Petition for Aggregate Revenue Requirement

&

Determination of Tariff

for

FY 2010-11

<u>Volume -I</u>

Main Text and Formats

Submitted to

Punjab State Electricity Regulatory Commission

Chandigarh

By

PUNJAB STATE ELECTRICITY BOARD

The Mall, Patiala – 147001

November 2009

TABLE OF CONTENTS

LIST OF TABLES

1 ARR & DETERMINATION OF TARIFF PETITION FOR FY 10-11

BEFORE THE PUNJAB STATE ELECTRICITY REGULATORY COMMISSION, CHANDIGARH

Filing No...........

Case No...........

IN THE MATTER OF: Filing of the Aggregate Revenue Requirement (ARR) & Determination of Tariff Petition for the financial year 2010-11 under Section 62 and 86 of the Electricity Act, 2003 read with the relevant regulations (including its amendments) and guidelines of the Commission for the Electricity business of Punjab State Electricity Board

AND

IN THE MATTER OF Punjab State Electricity Board
(hereinafter referred to as "PSEB" or "The Board")
The Mall, Patiala – 147001 - Applicant

The Applicant respectfully submits as under: -
The Punjab State Electricity Board ("Board") is a statutory body constituted under Section 5 of the Electricity (Supply) Act, 1948 and has been engaged in the electricity generation, transmission and distribution in the State of Punjab. Consequent to the enactment of the Electricity Act, 2003 (hereinafter referred to as the "Act"), the process of approval of proposed tariffs is vested with the State Commission. Based on the provisions of Regulation 13 of the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 and in compliance with the directives of the Commission on the matter, PSEB is filing the current petition for approval of ARR and Determination of Tariff for Financial Year 2010-11 and revised ARR estimate for FY 2009-10 and actual figures of FY 2008-09 for truing up.

In order to meet the requirement of the Electricity Act 2003, Government of Punjab is in the process of restructuring PSEB. The Ministry of Power vide their letter no. 25/13/2004-R & R dated Sep 4, 2009 has communicated to the Secretary (Power), Government of Punjab that it has been decided by the Central Government that the PSEB may continue to function as State Transmission Utility and a Licensee up to Dec 15, 2009. The notification has been attached as Annexure-I in Volume II.

This Petition elaborates the Board's Aggregate Revenue Requirement (ARR) for the Financial Year FY 2010-11 as a vertically integrated entity. The submission is based on actual expenses for 2008-09, actual expenses for April 09 to September 09, revised estimates for Oct'09 to Mar'10 and projections for 2010-11. The Auditor General, Punjab (Audit), Chandigarh has conducted the audit of the Annual Accounts of the Board for 2008-09. The Audit Report/ Certificate is yet to be received by the Board. The statement of annual accounts for FY 2008-09 is enclosed as Volume III.

The Commission had issued the Tariff Order for FY 2009-10 on Sep 8, 2009. The Board has filed a review petition (Petition No. 23 of 2009) against the said order before the Hon'ble Commission. The Hon'ble Commission has admitted the petition and the matter is currently sub-judice. The Review Petition thus submitted to the Hon'ble Commission details the issues wherein the Board seeks review and modification including aspects such as:

(a) Rate of Return on Equity
(b) Availability of Thermal Stations for eligibility to earn incentives
(c) Auxiliary consumption of GNDTP units
(d) Interest on Working Capital
(e) Treatment of Interest on Loans for SPV
(f) Interest on loans taken for non-refund of interest by GoP
(g) T & D Losses and AP consumption
(h) Treatment of Terminal Benefits
(i) Relaxation in SHR of GGSSTP units
(j) Provision of Additional UI surcharge on overdrawal of power
(k) Treatment of notes to accounts in true-up of FY 2007-08

The Board has complied with the requirements of the new terms and conditions issued by the Commission on the 2nd December, 2005 (including its amendments via order dated Aug 19, 2009) to the maximum possible extent. The Board, however, has requested the consideration of the Commission for certain elements of ARR which have been discussed in the aforementioned Review Petition and also in this Petition in detail.

2 CONTENTS OF THIS PETITION

2.1.1 This Petition comprises of two main sections namely:

2.1.1.1 **True-up for 2008-09**: In this section the Board has presented its submissions regarding certain critical aspects influencing the true-up of expenses for 2008-09.

