribution Cost**: For arriving at the CoS, the Commission has considered the distribution cost of Rs 566.05 Cr after deducting Rs 5 Cr towards the metering, billing and collection cost incurred for the consumers in the transmission system from the Wheeling and Retail Supply cost of Rs 571.05 Cr. The distribution cost has further been divided into HT and LT network costs, according to the proportion of sales in these networks.

Table 99: Cost Allocation

Cost Head	Energy Wheeled (Excluding Losses) (MU) A	Cost Allocation (Rs Cr) B	Unit Cost (Rs/Unit) (B/A*10)	Applicable Categories
Generation & Power Purchase cost	7454.97	1644.48	2.21	EHT, HT and LT
Transmission cost	6501.48	130.42	0.20	EHT, HT and LT
Distribution Cost => 11 kV	4934.08	319.48	0.65	HT and LT
Distribution Cost < 11 kV	2149.23	246.56	1.15	LT
Total		**2340.94**		

Table 100: Loss Allocation

Loss	Energy Wheeled (MU)-A	Loss (MU) B	Loss (%) C = (B/A)*100	Gen & PP Cost*C (Rs/unit)	Applicable Categories
Transmission Loss	6501.48	276.58	4.25%	0.09	EHT, HT and LT
Distribution Loss(=>11 kV)	4934.08	420.82	8.53%	0.19	HT and LT
Distribution Loss(<11 kV)	2149.23	256.09	11.92%	0.26	LT

5.16 The approved CoS at different voltage level for determination of tariff is shown in the table below:

Table 101: Cost to Serve

S. No.	Particulars	Generation bus bar	EHT (>=66 kV)	HT (>=11kV)	LT (<11kV)	Total
1	Energy Input (MU)	7454.97	7454.97	5610.99	2405.32	
2	Loss (MU)		276.58	420.82	256.09	953.49
3	Sales at respective level (MU)	0.00	1567.40	2784.84	2149.23	6501.48
4	Cost at respective level (Rs Cr)	1644.48	130.42	319.48	246.56	2340.94
5	Generation and Power Purchase Cost (Rs/ unit)	2.21				
6	**Cost Allocation (Rs/ unit)**					
	Generation Cost		2.21	2.21	2.21	
	Transmission Cost		0.20	0.20	0.20	
	Distribution Cost (>= 11 kV)			0.65	0.65	
	Distribution Cost (< 11 kV)				1.15	
7	**Loss Allocation (Rs/ unit)**					
	Transmission Loss Allocation		0.09	0.09	0.09	
	Distribution Loss Allocation (>11 kV)			0.19	0.19	
	Distribution Loss Allocation (<11 kV)				0.26	
8	**Cost of Supply (Rs/ unit)**		**2.50**	**3.34**	**4.75**	**3.60***

***Rs 3.60 per unit is the average cost of supply**

Tariff Principles

5.17 The philosophy of tariff determination is primarily guided by the principles enshrined in Section 61 of the Electricity Act, 2003, Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2004 and the National Electricity Policy issued by Ministry of Power, GoI on February 12, 2005. The guiding principles as laid down in Section 61 of the Act are reproduced below:

(a) the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;

(b) the generation, transmission, distribution and supply of electricity are conducted on commercial principles;

(c) the factors which would encourage competition, efficiency economical use of the resources, good performance and optimum investments;

(d) safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner;

(e) the principles rewarding efficiency in performance;

(f) multi-year tariff principles;

(g) that the tariff progressively, reflects the cost of supply of electricity, and also reduces and eliminates cross-subsidies within the period to be specified by the Appropriate Commission;

(h) the promotion of co-generation and generation of electricity from renewable sources of energy;

(i) the National Electricity Policy and Tariff Policy.

5.18 Apart from these principles, the National Electricity Policy has also laid down emphasis on Multi-Year Tariff framework, segregation of technical and commercial losses, incentives for the use of pre-paid meters, putting in place the governance structure in distribution needed for ensuring recovery of cost of service from consumers, minimum level of support for consumers of poor categories, need to correct the imbalance on account of cross subsidy progressively and gradually without giving tariff shock to the consumers and above all, to promote competition which is the very essence of the Electricity Act. The National Electricity Policy also emphasizes that advance subsidy be given by the State Government as per Section 65 of the Act to the power utility and mentions that necessary budgetary provision be made in advance so that the utilities do not suffer financial problems. The Electricity Policy further mentions of the need to make efforts to ensure that subsidies reach the targeted beneficiaries in the most transparent and efficient way.

5.19 The Commission is guided by the principles as mentioned above. Based on the analysis of the cost to serve it is seen that the average cost of supply as determined for FY10 has reduced in comparison to the average cost of supply determined for FY09 in the last MYT Tariff Order. Hence the Commission has revised the tariff for FY10 in line with the reduced cost of supply taking into consideration the cross-subsidy levels for the various consumer categories.

5.20 The Hon'ble Appellate Tribunal in its order dated 21st October 2008 on Appeal No. 147/07 and IA No. 153/07 has directed the Commission to not to discriminate between the consumer categories –Agriculture and Allied Activities Supply (AAA) and Water Pumping Supply (WPS) on the basis of ownership

Quote

"the Commission does not discriminate between two consumers except on the basis laid down in Section 62(3) of The Electricity Act, 2003 and direct that the Commission re-determine the tariff for the category applicable to the appellant without disturbing the tariff for other categories. Resulting adjustments in revenue requirement for the year FY 2006-07 may be made while undertaking the next truing up exercise."

5.21 In view of the Hon'ble Appellate Tribunal's order as discussed above the Commission has decided to club the WPS and AAAS consumer categories to be henceforth referred to as Water and Irrigation Pumping Supply (WIPS).

5.22 The category-wise tariffs approved for FY10 are as follows:

Approved Tariff

DS: Domestic Supply

5.23 The existing schedule is applicable to consumers using electrical energy for lights, fans, heaters, cooking ranges, ovens, refrigerators, air conditioners, stereos, radios, televisions, mixers, grinders, electric iron, sewing/embroidery/knitting machines, domestic pumping sets and other domestic appliances in a single private house/flat or any other residential premises, religious places with connected load upto 5 kW, Monasteries, Panchayat Ghars and Patwarkhanas upto 2 kW, Orphanages, homes for old people and destitute, Working Women Hostels, Hostels attached to the educational institutions if supply is given separately to each hostel and the electricity charges are recovered from the students based on actual consumption, Leprosy Homes run by charity and un-aided by the Government and "Home Stay Units" in rural areas duly registered with the District Tourism Development Officer.

5.24 The Board has proposed the following for the consumers in the domestic category :

a) No increase in tariff for BPL consumers

b) Increase of 14.4% in the energy charges for consumers consuming upto 150 units per month

c) Increase of 15.9% in the energy charges for consumers consuming above 150 units per month

5.25 The comparison of existing tariff, tariff proposed by the Board and that approved by the Commission for domestic category is given below:

Table 102: Existing, Proposed and Approved Tariff for Domestic Category

Description	Existing		Proposed		Approved by Commission	
	Energy Charges	Consumer Service Charges	Energy Charges	Consumer Service Charges	Energy Charges	Consumer Service Charges
Units/Month	Rs/kWh	Rs/consumer/ month	Rs/kWh	Rs/consumer/ month	Rs/kWh	Rs/consumer/ month
BPL Consumer (Up to 50 units per month)	1.85	Nil	1.85	Nil	1.80	Nil
0-150	2.10	25.00	2.40	25.00	1.90	25.00
Above 150	3.15	25.00	3.65	25.00	3.15	25.00
Pre-paid meter	2.10		-	-	1.90	

5.26 The Govt. of Himachal Pradesh had provided subsidy to the Domestic Consumers last year (FY09). The details of the given subsidy is shown below:

Table 103: Effective Domestic Tariff after GoHP Subsidy for FY09

S. No	Consumer Slab	Tariff for Last Year	Govt. of HP Subsidy (In Rs/Unit)	Effective Tariff for Consumer
1	BPL	1.85	1.15	0.70
2	>0 - <=150	2.10	1.20	0.90
3	>150 - <=300	3.15	1.45	1.70
4	>300	3.15	0.70	2.45

5.27 The GoHP has budgeted a provision for subsidy of Rs 140 Cr for FY10. However; effective tariffs for FY10 for different slabs of domestic categories as shown below would entail a subsidy outgo of approx Rs 156 Cr.

Table 104: Effective slab wise per unit GoHP subsidy for FY10

S. No	Consumer Slab	Tariff for Current Year	Govt. of HP Subsidy (In Rs./Unit)	Effective Tariff for Consumer
1	BPL	1.80	1.10	0.70
2	>0 - <=150	1.90	1.20	0.70
3	>150 - <=300	3.15	1.45	1.70
4	>300	3.15	0.70	2.45

5.28 The Commission has reduced the tariff for Domestic Category taking into account the reduction of average cost of supply.

5.29 Due to the reduction in tariff consumers in this category will get a relief of Rs.11.38 Cr.

Table 105: Impact of proposed tariff

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
337.73	326.35	(11.38)

5.30 The applicable rebates and surcharges for this category have been detailed in Annexure II.

Non Domestic Non Commercial Supply

5.31 This schedule is applicable to Government and semi Government offices, Government Hospitals, Educational Institutions viz. Schools, Universities; I.T.Is, Colleges, Government Sports Institutions, Government Mountaineering Institutions and allied sports, Government Libraries, Centre for Institute of Engineers, Hostels and residential quarters attached to the educational institutions if supply is given at a single point; Religious places such as Temples, Gurudwaras, Mosques, Churches with connected load greater than 5 kW, Sainik and Government Rest Houses, Anganwari workers training centres; Mahila mandals, village community centers, Hospitals run on charity basis; Sarais and Dharamsalas run by Panchayats and Municipal Committees or on donations and those attached with religious places; and Panchayat Ghars and Patwar Khana greater than 2 kW.

NOTE: In the case of residences attached to the Government as well as private Institutions, the same shall be charged at the 'Domestic tariff' where further distribution to such residential premises is undertaken by the Board and the Board provides meters for individual consumers.

5.32 The Board has proposed to increase the normal energy charges by 60 Paisa per kWh for 0-20 kW slab and 65 Paisa per kVAh for above 20 kW slab.

5.33 The comparison of existing tariff, tariff proposed by the Board and that approved by the Commission is given in the tables below:

Table 106: Existing, Proposed and Approved Tariff for NDNCS Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs/kWh	Rs/consumer/month	Rs/kWh	Rs/consumer/month	Rs/kWh	Rs/consumer/month
4.05	60.00	4.65	60	4.05	60.00

Table 107: Existing, Proposed and Approved Tariff for NDNCS Category (Above 20kW)

Existing			Proposed			Approved by the Commission		
Energy Charge	Consumer Service charge	Demand Charge	Energy Charge	Consumer Service charge	Demand Charges	Energy Charge	Consumer Service charge	Demand Charge
Rs/kVAh	Rs/con/ month	Rs/kVA/ month	Rs/kVAh	Rs/con/ month	Rs/kVA/ month	Rs/kVAh	Rs/con/mo nth	Rs/kVA /month
3.30	120	100	3.95	120	100	3.30	120	100

5.34 The applicable rebates and surcharges for this category have been detailed in Annexure II of this Order.

Commercial Supply (CS)

5.35 This schedule is applicable to consumers for lights, fans, appliances like pumping sets, central air conditioning plants, cold storages, lifts, heaters, embroidery machines, printing press, power press and small motors in all Commercial premises such as shops, business houses, cinemas, clubs, banks, private offices, private hospitals, petrol pumps, hotels/motels, welding sets, service stations, private nursing homes, private rest/guest houses, private research institutions, private coaching institutions, private museums, dry cleaning, garages and private auditoriums, departmental stores, restaurants, lodging and boarding houses. This schedule will also include all other categories, which are not covered by any other tariff schedule.