2.1.1.2 **Revised Estimates of expenses for 2009-10 and Projections for 2010-11:** In this section, the Board has submitted the revised estimates for 2009-10 for various heads of expenditures based on the half year actual data. Besides the above, the Board is submitting the projections of expenses for 2010-11 for determination of tariff for the said year. This section comprises of several sub-sections describing the basis and forecasts for FY 2010-11. The following subsections are included in this section:

- Metered Energy Sales & Revenues (Category wise) at existing tariffs
- Agriculture Energy Sales & Revenues at existing tariffs
- T&D Losses
- Energy Requirement
- Energy Balance
- Generation from Owned & Shared stations and Power Purchase from various sources to meet the Energy Requirement
- Determination of Aggregate Revenue Requirement based on forecasting of the following costs, other income & returns:
    i. Fuel Cost
    ii. Power Purchase Cost
    iii. Employee Cost
    iv. Repairs & Maintenance Cost
    v. Admin & General Cost
    vi. Interest Cost
    vii. Depreciation
    viii. Other Costs
    ix. Reasonable return
    x. Non-Tariff Income and Revenues at existing tariffs
    xi. Summary of Aggregate Revenue Requirement
- Determination of Gap between Revenue at existing Tariff & Annual Expenditure.
- Capex Plan for Generation, Transmission, Rural Electrification & Distribution

Section-I

True-up for 2008-09

3 TRUE-UP FOR THE YEAR 2008-09

3.1 Background

3.1.1 The Commission in its Tariff Order of 2009-10 had reviewed its earlier approvals for 2008-09 and re-determined the same based on the revised estimates submitted by PSEB. In this chapter, PSEB is submitting its rationale for some of the key heads of expenditure which critically impact on the overall financial health of the Board. PSEB requests the Commission to consider the practical issues governing the operations of the Board while undertaking the true-up exercise for the year 2008-09.

3.2 Energy Demand (Sales)

3.2.1 The actual sales as per the audited accounts are summarized in the table below. PSEB has also compared the previous estimates, sales approved by the Commission and the actual sales as per the accounts.

Table 3–1: Energy Sales – 2008-09 (MU)

Sr. No.	Category	Revised Estimates by PSEB in ARR 09-10	Approved by Commission	Actual as per Audited Accounts for 2008-09
1	Domestic	6,692	6,456	6695
2	Non-Residential	2,067	1,911	1967
3	Small Power	731	712	743
4	Medium Supply	1,555	1,489	1556
5	Large Supply	9,081	8,587	8747
6	Public Lighting	147	137	147
7	Bulk Supply	507	477	480
8	Railway Traction	118	123	126
9	**Total Metered Sales**	**20,898**	**19,892**	**20,461**
10	Agricultural Consumption	9766	8374	9349
11	Common pool	303	303	302
12	Outside State sales	1,541	2,323	2515
13	**Total Sales**	**32,508**	**30,892**	**32,627**

3.2.2 PSEB submits that the actual sales as per the books of accounts are 32,627 MUs which includes "Theft detected" to the tune of around 396 MU. With respect to the booking of theft of energy, the Commission In the tariff order for 2009-10, had observed the following:

"…..This theft of energy has not been apportioned to different consumer categories in the audited accounts. The revenue on this account has been shown as Rs.27.98 crore in the annual accounts which is not commensurate with the revenue accruing from sale of energy

of 208 MU to metered categories. Owing to this discrepancy in figures and in the absence of any proper justification forthcoming from the Board, the Commission had been following the approach of re-estimating energy on account of theft by matching it with the revenue shown therefrom.

……

The Board has contended that as revenue and sales figures of the Board are being audited by AG (Punjab), these should be accepted by the Commission. Finding weight in the submission of the Board, the Commission accepts the same but would in future like the amount of revenue from this head to be correctly accounted. Accordingly, the Commission estimates the sales for 2007-08 on the basis of actuals given in the audited accounts for 2007-08 and adjusts the theft of energy of 208 MU to various consumer categories on a prorata basis. The Commission thus approves the metered sales within the State at 20214 MU."

In this regard, PSEB submits that the Hon'ble Commission had notified the order for 2009-10 in September 2009 and since almost half the year had already passed, the directives of the commission could only be partly complied with during the current year. While PSEB has already issued instructions to the field staff (copy of directives for booking of theft related energy and revenue enclosed as Annexure-II of Volume-II), however, the impact may be visible only in the later part of the year 2009-10. In the books of account of 2008-09, the theft of energy is still not segregated into individual category of consumers. However for the purpose of this ARR filing, PSEB has apportioned such energy to individual category of consumers on prorata basis.

3.3 AP Consumption

3.3.1 While truing up the AP consumption in 2007-08, (in the tariff order for 2009-10), the Commission had made the following observations:

- *"The Commission in its Tariff Order for the year 2008-09 observed that the assessment of AP consumption is based on the calculation of AP consumption factor which is worked out from sample meter readings and the connected load of pumps on which these meters are installed.*
- *The Commission had noted that the verified actual connected load of the pump sets on which sample meters have been installed was not available and there were several inconsistencies in reporting connected load on account of VDS and release of new connections.*
- *The Commission appointed M/s ABPS Infrastructure Advisory Private Limited, Mumbai (Agency) for validation of AP consumption reported by the Board for the year 2007-08 and first three quarters of 2008-09.*

- *The Agency following the methodology adopted by the Board did not take into account the sample meters falling under the following categories:*
  - *Defective Meters*
  - *Locked Meters*
  - *Meters with initial readings and Meters with zero readings*
  - *Meters with abnormal readings/inconsistent readings*
- The Agency observed that the load of some of the sample meters was not updated inspite of actual enhancement under VDS or otherwise. The circle wise percentage increase in the actual load was observed as under:-

Khanna	4.9
Bhatinda	4.7
Sangrur	3.8
Gurdaspur	1.5
Hoshiarpur	2.5

- *After updating the loads of sample meters and recalculating the consumption of those meters which showed consumption inconsistent with the reported loads and given supply hours, the Agency calculated the month wise AP factor of each division for all the five circles and thereafter computed the monthly consumption of each division by multiplying the AP factor thus arrived at with the total connected load of the division.*
- *A copy of the preliminary report submitted by the Agency to the Commission was sent to the Board for its comments. The Board made the following observations:*
  - *Average AP connected load is not as per PSEB records.*
  - *Light load has not been considered at a number of places.*
  - *The supply hours considered in the study are not as per actuals.*
  - *The efficiency of the motors has not been taken into account.*
  - *Possibility of unauthorized loads not being accounted for.*
- *In view of these observations, the Agency was asked to recalculate the AP consumption for all the five circles. The Agency has, by and large, accepted the Board's contentions as mentioned above and considered supply hours data provided by the office of the Chief Engineer/SO&C, factored in the efficiency of motors and also had taken into account the lighting load while computing the total load of the division. The possibility of unauthorized loads could not be taken into account because of difficulties in its quantification. The Agency then recalculated the AP factor with updated load on sample meters and consumption earlier supplied by the Board excluding the excessive consumption recorded by sample meters to the extent it was incompatible with the revised figures of connected load and supply hours. The connected load of each Division*

as furnished by the Board and AP factor arrived at as above was considered to calculate the total consumption in each Division of the five circles.

- *As the sample in the study represents 25% of the circles and about 33% of the total estimated AP consumption, its findings can with some measure of assurance be applied to the rest of the State. The Commission, accordingly, finds sufficient reason to presume that a similar pattern of over reporting agricultural consumption prevails in other circles of the Board as well. Accordingly, the Commission decides to reduce agriculture consumption reported by the Board (10030 MU) by 11.25% by applying the findings of this study to the State as a whole.*

3.3.2 Further, in the same order, the Commission while estimating the sales for AP in 2008-09 observed the following:

- *"After taking into account the observations of the Board, the revised consumption of the five selected circles worked out by the Agency and the consumption earlier reported by the Board for the same period is compared in Table 3.2 (A).*

Table 3.2 (A)

Circle	*AP consumption for 2008-09 (up to Dec 2008 in MU)*		*% difference*
	Supplied by Board	*Computed by the Agency*	
Khanna	*376.3*	*332.1*	*11.75*
Bhatinda	*425.455*	*375*	*11.86*
Sangrur	*1182.785*	*1067*	*9.79*
Gurdaspur	*398.34*	*371*	*6.86*
Hoshiarpur	*271.885*	*239*	*12.10*
Total	*2654.765*	*2384.1*	*10.20*

- *........ For reasons discussed in para 2.2.3, the Commission is of the view that the findings of the study for the first 3 Quarters of 2008-09 would generally be applicable to agricultural consumption reported by the Board for the entire year. Accordingly, the Commission decides to reduce the Board's latest estimates of agricultural consumption to the extent of 10.20% on the basis of the findings of this study."*

3.3.3 PSEB submits that as per the audited account of 2008-09, the AP consumption has been considered as 9348.71 MU as compared to the approved consumption of 8374 MU.

3.3.4 With regard to the methodology adopted by the Agency appointed by the Commission, PSEB has already provided its comments on the draft report which have been considered by the Agency in finalizing its report for estimation of AP consumption in the State.

3.3.5 PSEB submits that even at the time of sharing the preliminary report, very little time was available with the Board to validate the assumptions and the overall approach adopted by the Agency. While the Commission had passed the tariff order for 2009-10 on the basis of final report of the Agency, the same has been shared only a month before PSEB has to file the tariff petition for 2010-11. PSEB requests the Commission to allow the Board to submit its comments on the final report of the Agency, after submission of this petition, in case a need for such submission is envisaged by the Board.

3.3.6 While PSEB is undertaking an in depth analysis of the findings of the final report, however, the Board has made the following observations which it trusts are appearing in the final report as well:

a. The Agency in the preliminary report had pointed out that the connected load in several meters was higher on account of VDS or other such reasons in comparison with the records maintained by PSEB. Based on these findings the connected load on such meters was revised to calculate the consumption and thereafter the load factor. We understand that this load factor was multiplied with the connected load as per the records of PSEB. However, in the final report, the Agency has made the following observations:
    i. The operating load in almost half of the sample meters examined by the Agency across the divisions had operating load not only higher than the recorded load but also higher than the load considered for calculating the maximum consumption of AP factor calculation.
    ii. The probable reasons identified by the Agency for higher operating load are motor rewinding, lower water table and higher size of the motor usage etc.
b. In this regard, PSEB submits that if the operating load is found out to be higher than the load as per the ledgers, then under such circumstances, the better way to estimate the load would be only through correct energy meters. Any normative calculation of the operating load/estimation of consumption can result in skewed consumption levels which severely impact the financial health of the Board. Also, in case a correction in connected load was to applied (as done in the preliminary report) on the sample meters, the same correction may need to be applied on the overall connected load (appearing in the books of PSEB) of all such AP consumers in the State for the purpose of estimating the consumption. Application of such factor on the overall connected load will increase the overall AP consumption to be approved by the Commission. In this regard, it is submitted that PSEB is actively pursuing the consumers to regularize such loads under the VDS mechanism.