5.36 The Board has retained the existing tariff structure in its petition and proposed to increase energy charges by:

a) 45 Paisa per kWh for 0-20 kW slab

b) 70 Paisa per kVAh for 20 kW-100 kW slab

c) 65 Paisa per kVAh for above 100 kW slab

5.37 The existing tariff, tariff proposed by the Board and tariff approved by the Commission are given in the tables below:

Table 108: Existing, Proposed and Approved Tariff for CS Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs./kWh	Rs/cons/month	Rs./kWh	Rs/cons/month	Rs./kWh	Rs/cons/month
4.30	60	4.75	60	4.30	60

Table 109: Existing, Proposed and Approved Tariff for CS Category (Above 20kW)

Slab	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/kVAh	Rs/con/month	Rs/kVA/month	Rs/kVAh	Rs/con/month	Rs/kVA/month	Rs/kVAh	Rs/con/month	Rs/kVA/month
20-100 kW	3.55	120	75	4.25	120	75	3.55	120	75
Above 100kW	3.35	240	100	4.00	240	100	3.35	240	100

5.38 In case of mobile welding sets, consumer will pay Rs 200/day, in addition to energy charge.

5.39 The applicable rebates and surcharges for this category have been detailed in Annexure II.

Small and Medium Industrial Power Supply (SMS)

5.40 This schedule is applicable to Industrial consumers with connected load not exceeding 100 kW including pumps (other than irrigation pumping), poultry farms and sheds, Atta Chakkies, and also for supply to Information Technology Industry, limited only to IT Parks recognised by the State/Central Government. The Industrial type of Agricultural loads with connected load falling in the above-mentioned range and not covered by Schedule “WIPS” shall also be charged under this schedule.

5.41 The Board has retained the existing tariff structure in its petition and proposed to increase normal energy charges by 75 Paisa per kWh for 0-20 kW slab and 75 Paisa per kVAh for above 20 kW slab.

5.42 The existing tariff, tariff proposed by the Board and tariff approved by the Commission are given in the tables below.

Table 110: Existing, Proposed and Approved Tariff for SMS Category (Up to 20kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs/kWh	Rs/consumer/month	Rs/kWh	Rs/consumer/month	Rs/kWh	Rs/consumer/month
3.70	60	4.45	60	3.70	60

Table 111: Existing, Proposed and Approved Tariff for SMS Category (Above 20kW)

Existing			Proposed			Approved by the Commission		
Energy Charge	Consumer Service charge	Demand Charge	Energy Charge	Consumer Service charge	Demand Charges	Energy Charge	Consumer Service charge	Demand Charge
Rs/kVAh	Rs/con/month	Rs/kVA/ month	Rs/kVAh	Rs/con/month	Rs/kVA/ month	Rs/kVAh	Rs/con/month	Rs/kVA/ month
3.05	120	100	3.80	120	100	3.05	120	50

5.43 The Demand charges for SMS consumers above 20 kW have been reduced by Rs 50 per kVA/ month.

5.44 Due to the reduction in tariff consumers in this category will get a relief of Rs.1.71 Cr.

Table 112: Impact of proposed tariff

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
82.13	80.42	(1.71)

5.45 The applicable rebates and surcharges for this category have been detailed in Annexure II.

5.46 All consumption for bona fide factory lighting, i.e., energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bona fide use of residential/staff quarters and street lighting of the colony shall also be charged under this tariff schedule if the supply is not taken separately but taken at the same single supply point of the industry. Such consumption shall be charged for the energy consumed at the following rates, irrespective of whether the consumer has opted for peak time consumption or not:

(a) During normal time: normal rate

(b) During peak time: the PLEC rate

(c) During night time: the night time rate

5.47 If supply for colony lighting / residences is taken separately than the same shall be charged as per the relevant category under this schedule of tariff.

Large Industrial Power Supply (LIP)

5.48 This schedule is applicable to all industrial power consumers with connected load exceeding 100 kW including the Information Technology industry (limited only to IT parks recognized by the State/Central Government) and not covered by schedule “WIPS”.

5.49 The Board has proposed the following in its petition:

(a) Increase of 105 Paisa in energy charges for EHT upto 300 kVAh/ kVA/ month

(b) Increase of 110 Paisa in energy charges for EHT balance kVAh during the month

(c) Increase of 110 Paisa in energy charges for HT upto 300 kVAh/ kVA/ month

(d) Increase of 120 Paisa in energy charges for HT balance kVAh during the month

5.50 The existing tariff structure and the tariffs proposed by the Board for LIPS category is given in the table below:

Table 113: Existing, Proposed and Approved Tariff for Large Industrial Power Supply Category

	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/ kVAh	Rs/con/ month	Rs/kVA/ month	Rs/ kVAh	Rs/con/m onth	Rs/kVA/ month	Rs/ kVAh	Rs/con/ month	Rs/kVA/ month
EHT									
Upto 300 kVAh/kVA/ month	2.35	350	185	3.40	350	185	2.20	350	185
Balance kVAh during month	2.50	350	185	3.60	350	185	2.35	350	185
HT									
Upto 300 kVAh/kVA/ month	2.50	250	225	3.60	250	225	2.35	250	225
Balance kVAh during month	2.65	250	225	3.85	250	225	2.50	250	225

5.51 The energy charges for LIPS have been uniformly reduced by 15 Paisa/unit to reduce the cross-subsidy burden, as a result of reduction in average cost of supply.

5.52 Due to the reduction in tariff consumers in this category will get a relief of Rs.45.72 Cr.

Table 114: Impact of proposed tariff

Total Projected Revenue at Existing Tariff (Rs Cr)	Total Projected Revenue at Proposed Tariff (Rs Cr)	Net Impact of Proposed Tariff (Rs Cr)
1439.78	1394.06	(45.72)

5.53 The applicable rebates and surcharges for this category have been detailed in Annexure II.

Bulk Supply

5.54 This schedule is applicable to general or mixed loads to M.E.S and other Military establishments, Railways, Central PWD Institutions, Hospitals, Departmental colonies, A.I.R Installations, Aerodromes, construction power to hydroelectric projects and other similar establishments where further distribution to various residential and non-residential buildings is to be undertaken by the consumers for their own bonafide use and not for resale to other consumers with or without profit. However, in case of MES, this schedule shall continue to apply till such time M.E.S. do not avail open access.

5.55 The Board has proposed a hike of 70 Paisa per kVAh in energy charges for LT consumers, 65 Paisa per kVAh for HT consumers.

5.56 The existing tariff, tariff proposed by the Board and tariff approved by the Commission is given in the table below:

Table 115: Existing, Proposed and Approved Tariff for Bulk Supply Category

	Existing			Proposed			Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges	Energy Charges	Service Charges	Demand Charges
	Rs/ kVAh	Rs/con/ month	Rs/kVA/ month	Rs/ kVAh	Rs/con/ month	Rs/kVA/ month	Rs/ kVAh	Rs/con/ month	Rs/kVA/ month
LT	3.55	120	200	4.25	120	200	3.55	120	200
HT	2.65	120	150	3.30	120	150	2.65	120	150
EHT	2.55	120	140	-	-	-	2.55	120	140

5.57 The applicable rebates and surcharges for this category have been detailed in Annexure II.

Street Lighting Supply

5.58 This schedule is applicable for Street Lighting system including traffic control signal systems on roads and Park lighting in Municipalities, Panchayats and Notified Committee areas.

5.59 The Board has proposed to increase the energy charge by 40 Paisa per kWh for this category.

5.60 The existing tariff, tariff proposed by the Board and tariff approved by the Commission is given in the table below:

Table 116: Existing, Proposed and Approved Tariff for Street Lighting Supply Category

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs/kWh	Rs/consumer/ month	Rs/kWh	Rs/consumer/ month	Rs/kWh	Rs/consumer/ month
3.60	60	4.00	60	3.60	60

5.61 The applicable rebates and surcharges for this category have been detailed in Annexure II.

Temporary Metered Supply

5.62 This schedule is applicable to all loads of temporary nature including exhibitions, touring talkies, circuses, fairs, melas, marriages, festivals, temporary supply for construction purposes including civil works by Government departments and other similar purposes for temporary needs only. However, this tariff is not applicable to wheat threshers and paddy threshers, which shall be covered under Water & Irrigation Pumping Supply (WIPS) even for temporary connection.

5.63 The Board has proposed an increase of 60 Paisa/kWh for upto 20 kW slab and by 45 Paisa/kVAh for consumers above 20 kW connections.

5.64 The existing, proposed and the tariff approved by the Commission is given as under:

Table 117: Existing, Proposed and Approved Tariff for Temporary Meter Category (Up to 20 kW)

Existing		Proposed		Approved by the Commission	
Energy Charge	Consumer service charge	Energy Charge	Consumer Service Charge	Energy Charge	Consumer Service Charge
Rs/kWh	Rs/consumer/ month	Rs/kWh	Rs/consumer/ month	Rs/kWh	Rs/consumer/ month
6.30	120	6.90	120	6.30	120

Table 118: Existing, Proposed and Approved Tariff for Temporary Meter Category (above 20 kW)

Existing			Proposed			Approved by the Commission		
Energy Charge	Service charge	Demand Charge	Energy Charge	Service charge	Demand Charges	Energy Charge	Service charge	Demand Charge
Rs/kVAh	Rs/con/m onth	Rs/kVA/ month	Rs/kVAh	Rs/con/m onth	Rs/kVA/ month	Rs/kVAh	Rs/con/m onth	Rs/kVA/ month
4.75	120	300	5.20	120	300	4.75	120	300

5.65 The applicable rebates and surcharges for this category have been detailed in Annexure II.

Water and Irrigation Pumping Supply (WIPS)

5.66 As has been brought out in para 5.20 and 5.21 of this Order, the earlier categories of WPS and AAAS have been merged together and henceforth would be referred to as Water and Irrigation Pumping Supply (WIPS).

5.67 The schedule is applicable to Government connections for water and irrigation pumping. The schedule also covers all consumption for bona fide Pump House lighting.

5.68 This schedule shall also be applicable to private Irrigation Pumping loads, green houses, poly houses, processing facilities for agriculture, pisciculture, horticulture, floriculture and sericulture etc. where all such activities are undertaken by farmers only under this category. This schedule will also be applicable to temporary agricultural loads such as wheat threshers, paddy threshers, tokas, and cane crushers.

5.69 The Board has proposed to increase the energy charges under WPS for LT consumers by 70 Paisa per kVAh, for HT consumers by 55 Paisa per kVAh and 50 Paisa per kVAh for EHT consumers in the petition.