c. The Agency in the back up calculation (in the preliminary report) has worked out the consumption of sample meters by applying a check that in case the consumption as per meter is more than the theoretical consumption (calculated using formula i.e. connected load multiplied by hours of supply), then the theoretical consumption is to be considered for the purpose of calculating the load factor and vice versa. PSEB observes that once a meter is identified to be giving incorrect readings, then the same meter should ideally be excluded from the study. However, it was observed that for two consecutive months, the Agency has taken theoretical consumption in one month and consumption as per meter in the subsequent month. PSEB understands that it may be unlikely for a meter to give incorrect reading in a month and correct reading in the subsequent month. However, PSEB understands that incase a meter is showing excess consumption, the same may be a pointer towards theft, poor condition of equipment at the site, excess supply hours than the average considered in the study etc, which cannot be ignored in this manner. The same observation has now been suggested by Agency in the final report that the operating load is much higher than the connected/recorded load.

d. The Agency in the final report has considered a motor efficiency of 80% across the divisions. In this regard, PSEB submits that the Agency itself has observed that motor rewinding could be one of the reasons for higher operating load. For such motors, it may not be correct to assume an efficiency of 80%. Moreover, PSEB understands that even the brand new motors (submersible: around 50-60%, monoblock: around 65 %,) have an efficiency of around 50-60%. Consideration of such higher motor efficiency by the Agency has resulted in lower AP sales estimation which may be reviewed by the Hon'ble Commission.

e. PSEB further observes that without changing the approach followed by the Board, the deviation between the estimates of AP consumption by the Board and Agency's estimates of AP consumption was around 10.20% in 2008-09 as compared to 11.25% in 2007-08. It may be observed that the variation between the two estimates had started to converge in the two years. The same indicates that there is a convergence of the two estimates and that the said overestimation factor of 10.20% cannot be used for calculating the AP consumption for the ensuing years.

f. The above observations substantiate that there may be a requirement of suitable refinement in approach of the Agency to correctly establish the AP consumption in the State as any disallowance in the sales to AP leads to severe consequences on the financial health of PSEB.

3.3.7 In this regard, PSEB further submits the following:

a. Estimation of AP consumption has always remained a contentious issue with most of the utilities across the country.
b. The Commission may reconsider the findings of the Agency in light of the submissions made by the Board in the aforementioned paragraphs.
c. PSEB understands that the Hon'ble Commission has already given cognizance to the findings and recommendations of the report and also it may be appreciated that PSEB has already started implementation of the directive given by the Commission. Therefore, going forward, the AP consumption as reported by the Board through sample meters may be considered for the purpose of approval of ARR and true-up of expenses without any disallowance.
d. However, in case a need is felt for further refinement of the study, PSEB submits the following way forward may be considered by the Hon'ble Commission for the same:
    i. Reach on a consensus between the Hon'ble Commission and the Board on the approach for compilation of basic data for the estimation of AP consumption in terms of sample size, installation of meters, number of such meters, location of such meters etc.
    ii. Finalize the basic approach towards calculation of AP consumption from such data.
        – In the current circumstance, even though sample meters have been in place, however the Agency has reduced the AP consumption based on normative calculations. By following this approach, the investments into sample metering does not serve their intended purpose.
    iii. Benchmark the process of above methodology with the practices in other utilities in India and abroad.
    iv. Prepare a roadmap for undertaking the study and establish overall framework for implementation of metering and monitoring strategies.
    v. Fixing the responsibility of various agencies involved in the process
    vi. Upfront identification of data requirement of the Commission for verification of the assessment of AP consumption for the purpose of true-up and future projections in the ARR exercise.

3.3.8 However, in the current scenario, PSEB submits that it has started implementing the action points as directed by the Commission in the tariff order for 2009-10. The details of the same are shared in the subsequent chapters. PSEB therefore requests the Commission to consider the practical issues in estimation of AP sales and may therefore approve the AP sales as depicted in the books of accounts of the Board.

3.4 **Transmission and Distribution Losses (T&D Losses)**

3.4.1 PSEB in its ARR for 2009-10 has reported T&D losses of 21% for 2008-09. PSEB had also submitted various reasons for non-achievement of the loss level trajectory already fixed by the Commission. The Commission had however retained the target T&D loss level at 19.50% for the year 2008-09 as fixed earlier.

3.4.2 PSEB submits that the actual T & D losses as per the audited accounts are 19.92%. It may be appreciated that the actual loss level in 2007-08 had been 22.53% (as per books of accounts). It is apparent that PSEB has been able to achieve a significant loss reduction to the tune of around 2.61% in 2008-09.

3.4.3 While PSEB appreciates the intentions of the Hon'ble Commission towards promoting efficiency and improvement in performance of the utility, however, at the same time, PSEB submits that any unrealistic/optimistic expectations from the utility may jeopardize the financial viability of the utility.

3.4.4 In this regard, it is submitted that PSEB endeavors to bring down the T & d losses to 17% by 2011-12 i.e. a further reduction of around 2.92% in the next three years. PSEB has already formulated action plan to materialize this target. The details of the same are submitted in the subsequent chapters.

3.4.5 PSEB therefore requests the Commission to take a considered view with regards to T & D loss achievement in 2008-09 and may therefore consider the T & D losses as submitted in this petition.

3.5 **PSEB'S Own Generation**

3.5.1 Gross Generation

3.5.1.1 PSEB submits the comparison of projected gross generation vis-à-vis the approved generation and also the actual generation during the year 2008-09. As can be observed from the table, PSEB has far exceeded its own projections as submitted in the tariff petition for 2009-10. Further, PSEB been able to achieve the approved generation target set by the Commission for the said year.

Table 3–2: Gross Thermal Generation – 2008-09 (MU)

Sr. No.	Station	Projections by PSEB for 2008-09 in Tariff Petition for 2009-10	Approved by the Commission	Actual
		Gross	Gross	Gross
1 (a)	GNDTP Unit I &II	2748	1562	2846
1 (b)	GNDTP Unit III & IV		1284	
2	GGSSTP	9224	9611	9611
3 (a)	GHTP, Stage I	3391	3532	5610
3 (b)	GHTP, Stage II	1160	2078*	
4	**Total**	**16523**	**18067**	**18066**

* GHTP generation figures include 1168 MU (gross) generated during trial runs.

3.5.2 Auxiliary Consumption

PSEB submits the comparison of projected auxiliary consumption vis-à-vis the approved values and also the actual auxiliary consumption during the year 2008-09. As can be observed from the table, PSEB has been able to reduce the auxiliary consumption from the approved levels in case of GGSSTP and GHTP stations. The consumption level in case of GNDTP is slightly higher.

Table 3–3: Auxiliary Consumption – 2008-09

Sr. No.	Station	Revised Estimates by PSEB in ARR 2009-10	Approved by the Commission	Actual
1 (a)	GNDTP Unit I & II	11.66%	10.22%	11.57%
1 (b)	GNDTP Unit III & IV		11.00%	
2	GGSSTP	8.56%	8.50%	8.34%
3 (a)	GHTP Stage-I	9.21%	9.00%	8.71%
3 (b)	GHTP Stage-II	9.00%	9.00%	

3.5.2.1 Based on the actual auxiliary consumption, the actual net generation had been 16451 MUs as compared to 16444 MUs approved by the Commission. As can be observed, PSEB has marginally exceeded the approved generation target set by the Commission for 2008-09.

3.5.3 Hydel Generation

3.5.3.1 The station-wise generation projected by PSEB for 2008-09, approved generation and the actual generation is compared in the table below. As can be observed, the actual hydel generation of PSEB plants has been marginally higher than the approved generation. The total net availability of hydro generation therefore works out to 8741 MU.

Table 3–4: Hydel Generation – 2008-09 (MU)

Hydel Station	RE by PSEB in ARR 2009-10	Approved by the Commission	Actual
Net Own Hydel	3841	4005	4131
Net Share from BBMB	4391	4610	4609
Total Net Hydel (Own + BBMB)	**8232**	**8615**	**8741**

3.5.4 Power Purchase

3.5.4.1 PSEB is submitting the energy balance depicting the quantum of energy requirement vis-à-vis the sources of supply of power. The Commission had approved a net power purchase quantum of 12680 MUs in 2008-09. However, considering the increase in metered sales, actual AP consumption and net energy available from plants within the State, PSEB had to procure around 14851 MU (net) from sources located outside the State.

3.5.4.2 As can be observed from the table below, the overall quantum of power purchase has increased by around 14% from the approved quantum. The increase in power purchase cost can be attributed to the following factors:

a. The Commission had reduced the approved AP consumption in the State by a factor of around 10.20% from the projected sales to such consumers.

b. There has been an increase in sales to the metered category of consumer by around 1% from the approved sales.

c. The T & D loss levels in PSEB had been 19.92% in comparison to the approved loss levels of 19.50%.