5.70 The Board has not proposed any increase for AAAS consumers in the petition.

5.71 The tariff approved by the Commission is given in the table below: -

5.72 The single-part tariff applicable to Water and Irrigation Pumping Supply (WIPS), for connected load upto 20 kW, shall be as shown in the table below:

Table 119: Tariff for WIPS upto 20 kW

Category	Approved by the Commission	
	Energy Charges	Consumer service charges
	Rs/kWh	Rs/ Consumer/ month
Upto 20 kW	1.85	25

5.73 The two-part tariff applicable for WIPS for connected load above 20 kW shall be as shown in the table below:

Table 120: Tariff for WIPS above 20 kW

Category	Approved by the Commission		
	Energy Charges	Service Charges	Demand Charges
	Rs/kVAh	Rs/consumer/Month	Rs/kVA/Month
LT	3.20	120	200
HT	3.05	120	150
EHT	2.50	120	120

5.74 The applicable rebates and surcharges for this category have been detailed in Annexure II.

5.75 The Govt. of Himachal Pradesh has been providing subsidy to the Agriculture Consumers (AAAS category) in the previous years. The AAAS category has been merged with WPS category and a new category WIPS has been created by the Commission in compliance with the ATE Order. In case the GoHP decides to extend subsidy to the consumers in WIPS category, the Board shall approach the Commission for approval of the same.

A6: REVENUE PROJECTIONS

Revenue from Sale of Power within State

6.1 For calculation of projected revenues for each category of consumers along with its slabs and sub categories, actual past data has been taken into account for certain categories like domestic and industrial consumers. For other categories, estimation has been done to split sales across slabs and sub categories as proposed by the Board.

6.2 For projection of sales from WIPS category in the absence of data, 30% of sales under WPS at less than 11kV has been considered at tariff applicable for less than 20 kW consumers under the revised WIPS category.

6.3 The Commission has calculated the revenue from sale of power across each consumer category at approved tariff as shown in the table below:

Table 121: Revenue Projection from Sale of Power within State for Year FY10 (In Rs. Cr)

Category	Revenue at approved Tariff	Avg. Realization(Rs/unit)
Domestic	326.35	2.66
NDNCS	42.34	4.42
Commercial	143.10	4.86
Small & Medium Supply	80.42	3.84
Large Industrial Power Supply (LIPS)	1394.06	3.43
WIPS	150.54	3.67
Public Lighting	5.14	3.63
Bulk Supply	56.53	3.66
Temporary	18.56	6.42
Total	**2217.03**	**3.41**

Revenue from sale of power outside State

6.4 The Board in its petition has projected the sale of power outside the state as 684 MU which includes banking power of 600 MU and the proposed revenue from Sale of Power outside the state as Rs 50.35 Cr.

6.5 The Commission has projected the power available for sale outside the state (Ex-bus) during FY10, the summary of the same is shown below:

Table 122: Surplus Power Available for Sale in FY10 (MU)

Particulars	FY10
Total Surplus at Distribution Periphery (MU)	910.86

Particulars	FY10
Intra State Transmission Losses (%)	3.71
Inter State Transmission Losses (%)	3.50
Total surplus at Ex- Bus (MU)	**980.26**

6.6 The Commission has considered that out of the surplus power of 980.26 MU, the Board would be able to bank 600 MU and the balance surplus power i.e. 380.26 MU would be sold in the short term market.

6.7 As the banking power would be returned in the same financial year, hence, neither the cost nor the revenue has been considered against the banking power.

6.8 The cost of power purchase for sale of power outside state, revenue and profit from it are tabulated below:

Table 123: Revenue Projection for Sale of Power outside State

Parameters	Units
Power Sold in the short term market (MU)	380.26
Sale Rate (Rs Per unit)	7.01
Revenue from sales of power outside state (Rs Cr)	**266.56**

Overall Revenue – Expenditure Position of HPSEB

6.9 The overall revenue and expenditure position of HPSEB at approved tariff is given in the table below:

Table 124: Overall Revenue-Expenditure position of HPSEB for FY10

Parameters	Rs Cr
Aggregate Revenue Requirement	2340.94
Revenue From Sale of Power within state	2217.03
Revenue from sale of power outside state	266.56
Revenue Surplus/(Gap)	**142.65**

6.10 The Commission, hereby, directs the Petitioner to transfer the complete surplus revenue realized in FY10 at approved tariffs to MYT Contingency Reserve as per regulation 12 of the HPERC (Terms and Condition for determination of Wheeling Tariff and Retail Supply Tariff) Regulation, 2007. The Commission however, would like to highlight that the surplus revenue of Rs 142.65 Cr as determined is a provisional estimate and may change while truing up of the expenses for FY10. This reserve would be utilized to meet the imminent increase in tariffs of CGS stations, the impact of the implementation of the Pay Commission recommendations as well as truing up.

A7: DIRECTIONS

7.1 The Commission had issued directions to the Board in the previous tariff orders which if followed sincerely would have gone a long way in improving its efficiency and productivity and providing better quality supply & service to consumers. The Commission has been regularly reviewing the progress in implementation of these directions and some of the key directions were reviewed during hearing on 3 May 2008 and an interim order was issued on the same day.

7.2 All such directions, which have not been complied with to the satisfaction of the Commission, are reiterated and the Commission directs that these shall be implemented meticulously by the Board and its unbundled successor entities, during the first control period and shall be monitored as controllable parameters. The utility may approach the Commission where it finds any problem in implementation of a particular direction so that necessary guidelines, if required, are issued to facilitate implementation of such direction. The directions of previous tariff orders, which are still not fully complied with to the satisfaction of the Commission, are carried forward in this order are as given below:-

7.3 **Directions of Tariff Order FY02**

(a) Unbundled Costs (Direction Nos. 7.1 to 7.3)

(b) Financial Restructuring (Direction No. 7.8)

(c) Public Interaction Programme (Direction Nos. 7.11 & 7.12)

(d) Unproductive Assets (Direction No. 7.13)

(e) Power Sector Reforms (Direction No. 7.14)

(f) Voltage wise Data (Direction No. 7.29)

7.4 **Directions of Tariff Order FY05**

(a) Prioritization of Deliverables from ASCI (Direction No. 9.4.1.5)

(b) Valuation of Assets (Direction Nos. 7.15 to 7.17 & 9.4.1.8)

(c) T&D Losses (Direction Nos. 9.4.2 & 10.4.4)

(d) Capital Works in Progress (CWIP) to be capitalized (Direction No. 9.4.3)

(e) Capital Projects, Time & Cost Overrun (Direction Nos. 9.4.4 and 9.4.11)

(f) Outstanding dues from Govt. Departments. (Direction No. 9.4.13)

(g) Employees Cost (Direction Nos. 9.4.14)

(h) Material Management-(Direction No. 9.4.15)

(i) Metering, Billing & Collection Efficiency (Direction No. 9.4.16)

(j) 400 KV line from Nalagarh to Kunihar & 400 KV sub-station at Kunihar and 220 KV Sub-Station at Nalagarh by HPSEB (Direction Nos. 9.4.21)

(k) Justification of REC funded schemes (Rajiv Gandhi Gramin Vidyutikaran Yojna Scheme) and multilateral funding of distribution schemes. (Direction Nos. 9.4.20)

(l) E-governance (Direction No. 10.4.20[a])

(m) Scheduling of Baspa-II (Direction No. 10.4.20[c])

7.5 **Directions of Tariff Order FY06**

(a) Declining Generation of Board's own stations (Direction No. 10.5.2)

(b) Procurement of Long Term Power (Direction Nos. 10.5.3 & 10.5.4)

(c) High Voltage Distribution system (Direction No. 10.5.5)

(d) Installation of single phase transformers (Direction No. 10.5.6)

(e) Ratio of single and two phase lines to three phase LT Lines (Direction No. 10.5.7)

(f) Interface Metering (Direction No. 10.5.9)

(g) Replacement of defective/dead stop meters (Direction No. 10.5.10)

(h) Pre-paid metering (Direction No. 10.5.11)

(i) Consumer services for senior citizens (Direction No. 10.5.12)

(j) Unmanning of sub-stations (Direction No. 10.5.13)

(k) Audit (Direction No. 10.5.15)

(l) O&M of generation projects in tribal area (Direction No. 10.5.19)

(m) Larji Project (Direction Nos. 9.4.23.1)

7.6 **Directions of Tariff Order FY07**

(a) Decision Making Process (Direction No. 12a)

(b) Accelerated programme for renovation, modernization and up-gradation (Direction No. 12b)

(c) Debt sustainability Study (Direction No. 12c)

(d) Manpower Planning (Direction No. 12d)

(e) Rationalization of staff, redeployment, training & specialization in key activities (Direction No. 12e)

(f) Change in R&P Rules (Direction No. 12f)

(g) Reduction of Commercial Losses (Direction No. 12g)

(h) Implementation of MYT (Direction No. 12i)

(i) Determination of Generation Tariff of Board's own projects (Direction No. 12l)

(j) Miscellaneous (Direction No. 12m)

  (i) Provide Toll free numbers and Call Centres for complaint redressal (Direction No. 12m[i])

  (ii) Creation of Separate Protection Unit & separate O&M Wing for the existing generating stations (Direction No. 12m[iii])

  (iii) To delegate power to Chief Engineers for transfer of employees within their area of operation (Direction No. 12m[v])

  (iv) Invest its Corpus of GPF of the employees over the next three years in higher paying instruments so that the employees interests are safeguarded (Direction No. 12m[vi])

  (v) Trading Strategies and Systems (Direction No. 12.5[a])

  (vi) Best Practices for restructuring the project implementation units of the Board and its Special Purpose Vehicles Companies (SPVs) (Direction No. 12.5 [ii])

  (vii) Transmission network in the State (Direction No. 12.5[e])

7.7 Directions of Tariff Order FY08

(a) Unbundling Costs (Direction No. 12.3)

(b) Data base management & Management Information System (Direction No. 12.4)

(c) Quality of supply (Direction No. 12.5)

(d) Benchmark study (Direction No. 12.6)

(e) Manpower Planning (Direction No. 12.7)

(f) Business Plan for next five years (Direction No. 12.8)

(g) Investment Plan (Direction No. 12.9)

(h) Study on SCADA (Direction No. 12.10)

(i) Measurement of Harmonics (Direction No. 12.11)

(j) Minimum Voltage Level for Power Intensive Units (Direction No. 12.12)

(k) Metering, Billing & Collection Efficiency-streamlining the system (Direction No. 12.13)

7.8 **Directions of Tariff Order FY09**

(a) Energy Audit

(b) Loss Making Circles and Feeders

(c) Distribution Transformer Failure Rate

(d) Market Survey

(e) Break-up of voltage-wise losses and assets in Distribution Network

(f) Capital Investments Transmission and Distribution Schemes

(g) Asset Capitalization

(h) New Projects

(i) Share from Ultra-Mega Power Projects

(j) Power Purchase Agreements

(k) Preventive Maintenance Manuals/Schedules

(l) Survey and Investigations Schemes

New Directions for FY10

Implementation of Automatic Meter Reading

7.9 The Commission has decided to encourage automatic meter reading or AMR as a step in the direction of creating Advanced Metering Infrastructure (AMI) in the state. In this regard, the Commission had asked the Board to submit a detailed proposal with respect to implementing the AMR in the state, considering the fact that a pilot project was already under implementation successfully under Operation Circle, Solan covering 460 large industrial consumers.

7.10 Based on the proposal submitted by the Board, the Commission has made a provision of Rs.6.91 Cr in the ARR for this purpose, which would be trued up on annual basis The Commission hereby directs the Board to implement AMR as per the timelines given below:

(a) Implement the AMR for all large industrial power supply consumers by 31.03.2010 in the first phase.

(b) Implement the AMR for all SMS consumers having connected load above 50 KW by 31.03.2011 in the second phase.

7.11 The Board has also mentioned that it proposes to undertake AMR project under the R-APDRP scheme launched by MoP, GOI, which covers major towns in the State. The provision in the ARR would be in addition to whatever funding the Board may obtain under the R-APDRP.

7.12 The Commission also directs the Board to renegotiate or invite tenders from the GSM communication providers, within the State, to minimize the communication costs, considering the economies of scale such bulk connections would provide.

Demand side management

7.13 Commission is in the process of preparing a detailed plan for Energy Efficiency in Demand Side Management by hiring a consultant. For the development of this plan, the support and involvement of Board at each and every stage is extremely important. During the assignment the Board shall have to supply various information/data to the consultants from time to time. The Board, therefore, shall appoint a Nodal Officer (not below the rank of Superintending Engineer) for this purpose and get earnestly involved in the process of designing and development of the Energy Efficiency Demand Side Plan (EE & DSM). After finalisation and approval of this Plan by the Commission, the Board shall submit its EE & DSM proposals to the Commission in accordance with the plan. Consequent to the review and approval of these proposals/ programmes, the Board shall carry out their implementation within the timelines stipulated in such proposals.

Ring fencing of the SLDC

7.14 The Ministry of Power, GOI, constituted a committee on "Manpower certification and incentive for System Operation and Ring Fencing Load Despatch Centres" to ensure functional autonomy for Load Despatch Centres. The Committee in its report dated 11th Aug 2008, observed that functional autonomy would mean taking decisions without being adversely influenced by extraneous issues originating from the Company Management or any other market player, which can be insured through:

(a) Independent governance structure

(b) Separate accounting

(c) Adequate no of skilled manpower having high ethical standards and driven by altruistic values

(d) Adequate logistic / infrastructure

7.15 For implementation of the recommendation of the Committee, the Ministry of Power, GOI created a task force vide notification dated 13th October 2008 and the task force has submitted its report for implementation.

7.16 The Commission hereby directs the Board to formulate and develop methodology and philosophy for separation of SLDC from HPSEB/STU in order to provide ring fencing and functional autonomy including separation of assets, manpower, accounts etc. It should also prepare CAPEX plan, Business plan and Strategic Plan related and formulation of tariff petition, filing it to HPERC. The prime objective behind this directive is to implement the recommendation of GOI for ring fencing of SLDC and the timelines for various activities is as under:

(a) **Submission of detailed action plan for implementing recommendation of GOI** - The Board shall submit this report within 2 month of issuance of this order.

(b) **Formation of company for SLDC** – Within 4 months of issuance of this order.

(c) **Formulation of business plan and strategy for SLDC** - Within 5 months of issuance of this order.

(d) **Separation of SLDC Accounts/Assets/Manpower**: It includes separation of manpower, assets, accounts and financial statement from HPSEB/STU by determining appropriate Transfer Scheme – Within 9 months of issuance of this order.

(e) **Preparation of Investment Plan, Annual Revenue Requirement and CAPEX plan** for 2011-14 and filing of tariff petition to HPERC - within 12 months of issuance of this order.

Inconsistency / non-reconciliation of data

7.17 The Commission has observed while doing the true up for FY 08 that there was a difference between the sales figures mentioned in the petition and the audited accounts of the Board. Similarly, the station-wise power purchase costs reflected in the petition do not match with the audited figures. Since the sales and power purchase are uncontrollable parameters, which are required to be trued up every year under the MYT regime, the Commission directs the Board to create a robust sales and revenue reporting mechanism to avoid discrepancies in the sales and power purchase figures between tariff filing and annual accounts in future to avoid any disallowance on this account.

A8: STRATEGIC ISSUES

8.1 Regulatory reform in Himachal Pradesh in the power sector has slowly moved, from the interventionist phase of a cost plus system (wherein informational asymmetry was prevalent and the tendency to over capitalise present) to a phase of multiyear frameworks wherein incentive compatible regulation is used to improve operational efficiency though the pursuit of lower costs, attainment of more efficient pricing and maintenance of appropriate levels of service quality. There is a need to move up the ladder towards yardstick regulation post 2011.

8.2 Although tariff reduction has taken place in two of the last three year's of Regulatory oversight in the power sector, the tragedy is that there is considerable scope for consumers to benefit from lower electricity prices if efficiency and productivity within the Board (HPSEB) improves on the basis of restructuring and reform. The fact that reform has not taken place ensures the consumer benefits to the extent of 40 – 50 paisa per unit are lost in the medium term.

8.3 The inculcation of Demand Side Management initiatives in a comprehensive manner through sector specific legislation, development of regulations and codes on energy efficiency, load research and demand forecasts and subsequent interventions in rebuilding codes and machine efficiencies is on the anvil in the State. While the Board (HPSEB) introduced CFL technologies as a first measure, there is a need to take a holistic view and draw up a comprehensive framework for this important initiative.

8.4 The Independent Power Producers (IPPs) have to some extent speeded up implementation of their projects in the State but delays on all sides including Governmental clearances, have led to losses to the Government, to the Board and to the integrated power system of the country, in addition to the loss to Individual Project Entrepreneurs. It is essential that Government in the Power Department sets up an effective mechanism to monitor the individual power projects so that the interests of the various stake-holders are protected. The evacuation system has become a major de-accelerator in the whole process. The Board itself has been extremely slow to react to the needs of the new transmission network, whereas the funding is with the Transmission Utility (Transco). The Transmission Utility has not been provided with the necessary staff although more than one year has elapsed since its advent. Similarly the Design Directorate functioning needs to be rationalised in view of a downturn in the Transmission activity of the Board.

8.5 Financial Management within the Board structure is one of the constraint areas in its functioning. Debt Service Coverage Ratios are at puny 0.38 – 0.39 levels against a minimum requirement of 1.33. The ability of the Board to service debt will not improve till Government cleans up the Balance Sheet by focusing resources obtained by it from free power sales on the Board. Huge surpluses are available to the Government on this account but the fungibility factor has made Government a party to the decline of the Board. Both Generation and Transmission functions have been heavily diluted by setting up SPVs but the duplication of activity with concomitant resource distortions continues.

ANNEXURE-I

SCHEDULE OF GENERAL AND SERVICE CHARGES

S. No.	Description	Approved by the Commission
1.		
A. Meter Inspection and Testing Charges (Challenge of Correctness of Meter by Consumer)		
(i)	Single Phase	Rs. 55/-per meter
(ii)	Poly phase (LT)	Rs. 225/-
(iii)	HT or special meter (MDI or Trivector Meter)	Rs.550/-
		Rs. 1100/ with CT/ PT combined unit
Note:- This amount shall be deposited by the consumer along with his application for the inspection of the meter and will be refunded to him in case the meter is not found to be correct with in the prescribed limits.		
B. Testing Charges of Transformers or other equipment of consumer or private party		
(I)	Protective Relays:	
	Testing including current and Time Setting of protective relays	Rs.1100/-per Relay
(II)	Power and Distribution Transformers	
(a)	Insulation resistance tests of winding	Rs. 770/-per Transformer
(b)	General checking of breather & other accessories	Rs. 400/-per Transformer
(c)	Dielectric strength test of oil	Rs.220/-per Transformer
(d)	Testing of buchuolz relay and temperature indicators functioning	Rs.800/-each
(III)	Circuit Breaker 400 volts and 11/33kV	
	General checking of breaker and testing of the tripping mechanism	Rs. 800/-each
(IV)	Current transformer and Potential transformers and meters:	
(a)	Testing of single phase LT current transformer	Rs.165/-each
(b)	Current Testing of 3 phase LT current transformer	Rs. 440/-each
(c)	Testing of single phase 11kV & 33kV CTs	Rs. 550/-each
(d)	Testing of three phase 11kV & 33kV CTs	Rs.1100/-each
(e)	Testing & recalibration of single phase LT energy meter	Rs. 90/-per meter
(f)	Testing & recalibration of three phase energy meter w/o CT	Rs. 330/-per meter
(g)	Testing & recalibration of three phase energy meter With CT	Rs.660/-per meter
(h)(i)	Testing & recalibration of HT/EHT metering equipment	Rs. 2000/-per meter
(h)(ii)	With CT/PT combined unit	Rs. 2500/-per unit
(i)	Testing & recalibration of maximum demand indicator	Rs. 660/-per meter
(j)	Testing & adjustment of voltmeter/ ammeter	Rs.165/-each
(V)	Checking of Capacitors (other than initial checking) on consumer's request:	
(a)	At 400 volts	Rs. 110/-per job
(b)	At 11kV and above	Rs. 110/-per job
(VI)	General	

S. No.	Description	Approved by the Commission
(a)	Dielectric strength of oil of various equipment	Rs. 220/-per sample
(b)	Earth test of substation	Rs. 220/-per earth
(c)	Insulation resistance of cables/insulation of various equipment /installations	Rs. 220/-per cable/ equipment
C. Testing charges at the time of routine periodical inspections or first test and inspection of new installation which includes protection and control of complete sub-station (including Transformers, Capacitor Banks, Meter and Metering equipment having connected load >50 KW and/or supply voltage 11 KV or higher) and inclusive of all manpower required		
(i)	11/22 kV	Rs. 10000/-
Ii	33 kV	Rs. 15000/-
(iii)	66 kV	Rs. 50000/-
(iv)	132 kV	Rs. 100000/-
(v)	220 kV	Rs. 300000/-
D.	Visiting charges	
	Visiting charges for Officers & staff to Consumers premises for testing of equipments(other than C above)	Rs. 3500/- per day for complete team PLUS actual journey charges as per out turn of vehicle
Remarks: -		
(i) Visiting charges mentioned under D above include the visiting charges of M&T staff as well.		
(ii) Charges for Board's maintenance/testing Vans or Trucks if needed for the purpose will be extra. All Charges shall be got deposited before undertaking the testing work.		
(iii) Complete testing of 11KV,22KV and 33 KV connections as per item C above shall be conducted before the release of HT connection.		
iv) Test reports on suitable forms will be issued by the operation sub-divisions/M&T Lab, which will be produced by the prospective consumer along with the wiring Contractor's test report.		
v) The insulation, earth and oil tests as well as general checking and inspection should be performed by the operation sub-division. Other tests requiring M&T Lab. facilities shall be arranged by the operation sub-division/division in the nearest M&T Lab., or by arranging the visit of the M&T staff to the consumer's premises.		
vi) The requests for testing shall be entertained by the concerned operation sub-division which will be responsible for arranging all tests including tests by the M&T Lab and also for the recoveries of all the charges, including those of M&T Lab		
vii) The amount recovered from consumers for testing carried out by the M&T Lab shall be adjusted through inter divisional adjustment between the operation divisions and the M&T divisions.		
2. Changing the position of meter at the request of consumer		
(i)	Single phase	Rs.45/-
(ii)	Poly phase (LT) without CT	Rs. 220/-
	Poly phase (LT) with CT	Rs.440/-
(iii)	HT or special meter	Rs. 1100/-
3. Resealing charges		
(i)	Meter cup board	Rs.25/-