Table 3–5: Energy Balance - 2008-09 (MU)

Sr. No.	Particulars	Projections by PSEB in ARR 09-10	Approved by the Commission	Actual
A) Energy Requirement				
1	Metered Sales	20,898	19,892	20,461
2	Sales to AP consumers	9,766	8,374	9,349
3	Total Sales within the State	**30,664**	**28,266**	29,810
4	Loss percentage	21.00%	19.50%	19.92%
5	T&D losses	8,151	6,847	7,416
6	Sales to Common pool consumers	303	303	302
7	Outside State Sales	1,541	2,323	2,515
8	**Total requirement**	**40,659**	**37,739**	**40,043**
B) Energy Available				
9	Thermal	15,670	16,444	16451
10	Hydro	8,232	8,615	8741
11	Purchase net	16,757	12,680	14851
12	**Total Available**	**40,659**	**37,739**	**40,043**

3.5.4.3 In this regard, PSEB has already made the request to the Hon'ble Commission regarding AP consumption and the T & D losses. PSEB submits that it is functioning under the Electricity Act 2003 (EA 03) and has a social responsibility of providing the electricity to all consumers within its license area. In order to meet the demand, PSEB has to procure short term power through various agencies often at a premium than their cost plus tariff. Under such circumstances, any shortfall in reduction of loss levels leads to disallowance in the power purchase cost by the Commission. In order to contain the losses, one of the alternatives before PSEB would be to limit the quantum of short term power purchases. However, the same may have an impact not only on the agricultural production but may also hamper the industrial and commercial growth prospects in the state. PSEB therefore requests the Commission to consider the aforementioned submissions and allow the actual power purchased by the Board in 2008-09.

3.5.5 Fuel Cost

3.5.5.1 With respect to the fuel cost, PSEB submits that the Commission disallows the actual fuel cost on account of deviation in technical performance parameters of the stations. While on some of the technical parameters viz. secondary oil consumption, transit losses etc., the plants of PSEB are performing better than the approved parameters, however, the key factor leading to wide variation in the fuel cost is the Station Heat Rate.

3.5.5.2 For 2008-09, the actual fuel cost as per the books of accounts is Rs 2886 crore (without including the cost of fuel incurred during trial runs on GHTP Unit-3) as against an approved cost of Rs 2979 crore. The fuel cost approved by the Commission includes cost of generation of 1168 MUs from GHTP Unit-3 during trial stages. The pro-rata cost of 1168 MUs as per the norms approved for GHTP station comes out to Rs 190 crores. The fuel cost approved for the stations is therefore Rs 2789 crores (2979-190). Accordingly the total deviation between approved fuel cost and actual fuel cost for the firm generation is around Rs 97 crore.

Table 3–6: Comparison of Fuel Cost (Approved Vs Actual Cost)

Station/Unit	Approved	Actual	Deviation
GHTP (Unit-I, II, III)	709	689	-21
GGSSTP	1581	1660	78
GNDTP	498	537	39
Total Cost for Firm Generation	**2789**	**2886**	**97**
GHTP (Infirm Power)	190	268	78
Total Cost	**2979**	**3154**	**175**

3.5.5.3 PSEB submits that the cause of deviation in fuel cost can be attributed to the following key factors:

a. Quantity of Panem Coal (on which no transit losses are levied)

b. Change in gross generation by the plant

c. Secondary oil consumption

d. Transit :Losses

e. Station Heat Rate.

3.5.5.4 PSEB submits the comparison between actual fuel cost approved by the Commission for 2008-09 vis-à-Vis the actual fuel cost as per the books of accounts and also the contribution of each of the aforementioned factor in the overall deviation.

Table 3–7: Impact of Technical Parameters on Fuel Cost (Rs Crs)

Parameter	GHTP	GGSSTP	GNDTP	Total Thermal
Change in Qty. of Panem Coal	3	0	-16	-13
Change in Price and CV of coal	0	-11	3	-8
Transit losses	-1	2	-1	0
Sp. Oil consumption	-12	-24	2	-34
SHR	-11	112	51	151
Total Deviation from Approved Cost	**-21**	**78**	**39**	**97**

3.5.5.5 As can be observed from the above table, there is a reduction in the fuel cost by Rs 34 crore against the secondary oil consumption, however on account of higher SHR in GNDTP and GGSSTP, the fuel cost has increase by around Rs 151 crore. The net deviation in fuel cost on account of all the factors is Rs 97 crore.

3.5.5.6 With respect to the increase in fuel cost, PSEB has already submitted the technical reasons for increase in heat rate of the stations in the review petition for tariff order for 2009-10. PSEB reiterates its submission for GGSSTP as given in the said review petition:

" With respect to the deviation in SHR from the approved rate, PSEB submits that out of six units in the thermal station, two units of the plant are around 25 years old and with ageing of equipments, the performance of individual elements in the stations is bound to deteriorate.

In this regard, Board submits that the Average ageing for the turbines of six units, as on 30 Sep 2009 was 14.89% (ranging from 11.96% for unit 6 to 18.08% for unit 1). On the basis of ageing, the derated value of the design turbine heat rate of 1985 kCal/kWh was computed as per BHEL's formula….

…….Considering the Designed Boiler efficiency as 87.16%, the station heat rate of GGSSTP works out at 2622.68 kCal/Kwh.

In this regard, it is further submitted that over the time, Boiler & other plant assembly's efficiencies are bound to decrease further from their designed values and thus 2700 kCal/kWh as SHR is a realistic assessment.

Based on the submissions made above, PSEB requests the Hon'ble Commission to consider the SHR for GGSSTP at 2700 kCal/kWh on average basis for FY 2007-08, FY 2008-09 & FY 2009-10. PSEB further requests the Hon'ble Commission to carry out an independent assessment by Consultants or an Outside agency for determination of Performance parameters for GGSTP Ropar."