S. No.	Description	Approved by the Commission
(ii)	Meter Cover or Terminal Cover (single phase)	Rs. 110/-for meter terminal cover & full cost of the meter where M&T seal is found broken.
(iii)	Meter cover or terminal cover (three phase)	Rs. 350/-for meter terminal cover & full cost of the meter where M&T seal is found broken.
(iv)	Cutout (where it has been independently sealed)	Rs. 25/-
(v)	Maximum demand indicator	Rs. 550/-
(vi)	Potential fuse(s) time switch/CT chamber	Rs. 550/-
4. Monthly meter/equipment rentals:		
(i)	Single phase energy meter low tension	Rs. 12/- per month
(ii)	Polyphase energy meter low tension (up to 50 Amps.)	Rs. 30/- per month
(iii)	a) Polyphase low tension meters with CTs (up to 20 kW)	Rs. 35/- per month
	b) Polyphase low tension meters with CTs(above 20 kW)	Rs. 50/- per month
(iv)	Polyphase 11kV meter with CT/PT without any breaker of HPSEB	Rs. 550/-per month
(v)	Polyphase 11kV meter with CT/PT with one 11kV breaker of HPSEB	Rs. 4000/- per month
(vi)	Single phase Pre Paid energy meter low tension	Rs 50/- per month
(vi)	Polyphase 33,22 KV meter with CT/PT without any 33, 22 KV breaker of HPSEB	Rs. 800/- per month
(vii)	Polyphase 33,22 KV meter with CT/PT with one 33, 22 KV breaker of HPSEB	Rs. 7000/- per month
(viii)	Polyphase meter with CT/PT with or without circuit breaker of voltage 66 KV and above	
(a)	Polyphase 66 KV with CT/PT without any 66 KV circuit breaker of HPSEB	Rs. 1300/- per month
(b)	Polyphase 66 KV with CT/PT with 66 KV circuit breaker of HPSEB	Rs. 13500/- per month
(c)	Polyphase 132 KV with CT/PT without any 132 KV circuit breaker of HPSEB	Rs. 2500/- per month
(d)	Polyphase132 KV with CT/PT with 132 KV circuit breaker of HPSEB	Rs. 20000/- per month
5. Reconnection of supply		
(I)	Industrial consumers (connected load < = 50 KW)	Rs. 100/-
(ii)	Industrial consumers (connected load > 50 KW and < = 100 KW)	Rs. 500/-
(iii)	Large power industrial consumers (connected load >100 KW)	Rs. 1000/-
(iv)	All other categories of consumers	Rs. 40/-
6. Fuse replacement:		
	Replacement of fuse(s) pertaining to the Board/ Consumer	Rs. 5/-
7. Testing consumer's installation:		
(i)	The first test and inspection of a new installation or of an extension to	Nil

S. No.	Description	Approved by the Commission
	the existing installation	
(ii)	For every subsequent visit for the test and inspection of a new installation or of an extension to the existing installation	
(a)	Single Phase LT	Rs. 60/-
(b)	Three phase (LT)	Rs.100/-
(c)	Three phase (HT)	Rs. 500/-
	Note:- These charges shall be deposited by the consumer in advance before every subsequent visit for inspection of installation	
8. Replacement of meter card:		
(i)	Domestic/NDNCS/Commercial	Rs.10/- in each case
(ii)	All other categories of consumers	Rs.10/-in each case
9. Replacement of meter glass:		
(i)	Replacement of broken glass of meter cup board when the consumers is considered to have broken it	Rs. 50/-
(ii)	Replacement of broken or cracked glass of meter when there is no evidence of consumer having broken it or tempered with the meter	Rs. 50/-
(iii)	Replacement of broken glass of meter when the consumer has tempered with or broken by consumer:	
(a)	Single phase	*Rs.500/-or the actual cost of meter which ever is higher
(b)	Three phase	Rs.1500/-*or the actual cost of meter, which ever is higher.
	Note-1: This amount will be charged without prejudice to the right of the board to take any other action or impose penalty on the consumer as per the prevailing rules. Since in such cases, the meter has to be sent to M&T lab, the meter changing charges shall be levied additionally.	
	*- This is without prejudice to the Board's right to recover the estimated cost of theft of energy. Principles of natural justice shall invariably be followed and opportunity of being heard given to the consumer before levying such charge.	
10. Supply of duplicate copies of the bills/ review of bills:		
(i)	Review of bills (all Categories)	Nil
(ii)	Supply of duplicate copies of bills	
(a)	Domestic/NDNCS/Commercial	Rs. 5/-
(b)	Medium & large power supply	Rs. 5/-
(c)	All other categories	Rs. 5/-
(iii)	Supply of duplicate copies of Demand notice:	
(a)	Domestic consumers	Rs.10/-
(b)	Non residential consumers	Rs.10/-

S. No.	Description	Approved by the Commission
(c)	Small Industrial & Agriculture consumers	Rs.10/-
(d)	Medium Industrial consumers	Rs.10/-
(e)	Large Industrial and other categories of consumers	Rs.10/-
(iv)	Supply of detailed print out of the meter recording	Rs.50/-
11. Attendants for functions		
	Deputing attendants (line staff) for all functions.	
	(Per Attendant per day per function limited to 8 hours/day)	Rs. 250/-
12. Cost of Application/Agreement Form and wiring Contractor's test report forms:		
(i)	Domestic Supply	Rs. 15/-per copy per form
(ii)	Industrial supply (Small, Medium and Large)	Rs. 15/-per copy per form
(iii)	For all other categories	Rs. 15/-per copy per form
13. Processing fee for PLE and for change in contract demand		
i)	Fee for change in Contract Demand (CD)	Rs. 25/- per KVA of the changed quantum of CD
ii)	Fee for seeking peak load exemption (PLE)	Rs. 50/- per KVA of the quantum of load for which PLE sought. The fee is to be charged once in a financial year.

ANNEXURE-II

HIMACHAL PRADESH STATE ELECTRICITY BOARD

***NOTIFICATION ***

NO.	DATED: -

In pursuance of the tariff order dated 24-08-2009 issued by the Himachal Pradesh Electricity Regulatory Commission, the Himachal Pradesh State Electricity Board is pleased to notify the following Schedule of Tariff and the general conditions of tariff for supply of electricity to various categories of consumers in Himachal Pradesh with effect from **1 SEPTEMBER 2009**

PART - I GENERAL

A. This schedule may be called the **'Himachal Pradesh State Electricity Board Schedule of Electricity Tariff, 2009'.**

B. This Schedule of Tariff shall come into force with effect from **1 September 2009** and will be applicable through out the state of Himachal Pradesh.

C. The rates mentioned in this Schedule of Tariff are exclusive of electricity duty, taxes and other charges already levied or as may be levied by the government of Himachal Pradesh from time to time.

D. This tariff automatically supersedes the existing tariff that was in force with effect from 1 April, 2008 except in such cases where 'Special Agreements' have otherwise been entered into for a fixed period, by HPSEB with its consumers. Street Lighting Agreements shall however, not be considered as 'Special Agreements' for this purpose and revised tariff as per schedule **'SLS'** of this Schedule of Tariff shall be applicable.

E. This Schedule of Tariff is subject to the provisions of related **Regulations** notified by the HP Electricity Regulatory Commission, from time to time**,** and the **'Schedule of General and Service Charges'**.

F. Force Majeure Clause - In the event of lockout, fire or any other circumstances considered by the Board to be beyond the control of the consumer, he shall be entitled to proportionate reduction in consumer service charge, demand charge or any other fixed charge, if applicable, provided he serves at least 3 days notice on the supplier for shut down of not less than 15 days duration.

G. Standard Supply Voltage - The standard of supply voltage, as existing on the relevant network system, in KV, to be followed by HPSEB, based on the connected load measured in KW, as specified under each consumer category of this 'Schedule of Tariff', in respect of supply of electricity to prospective consumers OR at the time of change of supply voltage on request of existing consumer OR at the time of application of 'Lower Voltage Supply Surcharge' and 'Higher Voltage Rebate' respectively to its existing consumer categories in their bills.

H. Single Point Supply - The various tariffs referred to in this Schedule are based on the supply being given at a single voltage and through a single delivery and metering point. Supply given at other voltages and through other points, if any, shall be separately metered and billed.

I. Lower Voltage Supply Surcharge (LVSS) – Consumers availing electricity supply at a voltage lower than the 'Standard Supply Voltage' as specified under the relevant category, shall be charged a 'Lower Voltage Supply Surcharge' at the following rates on only the amount of energy charges, billed, for each level of specified step down (as given in table below) from the 'Standard Supply Voltage' to the level of Actually Availed Supply Voltage.

Standard Supply Voltage	Actually Availed Supply Voltage	LVSS
11KV or 15KV or 22 KV	1Ø 0.23 KV or 3Ø 0.415KV OR 2.2 KV	5%
33 KV or 66 KV	11 KV or 15KV or 22 KV	3%
>= 132 KV	33 KV or 66 KV	2%

Note *1. In such cases the tariff applicable to the lower voltage (i.e. voltage at which connection is actually availed) shall be applicable and the LVSS shall be levied in addition to the said tariff.*

2. LVSS shall not be applicable to such EHT consumers (66 KV and above) which were existing on 1.12.2007 and have been given connection at 66 KV even if the standard voltage in their case was 132 KV or above. However, in case any extension of load is sanctioned in such cases after 1.12.2007 the LVSS shall be applicable as per the normal conditions.

J. Higher Voltage Supply Rebate (HVSR) – A consumer availing electricity supply at a voltage higher than the 'Standard Supply Voltage' as specified under the relevant category, shall be given a 'Higher Voltage Supply Rebate' at the following rates on only the amount of energy charges, billed, for each level of specified step up from the 'Standard Supply Voltage' to the level of Actually Availed Supply Voltage.

Standard Supply Voltage	Actually Availed Supply Voltage	HVSR
1Ø 0.23 KV or 3Ø 0.415 KV OR 2.2 KV	11KV or 15KV or 22 KV	5%
11KV or 15KV or 22 KV	33 KV or 66 KV	3%

Standard Supply Voltage	Actually Availed Supply Voltage	HVSR
33 KV or 66 KV	>= 132 KV	2%

Note *1. In such cases the tariff applicable to the higher voltage (i.e. voltage at which connection is actually availed) shall be applicable and the HVSR shall be allowed on such tariff.*

K. Lower Voltage Metering Surcharge (LVMS) - In respect of consumers, for whom the metering for maximum demand or energy consumption or both, is done on the lower voltage side of the transformer, instead of higher voltage side at which the supply has been taken by the consumer, on account of non-availability of the higher voltage metering equipment or its unhealthy operation, the consumer shall be charged "Lower Voltage Metering Surcharge" at the rate of 2% on the amount of only the energy charges billed.

L. Late Payment Surcharge (LPS) - Surcharge for late payment shall be levied at the rate of 1% per month or part thereof, on the outstanding amount excluding electricity duty/taxes of for all consumer categories.

M. Peak Load Exemption Charge (PLEC) - Electricity Supply shall, normally, not be available to the consumers covered under the categories 'Small and Medium Industrial Power Supply' (SMS), 'Large Industrial Power Supply (LIP) and 'Water and Irrigation Pumping Supply' (WIPS), of this schedule of tariff during the peak load hours of the day. The duration of peak load hours in summers and winters shall be for a period of three hours in the evening. The duration of peak hours shall be as follows

a) Summer (April to October) 7.00 PM to 10.00 PM

b) Winter (November to March) 6.30 PM to 9.30 PM

However, where the above categories of consumers want to avail of exemption to run their unit during the peak load hours for any special reason, a separate sanction for the exemption (in KW or computed in KVA assuming 0.9 power factor), for running the unit (full load or part thereof), from the Board shall be required. This sanction (for full load or part thereof) shall be issued at the request of the consumer and shall be subject to availability of power in the area during the above specified peak hours.

Consumers requesting for peak load exemption (PLE) must be provided with suitable tri-vector meters which are capable of recording the maximum demand for every 30 minute block in twenty four (24) hours of the day for a whole month, apart from recording the energy consumption. However, any consumer possessing sanction for peak load exemption (for full load or part thereof) and without an installed tri-vector meter or a suitable meter, would also need to get the meter installed within three months of issue of this notification.

Where sanction for running of unit (for full load or part thereof) during peak load hours is already issued, no further sanction shall be required to the extent of the load for which the exemption has already been obtained. All consumers who have been given exemption to run their units (for full load or part thereof) during the peak load hours shall be charged a 'Peak Load Exemption Charge', as separate demand charge and energy charges (In Rs./kVA/month and Rs./kVAh/month respectively) for the energy consumption during peak load hours in a month, at the rate specified in the relevant category of this schedule of tariff.

N. Peak Load Violation Charge (PLVC) –Consumers who do not have the peak load exemption but are found using the electricity during peak hours will have to pay PLVC on the total consumption during the peak hours or consumers who have the exemption but are found exceeding the exempted load during peak load hours will have to pay 'Peak Load Violation Charge' on the quantum of load in excess of the exempted load as specified under the relevant schedule of tariff. Consumers who have the peak load exemption but are found exceeding the exempted load shall be deemed to have used energy, calculated prorata on the basis of the load in excess of the exempted load, for the days of violation only. Violation in excess of five times in a year shall result in disconnection of the defaulting consumer without prejudice to recover such charges. No Higher Voltage Supply Rebate (HVSR) shall be applicable/achievable in respect of the peak hours of the day.

In case the Consumers covered under single part tariff, without an installed meter capable of recording energy during different times of the day, are found violating the peak load hour restriction, one half of the consumption for the month shall be billed at the specified PLVC rate which shall be three times the normal energy charges (Rs../Kwh).

O. Demand Charge (DC) – Consumers billed on the basis of KVAh tariff as applicable for the relevant category under this Schedule of Tariff, shall in addition to the KVAh charges per month, be also charged at the rate specified, the 'Demand Charges' per month per KVA, calculated on [the actual Maximum Demand (in KVA) recorded on the energy meter during any consecutive 30 minute block period of the month] OR [90 % of the Contract Demand (in KVA) or {in the absence of Contract

Demand 80% of the Connected Load (computed in KVA assuming 0.9 power factor)] whichever is higher.

P. Contract Demand Violation Charge (CDVC) – In the event of the Maximum Demand (in KVA) is recorded on the energy meter during any consecutive 30 minute block period of the month, exceeds the Contract Demand (in KVA) OR in the absence of the Contract Demand 80% of the Connected Load (computed in KVA assuming 0.9 power factor), the consumer shall be charged 'Contract Demand Violation Charges' at the rate of Rs. 300/- per month per KVA to the extent the violation has occurred in excess of the Contract Demand OR in the absence of the Contract Demand 80% of the Connected Load (computed in KVA assuming 0.9 power factor).

Q. Disturbing Load Penalty (DLP) - In case where there is unauthorized use of mobile welding sets, the consumer will pay by way of penalty, Rs.20 per kVA of the load rating of welding, set per day, in addition to the energy charges.

NOTE: authorization shall mean authorization (temporary or permanent) to a consumer by the designated office of the licensee/HPSEB in whose area the supply to the consumer exists and shall not be assumed as authorization of any form from local or other bodies.

R. Night Time Concession (NTC) – Night Time Concession on consumption of energy from 00:00 hours to 06:00 hours, and shall be applicable to consumers with connected load greater than 20 KW, at the rate specified in the relevant consumer category under this Schedule of Tariff. However such consumers must be provided with suitable tri-vector meters capable of recording energy during different times of the day.

S. Seasonal industries - In this schedule, unless the context otherwise provides, seasonal industries mean the industries which by virtue of their nature of production, work only during a part of the year, continuously or intermittently up to a maximum period of 7.5 months in a year, such as atta chakkies, saw mills, tea factories, cane crushers, irrigation water pumping, rice husking/hullers, ice factories, ice candy plants and such other factories as may be approved and declared as seasonal by the Board from time to time. Seasonal industries shall be governed under the following conditions: -

i) The consumer shall intimate in writing to the concerned Sub-Divisional Officer of the Board, one month in advance, the months or the period of off-season during which he will close down his plant(s).
ii) The minimum working period for a seasonal industry in a year shall be taken as 4 (four) months.

iii) During the off-season, the entire energy consumption and the power utilised for maintenance and overhauling of the plant and the factory lighting will be charged at "commercial supply" tariff.

iv) The consumer service charge, demand charge or any other fixed charge shall be levied for the seasonal period only.

T. <u>Power Factor Surcharge (PFS) -</u>

i) If at any point of time the power factor of consumers specified under the relevant category of schedule of charges having connected load upto and including 20 KW is checked by any means and found to be below 0.90 lagging, a surcharge @ 10% on the amount of energy charges irrespective of voltage of supply shall be charged from the consumer from the month of checking and will continue to be levied till such time the consumer has improved his power factor to at least 0.90 lagging by suitable means under intimation to the concerned Sub Divisional Officer who shall immediately get it checked.

ii) Should the monthly power factor fall below 0.85, it must be brought up to minimum of 0.90 by the consumer through suitable means within a period of 3 months, failing which, the connection shall be disconnected.

iii) The monthly average power factor will be calculated on readings of Tri-Vector Meter/Bi-Vector Meter/Two Part Tariff Meters as per formula given below and shall be rounded up to two decimal places.

POWER FACTOR = KWH / KVAH

In case of defective tri-vector meter/bi-vector meter/two part tariff meter, power factor will be assessed on the basis of average power factor recorded during last three consecutive months when the meter was in order. In case no such readings are available then the monthly average power factor of three months obtained after installation of correct tri-vector meter/bi-vector meter/two part tariff meter shall be taken for the purpose of power factor surcharge during the period the tri-vector meter/bi-vector meter/ two part tariff meter remained defective.

iv) The said power factor surcharge shall be independent of the supply voltage.

v) The consumer service charge, demand charge or any other fixed charge shall not be taken into account for working out the amount of power factor surcharge, which shall be levied on the amount of KWh energy charges only.

vi) No new supply to L.T. installations with induction motor(s) of capacity above 3 H.P and/or welding transformers above 2.0 KVA shall be given unless shunt capacitors of appropriate ratings are installed to the entire satisfaction of the Board.

U. Replacement of Defective/Missing/damaged Shunt Capacitors -

i) It will be obligatory on the part of the consumer to maintain capacitors in healthy conditions and in the event of its becoming burnt/damaged he shall have to inform the Sub Divisional Officer concerned immediately in writing and also to get the defect rectified within a maximum period of one month from the date the capacitor has gone defective.

ii) In case shunt capacitor(s) is/are found to be missing or inoperative or damaged, one month notice shall be issued to the consumer for rectification of the defect and setting right the same. In case the defective capacitor(s) is/are not replaced / rectified within one month of the issue of the notice, a surcharge @ 10% per month on bill amount shall be levied w.e.f the date of inspection to the date of replacement of defective/damaged missing capacitors.

V In case any dispute regarding interpretation of this tariff order and/or applicability of this tariff arises, the decision of the Commission will be final and binding.

DEFINITIONS

1. **Act:** means The Electricity Act, 2003 as amended from time to time.

2. **Average Power Factor:** means the ratio of kWh (kilo Watt hour) to the kVAh (kilo Volt Ampere hour) registered during a specific period.

3. **Board:** means the Himachal Pradesh State Electricity Board.

4. **Commission:** shall mean the Himachal Pradesh Electricity Regulatory Commission.

5. **Connected Load:** expressed in kW, means aggregate of the manufacturer's rated capacities of all energy consuming devices or apparatus connected with the distribution licensee's service line, on the consumer's premises, which can be simultaneously used;

6. **Consumer Service Charges:** shall mean the fixed amount to be paid by the consumer as defined in the respective tariff schedule.

7. **Contract demand:** expressed in kVA units means the maximum demand contracted by the consumer in the agreement with the licensee and in absence of such contract, the contract demand shall be determined in accordance with the Tariff Order.

8. **Demand Charges:** for a billing period shall mean the amount chargeable based upon the recorded maximum demand in kVA or the contract demand; whichever is higher and shall be calculated as per the procedure laid down in this Tariff Order;

9. **Energy Charges:** expressed in Rs. Per kWh/kVAh for a billing period shall mean the amount chargeable in rupees based on the quantity of electricity supplied in kWh/kVAh and as calculated as per the procedure prescribed in this Tariff Order. The demand/fixed charges, wherever applicable, shall be in addition to the energy charges.

10. **Maximum Demand:** means the highest load measured in kVA or kW at the point of supply of a consumer during consecutive period of 30 minutes or as laid down by the Commission, during the month;

11. **Rules:** means the Indian Electricity Rules, 1956 to the extent saved by the Act and the rules made under the Act thereafter.

12. **Sanctioned Load:** means the load expressed in kW/kVA of the consumer, which the licensee has agreed to supply, from time to time, in the agreement.

13. **Schedule:** shall mean this Tariff Schedule.

14. **State**: means the State of Himachal Pradesh;

15. **Supplier:** shall mean the Himachal Pradesh State Electricity Board.

16. For the purpose of this tariff order, the voltage wise categorization shall be as follows:

a) **EHT** means the voltage, which exceeds 33,000 volts; under normal conditions subject, however, to the percentage variation allowed under electricity rules;

b) **HT** means the voltage higher than 400 volts but not exceeding 33,000 volts under normal conditions, subject, however, to the percentage variation allowed under the electricity rules;

c) **LT** means the voltage, not exceeding 230 volts between phase and neutral and 400 volts between phases under normal conditions, subject, however, to the percentage variation allowed under electricity rules;

PART – II - SCHEDULE OF TARIFF

SCHEDULE - DOMESTIC SUPPLY (DS)

1 Applicability

This schedule is applicable to the following consumers:

a) Consumers using electrical energy for lights, fans, heaters, cooking ranges, ovens, refrigerators, air conditioners, stereos, radios, televisions, mixers, grinders, electric iron, sewing/embroidery/knitting machines, domestic pumping sets and other domestic appliances in a single private house/flat or any other residential premises;

b) Religious places with connected load up to 5 KW;

c) Orphanages, homes for old people and homes for destitute;

d) Working Women Hostels, Hostels attached to the educational institutions where supply is given separately to each hostel and the electricity charges are recovered from the students based on actual consumption;

e) Leprosy Homes run by charity and un-aided by the Government; and,

f) Panchayat Ghars and Patwar Khanas with connected load up to 2 KW.

g) Monasteries

h) “Home Stay Units” in rural areas duly registered with the District Tourism Development Officer

Note:

(i) Where a portion of the dwelling is used regularly for the conduct of a business, the consumption in that portion shall be separately metered and billed under the appropriate Commercial or Industrial power tariff whichever is applicable. If separate circuits are not provided, the entire supply will be classified under “Commercial Supply.”

(ii) Resale and supply to tenants, other flats etc. is strictly prohibited.

(iii) No compounding will be permissible. For residential societies which wish to take a single point supply, this would be permitted, and the energy charges would be divided by the number of such units to determine the relevant slab. Thus if there are 10 dwelling units in a society and the energy consumption in a month is 3000 units, the first 1500 (150x10) units would be charged at Rs 1.90 per kWh, the remaining 1500 units (150x10) units at Rs.3.15 per kWh. Consumer service charge shall be Rs. (20x10).