3.5.5.7 Regarding the SHR for GNDTP, PSEB submits that certain elements of the Renovation and Modernization had been pending in 2008-09 which lead to higher fuel cost for Unit-1 and Unit-2. However, with the completion of the said works, the SHR for the units has improved. Further, the other two units (Unit-3 and Unit-4) are scheduled for Renovation and Modernization works and the overall performance of the station will improve in the subsequent months.

3.5.5.8 In this regard PSEB requests the Commission to consider the recent Appellate Tribunal for Electricity (ATE) judgment in Appeal No. 86 and 87 of 2007 in case of Maharashtra State Power Generation Company Limited (MSPGCL). The case is similar with the issues in PSEB wherein the stations have not been able to achieve the normative performance approved by Maharashtra Electricity Regulatory Commission (MERC). MSPGCL had preferred an appeal before the ATE to seek relief in the matter and requested the ATE to issue suitable directives to the Commission. While ATE does not have jurisdiction in the matters governed by the Tariff Regulations, however as an outcome of the Appeal, ATE had given directives to the Commission to appoint a third party to verify the technical performance of MSPGCL stations for the purpose of allowing true-up in the current year and also to recommend strategies to the Utility for improvement in the performance trajectories. The Commission had appointed M/s CPRI, Bangalore to undertake the study. As a part of the mandate, CPRI is envisaged to undertake detailed operational analysis, assess ground realities, condition of plant and machinery and then work out the current level of performance. Further, CPRI will recommend improvement strategies under Current/Immediate, Mid-term and Long-term capital expenditure plan/directives to sustain/improve the performance of the thermal stations.

3.5.5.9 PSEB requests the Commission to consider the similar case of its stations as prevalent in Maharashtra. PSEB submits that it is running the plants at their optimal efficiency levels and is open for independent evaluation of technical performance by any other agency.

3.5.5.10 PSEB submits that it has already commissioned GHTP Unit-3 and the Unit-4 is expected to be commissioned by December 2009. It is envisaged that the new units will perform as per the technical norms set by the Commission. However, as far as the old plants are concerned, PSEB requests the Commission to take a considerate view on the performance of its units and approve the fuel cost as per the actual performance of the units.

3.5.6 Cost of Generation during trial stages of Unit-III and IV of GHTP

3.5.6.1 In the tariff order for 2009-10, the Commission has considered a generation of 1168 MUs during trial operations and has considered as cost of around Rs 190 Crore (calculated on normative parameters by the Board as approved for Unit 1, 2 and 3). PSEB understands that while calculating the same, the Commission has considered the normative parameters as applicable to the existing units of GHTP. PSEB submits that the units cannot be expected to run at the normative levels during the trial operations. It is worth appreciating that even the CERC Regulations (2004-09) recognized this fact and a grace period of 180 days were provided for stabilization of the unit. During the stabilization period, the secondary oil consumption was assumed to be around 4.5 ml/kWh and the SHR is also relaxed for such period. In case of PSEB, the period under consideration is the trial operations prior to declaration of COD of the project. The stabilization period is supposed to commence post the COD of the project.

3.5.6.2 PSEB submits that the cost of infirm power during 2008-09 had been Rs 268.35 crore. PSEB requests the Commission to kindly consider its submissions and allow the said actual fuel expenses for the stations.

3.5.7 Power Purchase Cost

3.5.7.1 The Commission had approved a power purchase quantum of 12680 MUs in 2008-09 at a price of Rs 4414.59 crores. However, considering the increase in metered sales, actual AP consumption and net energy available from plants within the State, PSEB had to procure around 14850.52 MUs from outside the State. The overall cost of power purchase from such other sources had been Rs 5184 crore.

3.5.7.2 PSEB requests the Commission to consider the submissions made in the previous sections of AP consumption and T & D losses. PSEB understands that besides the license requirements, it is the social responsibility of the Board to provide reliable power to the consumers in its license area. PSEB while knowing it upfront about the treatment of excess power purchases as per the previous orders of the Commission, still continues to procure such power so that the consumers of PSEB do not suffer from the issues of unreliable and quality power.

3.5.7.3 Any disallowance in the actual power purchase cost deeply impacts the investments into the power sector in the State by PSEB. Besides this, the same also leads to cash flow issues for which the Board may be required to procure high working capital loans. The same therefore leads to a cascading effect on the disallowances of expenditures as the Hon'ble Commission allows the interest on working capital on a normative basis.

3.5.7.4 With regard to the disallowances on the fuel cost and the power purchase on account of higher T & D losses, PSEB submits that even though the Commission does not allow expenses beyond the approved limits, even then PSEB has to bear the power purchase cost under contractual obligations. The table below represents the net RoE available with PSEB after meeting the expenses towards fuel expenses and power purchase costs.