2 Character of Service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
51 KW upto 2000 KW	11 KV or 15 KV or 22 KV
2001 KW upto 10000 KW	33 or 66 KV

3 Single Part Tariff

a) Consumer Service Charge (Charges-1)

Description	Consumer Service Charge (Rs./Month)
Below Poverty Line (BPL)	NIL
Other consumers	25

b) Energy Charge (Charges-2a) [Other Than Pre-Paid Metered]

Description	Slabs (KWh per month)	Energy Charge (Rs./kWh)
Below Poverty Line (BPL)	(upto 50 KWh)	1.80
Others	0-150	1.90
	Above 150	3.15

Note: *In the case of **Below Poverty Line** beneficiaries the concessional tariff will be available for use of electricity by these families upto a maximum of 50 units per month. In case this limit is exceeded, the normal domestic tariff will apply for the entire consumption.*

c) Energy Charge (Charges-2b) [Prepaid Meter]

Description	Slabs (KWh per month)	Energy Charge (Rs./kWh)
Prepaid meter consumers	Entire consumption	1.90

Note: *Subsidy given by GoHP shall apply to prepaid meter consumers also. Should the GoHP decide to maintain the tariffs at the current levels after subsidy, then the prepaid consumers shall be deemed to be placed at the lowest slab of consumers, other than BPL, in respect of entire consumption after State Government subsidy.*

4. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
5. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

6. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

7. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

8. **Night Time Concession (NTC):** *Not Applicable*.

9. **Power Factor Surcharge (PFS):** *Not Applicable.*

10. **Disturbing Load Penalty (DLP):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

SCHEDULE - NON-DOMESTIC NON-COMMERCIAL SUPPLY (NDNCS)

1. Applicability

This schedule is applicable to the following consumers:

a. Government and semi Government offices

b. Educational Institutions viz. Schools, Universities, I.T.Is, Colleges, Centre for Institute of Engineers, Sports Institutions, Mountaineering Institutions and allied sports and Libraries Hostels and residential quarters attached to the educational institutions if supply is given at single point.

c. Religious places such as Temples, Gurudwaras, Mosques, Churches etc. with connected load greater than 5 KW.

d. Sainik and Govt. Rest Houses, Anganwari workers training centers, Mahila mandals, village community centres

e. Government Hospitals, primary health centers, dispensaries and veterinary hospitals.

f. Panchayat Ghars and Patwar Khanas with connected load greater than 2KW.

g. Sarais and Dharamsalas run by Panchayats and Municipal Committees or on donations and those attached with religious places, subject to the condition that only nominal and token amount to meet the bare cost of upkeep and maintenance of the building etc. is being recovered and no rent as such is charged.

Note: *In the case of residences attached to the Institutions, as at (b) and (f) above, the same shall be charged at the Domestic tariff, in cases where, further distribution to such residential premises is undertaken by the Board and the Board provides meters for such consumers.*

2. Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
51 KW upto 2000 KW	11 KV or 15 KV or 22 KV
2001 KW upto 10000 KW	33 or 66 KV
>10000 KW	>= 132 KV

3. Single Part Tariff for connected load <= 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	60

b) Energy Charge (Charges-2)

Energy Charge (Rs./kWh/month)	4.05

4. Two Part Tariff for connected Load > 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	120

b) Energy Charge (Charges-2)

Energy Charge (Rs./kVAh)	3.30

c) Demand Charge (Charges-3)

Demand Charge (Rs/kVA/month)	100

Note: *Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher.*

5. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
6. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
7. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
8. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
9. **Contract Demand Violation Charge:** *Applicable as specified under 'Part-I General of Annexure II'*
10. **Night Time Concession (NTC):** *Applicable @* 20 p/kVAh *as specified under 'Part-1 General of this Annexure II'.*
11. **Power Factor Surcharge (PFS):** *Not Applicable.*
12. **Disturbing Load Penalty (DLP):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

13. **Peak Load Exemption Charges (PLEC):** *Not Applicable*.

14. **Peak Load Violation Charges (PLVC):** *Not Applicable.*

SCHEDULE – COMMERCIAL SUPPLY (CS)

1 Applicability

This schedule is applicable to consumers for lights, fans, appliances like pumping sets, central air conditioning plants, cold storages, lifts, heaters, embroidery machines, printing press, power press and small motors in all commercial premises such as shops, business houses, cinemas, clubs, banks, private offices, private hospitals, petrol pumps, hotels/motels, welding sets, servicing stations, private nursing homes, private rest/guest houses, private research institutions, private coaching institutions, private museums, dry cleaning, garages and private auditoriums, departmental stores, restaurants, lodging and boarding houses.

This schedule will also include all other categories, which are not covered by any other tariff schedule.

Note: *Resale to tenants, adjoining houses and to other parties is strictly prohibited.*

2. Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
51 KW upto 2000 KW	11 KV or 15 KV or 22 KV
2001 KW upto 10000 KW	33 or 66 KV
>10000 KW	>= 132 KV

3. Single Part Tariff for connected load <= 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	60

b) Energy Charge (Charges-2)

Energy Charge (Rs./kWh)	4.30

4. Two Part Tariff for connected Load > 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	
20 – 100 kW	120
Above 100 kW	240

b) Energy Charge (Charges-2)

Description	**Energy Charge (Rs./kVAh)**
20 -100 kW	3.55
Above 100 kW	3.35

c) Demand Charge (Charges-3)

Demand Charge (Rs/kVA/month)	
20 -100 kW	75
Above 100 kW	100

Note: *Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher.*

5. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

6. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

7. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

8. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

9. **Contract Demand Violation Charge:** *Applicable as specified under 'Part-1 General of this Annexure II'*

10. **Night Time Concession (NTC):** *Applicable @ 20 p/kVAh as specified under 'Part-1 General of this Annexure II'.*

11. **Power Factor Surcharge (PFS):** *Not Applicable.*

12. **Disturbing Load Penalty:** *Applicable as specified under 'Part-1 General of this Annexure II'.*

13. **Peak Load Exemption Charges (PLEC):** *Not Applicable.*

14. **Peak Load Violation Charges (PLVC):** *Not Applicable.*

SCHEDULE - SMALL AND MEDIUM INDUSTRIAL POWER SUPPLY (SMS)

1. Applicability

This schedule is applicable to Industrial consumers with connected load not exceeding 100 kW including pumps (other than irrigation pumping), tokas, poultry farms and sheds, cane crushers, Atta Chakkies, and also for supply to Information Technology Industry (limited only to IT Parks recognised by the State/Central Government). The Industrial type of Agricultural loads with connected load falling in the abovementioned range and not covered by Schedule "WIPS" shall also be charged under this schedule.

2. Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
51 KW upto 100 KW	11 KV or 15 KV or 22 KV

3. Single Part Tariff for connected load <= 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	60

b) Energy Charge (Charges-2)

Energy Charge (Rs./kWh)	3.70

4. Two Part Tariff for connected Load > 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	120

b) Energy Charge (Charges-2)

Energy Charge (Rs./kVAh)	3.05

c) Demand Charge (Charges-3)

Demand Charge (Rs/kVA/month)	50

Note: *Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher.*

5. Peak load exemption charges (PLEC) and peak load violation charges (PLVC)

a) Peak Load Exemption Charge (PLEC)

Description	Additional Demand Charge on exempted load	Energy Charge
	(Rs./kVA/month)	(Rs./kVAh)
> 20 KW	50	6.10

b) Peak Load Violation Charge (Charge-2)

Description	Demand Charge	Energy Charge
	PLVC (Rs./kVA/month)	PLVC (Rs./kVAh)
	300	9.15

Note

i) *The Peak Load Violation Charges shall be applicable to the demand as well as the consumption recorded during the peak load hours only.*

ii) *Demand charge for peak load violation shall be calculated on the basis of the maximum demand during peak hours, in excess of the exempted load.*

iii) *Consumers who have the peak load exemption but are found exceeding the exempted load shall be deemed to have used energy, calculated prorata on the basis of the load in excess of the exempted load, for the days of violation only.*

6. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

7. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

8. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

9. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

10. **Contract Demand Violation Charge:** *Applicable as specified under 'Part-1 General of this Annexure II'*

11. **Night Time Concession (NTC):** *Applicable @ 20 p/kVAh as specified under 'Part-1 General of this Annexure II'.*

12. **Power Factor Surcharge (PFS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

13. **Disturbing Load Penalty (DLP):** *Not Applicable.*

14. **Factory lighting & colony supply:** All consumption for bonafide factory lighting i.e. energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of the colony shall also be charged under this tariff schedule if the supply is not taken separately but taken at the same single supply point of the industry. Such consumption shall be charged for the energy consumed at the following rates, irrespective of whether the consumer has opted for peak time exemption or not:

    a. During normal times and night time: normal rate subject to the condition that the night time concession as per 10 above shall be given on the consumption during night time.

    b. During peak times: the PLEC rate

    If supply for colony lighting / residences is taken separately then the same shall be charged as per the relevant category under this schedule of tariff.

SCHEDULE - LARGE INDUSTRIAL POWER SUPPLY (LIPS)

1. Applicability

This schedule is applicable to all other industrial power consumers with connected load exceeding 100 kW including the Information Technology industry (limited only to IT parks recognized by the State/Central Govt.) and not covered by schedule "WIPS".

2. Character of Service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
101 KW to 2000 KW	11 KV or 15 KV or 22 KV
2001 KW to 10000 KW	33 or 66 KV
>10000 KW	>=132 KV

Note: minimum voltage level for PIUs with load less than 1 MW shall be standard voltage mentioned above and not 33 KV

3. Two Part Tariff

a) Consumer Service Charge (Charges-1)

Description	Consumer Service Charge (Rs/month)
EHT	350
HT	250

b) Energy charge (Charges-2)

Description	Energy Charge (Rs./kVAh)
EHT	
1. Upto 300 KVAh/KVA of contract demand/month	2.20
2. Remaining energy during the month	2.35
HT	
1. Upto 300 KVAh/KVA of the contract demand/month	2.35
2. Remaining energy during the month	2.50

c) Demand Charge (Charges-3)

Description	Demand Charge (Rs/kVA/month)
EHT	185
HT	225

Note: *Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher.*

4. Peak load exemption charges (PLEC) and peak load violation charges (PLVC)

a) Peak Load Exemption Charge (Charge-1)

Description	Addl. Demand Charge on exempted load (Rs/kVA/month)	Energy Charge (Rs./kVAh)
EHT	50	4.40
HT	50	4.70

b) Peak Load Violation Charge (Charge-2)

Description	Demand Charge	Energy Charge
	PLVC (Rs./kVA/month)	PLVC (Rs./kVAh)
EHT	300	6.60
HT	300	7.05

Note

i) The Peak Load Violation Charges shall be applicable to the demand as well as the consumption recorded during the peak load hours only.

ii) Demand charge for peak load violation shall be calculated on the basis of the maximum demand during peak hours, in excess of the exempted load.

iii) Consumers who have the peak load exemption but are found exceeding the exempted load shall be deemed to have used energy, calculated prorata on the basis of the load in excess of the exempted load, for the days of violation only.

5. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

6. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
7. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
8. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
9. **Contract Demand Violation Charge:** *Applicable as specified under Part-1 General of this Annexure II'*
10. **Night Time Concession (NTC):** *Applicable @ 20 p/kVAh as specified under 'Part-1 General of this Annexure II'.*
11. **Power Factor Surcharge (Pfs):** Not Applicable.
12. **Disturbing Load Penalty(Dlp):** *Not Applicable.*
13 **Factory lighting & colony supply:** All consumption for bonafide factory lighting i.e. energy consumed in factory premises including factory building, its offices, stores, time keeper office, canteen, library, staff dispensary, welfare centre and factory yard lighting shall be charged under this tariff schedule. The consumption for bonafide use of residential/staff quarters and street lighting of the colony shall also be charged under this tariff schedule if supply is taken at a single point. Such consumption shall be charged for the energy consumed at the following rates, irrespective of whether the consumer has opted for peak time consumption or not:
    a. During normal times and night time: normal rate subject to the condition that the night time concession as per 10 above shall be given on the consumption during night time.
    b. During peak time: the PLEC rate

If supply for colony and/or its residences is taken separately then the same shall be charged as per the relevant consumer category of this schedule of tariff.

SCHEDULE - WATER AND IRRIGATION PUMPING SUPPLY (WIPS)

1 Applicability

This schedule is applicable to connections for water and irrigation pumping and also covers all consumption for bonafide Pump House lighting. This schedule is also applicable to Private Irrigation loads in individual/ society's names, green houses, poly houses, processing facilities for agriculture, fisheries, horticulture, floriculture and sericulture etc. where all such activities are undertaken by agricultural land holders and temporary agricultural loads such as wheat threshers, paddy threshers

2 Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
51 KW upto 2000 KW	11 KV or 15 KV or 22 KV
2001 KW upto 10000 KW	33 or 66 KV
>10000 KW	>= 132 KV

3 Single Part Tariff for connected load <=20 KW

a) Consumer Service Charge (Charges-1)

Description	Consumer Service Charge (Rs/month)
All consumers	25

b) Energy Charge (Charges-2)

Energy Charge (Rs./kWh)	1.85

4. Two Part Tariff for connected load above 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	
LT	120

HT	120
EHT	120

b) Energy Charge (Charges-2)

Description	Energy Charge (Rs./kVAh)
LT	3.20
HT	3.05
EHT	2.50

c) Demand Charge (Charges-3)

Maximum Demand Charge (Rs/kVA/month)	
LT	200
HT	150
EHT	120

Note: *Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher.*

5. Peak load exemption charges (PLEC) and peak load violation charges (PLVC)

a) Peak Load Exemption Charge (Charge-1)

PLEC	Addl. Demand Charges on exempted load (Rs./kVA/month)	Energy Charges (Rs./kVAh)
LT	50	6.40
HT	50	6.10
EHT	50	5.00

b) Peak Load Violation Charge (Charge-2)

Description	Demand Charge	Energy Charge
	PLVC (Rs./kVA/month)	PLVC (Rs./kVAh)
LT	300	9.60
HT	300	9.15
EHT	300	7,50

Note:

i) The Peak Load Violation Charges shall be applicable to the demand as well as the consumption recorded during the peak load hours only.

ii) Demand charge for peak load violation shall be calculated on the basis of the maximum demand during peak hours, in excess of the exempted load.

iii) Consumers who have the peak load exemption but are found exceeding the exempted load shall be deemed to have used energy, calculated pro-rata on the basis of the load in excess of the exempted load, for the days of violation only.

6. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

7 **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

8. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

9. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

10. **Contract Demand Violation Charge:** *Applicable as specified under 'Part-1 General of this Annexure II'*

11. **Night Time Concession (NTC):** *Applicable @ 20 p/kVAh as specified under 'Part-1 General of this Annexure II'.*

12. **Power Factor Surcharge (PFS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

13. **Disturbing Load Penalty (DLP):** *Applicable as specified under 'Part-1 General of Annexure II'.*

SCHEDULE - BULK SUPPLY (BS)

1 Applicability

This schedule is applicable to general or mixed loads to M.E.S and other Military establishments, Railways, Central PWD Institutions, Construction power for Hydro-Electric projects, Hospitals, Departmental/private colonies, group housing societies, A.I.R Installations, Aerodromes and other similar establishments/institutions where further distribution to various residential and non-residential buildings is to be undertaken by the consumer, for its own bonafide use and not for resale to other consumers with or without profit. However, in case of MES, this schedule shall continue to apply till such time MES do not avail Open Access.

2 Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
51 KW upto 2000 KW	11 KV or 15 KV or 22 KV
2001 KW upto 10000 KW	33 or 66 KV
>10000 KW	>= 132 KV

3. Two Part Tariff

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	
LT	120
HT	120
EHT	120

b) Energy Charge (Charges-2)

Description	**Energy Charge (Rs./kVAh)**
LT	3.55
HT	2.65
EHT	2.55

c) Demand Charge (Charges-3)

Demand Charge (Rs/kVA/month)	
LT	200
HT	150
EHT	140

Note: *Demand charges would be levied on the actual maximum recorded demand in a month in any 30 minute interval in a month or 90% of the contract demand, whichever is higher.*

4. **Higher Voltage Supply Rebate (HVSR):** Applicable as specified under 'Part-1 General of this Annexure II'.

5. **Lower Voltage Supply Surcharge (LVSS):** Applicable as specified under 'Part-1 General of this Annexure II'.

6. **Lower Voltage Metering Surcharge (LVMS):** Applicable as specified under 'Part-1 General of this Annexure II'.

7. **Late Payment Surcharge (LPS):** Applicable as specified under 'Part-1 General of this Annexure II'.

8. **Contract Demand Violation Charge:** Applicable as specified under 'Part-1 General of this Annexure II'

9. **Night Time Concession (NTC):** Applicable @ 20 p/kVAh as specified under 'Part-1 General of this Annexure II'.

10. **Power Factor Surcharge (PFS):** Not Applicable.

11. **Disturbing Load Penalty (DLP):** Not Applicable.

12. **Peak Load Exemption Charges (PLEC):** Not Applicable.

13. **Peak Load Violation Charges (PLVC):** Not Applicable.

SCHEDULE - STREET LIGHTING SUPPLY (SLS)

1 Applicability

This schedule is applicable for Street Lighting system including traffic control signal systems on roads and Park lighting in Municipalities, Nagar Panchayats, SADA areas and Panchayats.

2 Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 50 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
>50 KW	11 KV or 15 KV or 22 KV

3. Single Part Tariff

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	60

b) Energy Charge (Charges-2)

Energy Charge (Rs./kWh)	3.60

4. Line maintenance and lamp renewal charges

Where the bulbs, tubes etc. are to be provided and replaced at the cost of the Board, Line Maintenance and lamp renewal charges shall be charged in addition to the energy charges. These charges shall be charged at the following rates:

Description	**Charge (**Rs./point/month)
(a) Bulbs all wattage	14
(b) Mercury vapour lamps up to 125 watt	40
(c) Mercury vapour lamps 126 watt to 400 watt	95
(d) Fluorescent 2 ft. 20 watt single tube fixture	21
(e) Fluorescent 2 ft. 20 watt double tube fixture	35

(f) Fluorescent 4 ft. single tube fixture	35
(g) Fluorescent 4 ft. double tube fixture	48

Note:

i) *For special type of fixtures like sodium and neon vapour lamps, fittings or any other fixtures not covered above, the material for maintenance of the fixtures and the lamps for replacement shall be provided by the Public Lighting consumers themselves and only replacement charges shall be levied..*

ii) *When the bulbs/Mercury vapour lamps/tubes and other accessories are provided by the Public Lighting consumers and only replacement is to be done by the Board, Line Maintenance and lamp renewal charges shall be as under:*

Description	**Charge (**Rs./point/month)
Bulbs	7
Tubes and MVL etc	12
Sodium/Neon Vapour lamps or any other special fixture not covered above	18

5. **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
6. **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
7. **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
8. **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*
9. **Night Time Concession (NTC):** *Not Applicable.*
10. **Power Factor Surcharge (PFS):** *Not Applicable.*
11. **Disturbing Load Penalty (DLP):** *Not Applicable.*

SCHEDULE - TEMPORARY METERED SUPPLY (TMS)

1 Applicability

This schedule is applicable to all loads of temporary nature including exhibitions, touring talkies, circuses, fairs, melas, marriages, festivals, temporary supply for construction purposes including civil works by Government departments and other similar purposes for temporary needs only.

2 Character of service

Connected Load (KW)	Standard Supply Voltage (AC 50 Hz)
<= 100 KW	(1Ø 0.23 KV or 3Ø 0.415 KV) OR 2.2 KV
101 KW upto 2000 KW	11 KV or 15 KV or 22 KV
2001 KW upto 10000 KW	33 or 66 KV
>10000 KW	>= 132 KV

3 Single Part Tariff for connected load <= 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	120

b) Energy Charge (Charges-2))

Energy Charge (Rs./kWh)	6.30

4 Two Part Tariff for connected Load > 20 KW

a) Consumer Service Charge (Charges-1)

Consumer Service Charge (Rs/month)	120

b) Energy Charge (Charges-2)

Energy Charge (Rs./kVAh)	4.75

c) Demand Charge (Charges-3)

Demand Charge (Rs/kVA/month)	300

5 **Higher Voltage Supply Rebate (HVSR):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

6 **Lower Voltage Supply Surcharge (LVSS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

7 **Lower Voltage Metering Surcharge (LVMS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

8 **Late Payment Surcharge (LPS):** *Applicable as specified under 'Part-1 General of this Annexure II'.*

9 **Contract Demand Violation Charge:** *Applicable as specified under ''Part-1 General of this Annexure II'*

10 **Night Time Concession (NTC):** *Applicable @ 20 p/kVAh as specified under 'Part-1 General of this Annexure II'.*

11 **Power Factor Surcharge (PFS):** *Not Applicable.*

12 **Disturbing Load Penalty (DLP):** *Not Applicable.*

13 **Peak Load Exemption Charges (PLEC):** *Not Applicable*.

14 **Peak Load Violation Charges (PLVC):** *Not Applicable.*

LIST OF ABBREVIATIONS

The abbreviations and acronyms used in this tariff order shall have the following respective meanings unless the context requires otherwise

S. No.	Abbreviation/Acronym	Meaning
1	Act	The Electricity Act, 2003
2	A&G	Administrative & General
3	ACD	Advance Consumption Deposit
4	APDRP	Accelerated Power Development and Reform Program
5	ARR	Aggregate Revenue Requirement
6	BBMB	Bhakra Beas Management Board
7	Board	HP State Electricity Board
8	CAGR	Compounded Annual Growth Rate
9	CERC	Central Electricity Regulatory Commission
10	CGS	Central generating stations
11	CPSUs	Central Public Sector Undertakings
12	CoS	Cost of Supply
13	DA	Dearness Allowance
14	EHT	Extra High Tension
15	FY	Financial Year
16	GFA	Gross Fixed Assets
17	GoHP	Government of Himachal Pradesh
18	GOI	Government of India
19	GPF	General Provident Fund
20	HT	High Tension
21	HPSEB	HP State Electricity Board
22	kVA	Kilo Volt Ampere
23	kV	Kilo Volt
24	kVAh	Kilo Volt Ampere Hour
25	kW	Kilo Watt

S. No.	Abbreviation/Acronym	Meaning
26	kWh	Kilo Watt Hour
27	LT	Low Tension
28	MU	Million Units
29	MW	Mega Watt
30	MYT	Multi year tariff
31	NFA	Net fixed assets
32	NHPC	National Hydro-electric Power Corporation
33	NTPC	National Thermal Power Corporation
34	PGCIL	Power Grid Corp. of India Ltd.
35	PPA	Power Purchase Agreement
36	PSEB	Punjab State Electricity Board
37	ROE	Rate on equity
38	SHP	Small Hydro Projects
39	State Govt.	Government of Himachal Pradesh
40	T&D	Transmission & Distribution
41	ToD	Time of Day
42	UJVNL	Uttaranchal Jal Vidyut Nigam Limited
43	UPSEB	Uttar Pradesh State Electricity Board