Table 3–8: Impact of Disallowance on Net Return of PSEB (Rs Crs)

Parameters	**2006-07**	**2007-08**
Return on Equity	**412.46**	**412.46**
Disallowances		
Fuel Expenses	93.08	88.07
Power Purchase	487.33	962.61
Net ROE left with PSEB	**-167.95**	**-638.22**
Cumulative Net RoE	**-167.95**	**-806.17**

3.5.7.5 As can be seen from the above table, the cumulative net return to PSEB for 2006-07 and 2007-08 after paying for fuel expenses and power purchase cost is Rs (806) crore. PSEB submits the continuance of such disallowances will eventually deplete the net worth of the Board to a large extent.

3.5.7.6 PSEB therefore requests the Commission to consider the merits in the pleas of the Board and take a considerate view on the issues causing the deviation between actual power purchase cost vis-à-vis the approved cost. PSEB requests the Commission to allow the actual power purchase cost as per the books of accounts.

3.5.8 Employee Cost

3.5.8.1 In the tariff order for 2009-10, the Commission had approved net employee cost of Rs 1768.19 crores. The actual employee expenses (net of capitalization) are Rs 2202.04 crore. The break-up of employee expenses is provided in the table below:

Table 3–9: Detail of Employee Expenses in 2008-09

Parameter	Actual (2008-09) Rs Crore
Expenses for PSEB employees	2261.68
Less Capitalization	117.82
Add : BBMB share	58.18
Total Expenses	2202.04

3.5.8.2 As can be observed the deviation between approved and actual employee expenses is around Rs 433.85 crore. With respect to similar deviation in previous year, the Commission in the Tariff order for 2009-10 had noted the following:

"The Commission has been observing that the employee cost of the Board is one of the highest in the country and has urged the Board to take effective steps to contain this cost. This issue has already been extensively dealt with in the Tariff Orders from 2002-03 to 2008-09. The Commission, in line with its earlier observations in this respect, is unable to accept the revised projections of employee cost reported by the Board and considers it more appropriate to determine such cost as per its Regulations.

3.10.3 According to Regulation 28 (4) (a) of the PSERC Tariff Regulations, O&M expenses as approved for the year 2005-06 are to be considered as the base for determination of such expenses in subsequent years. The Regulation further provides that the O&M expenses will be adjusted according to the annual variation in the rate of WPI as on 1st of April every year. On the basis of methodology discussed in para 2.10.4, average WPI increase for 2008-09 works out to 8.41% which is applied to the approved cost of Rs.1631.02 crore for 2007-08 to arrive at employee expenses of Rs.1768.19 crore for the year 2008-09."

3.5.8.3 In this regard, PSEB submits the comparison of actual and approved employee expenses since 2003-04.

Table 3–10: Disallowances in Employee Expenses over the years (Rs Crores)

Parameter	2003-04	2004-05	2005-06	2006-07	2007-08
Approved Employee Cost	1275	1275	1462	1558	1631
Actual Employee Cost	1385	1541	1627	1751	2042
Disallowance	111	267	166	193	411
Cumulative Disallowance	111	377	543	736	1147

3.5.8.4 As can be seen in the table above, the cumulative disallowance on account of employee expenses had been Rs 1147 crore. PSEB has been pleading on this for the past several years and had also preferred an appeal with the ATE. The ATE in its judgment (dated May 26, 2006) had observed the following:

"139. ….There is nothing on record to show that there has been improvement in the performance of the employees of the Board.
142 ….. As already pointed out, the comparative analysis of various parameters clearly establish that the employees of the PSEB are not productive and performance linked incentive shall be the requirement of the day.
143 …. At the same time we make it clear that in case the employees of the Board do not improve their efficiency, the aforesaid employees' cost allowed by the Commission will remain capped till the performance of the Board employees improve.
*144…**No worthwhile measures were adopted by the Board to reduce the employees' cost during the years in question."***

3.5.8.5 From the observations of the Commission and further the ATE, PSEB understands that the ATE/Commission desired that PSEB should take measures on the following areas:

A. Reduction in manpower costs
B. Improvement Trajectory for performance

3.5.8.6 With regard to the performance improvement, PSEB submits that it has been able to improve the performance on the following grounds:

a. Board has been able to reduce the T & D losses by around 2.61% from the previous year i.e. 2007-08.
b. The Gross generation of the Board has been increased from 14835 MU in 2005-06 to 16457 in 2007-08 at a CAGR of around 5.33%
c. The overall specific oil consumption of the thermal stations has been lower than that approved by the Commission in GGSSTP and GHTP stations in 2008-09.
d. PSEB has been able to contain the A & G expenses within the approved limits

3.5.8.7 PSEB has made attempts to improve the technical performance on the one hand and is also taking all possible prudent measures to rationalize the employee costs. The approach of the Board towards reduction in the employee costs is further elaborated in the subsequent chapters. PSEB requests the Commission to take a considerate view of the prevailing situation as any disallowance in actual cost severely impact the Board and leads to increase in working capital loans. PSEB requests that the actual employee costs may kindly be allowed by the Commission.

3.5.9 Repairs and Maintenance (R&M) expenses

3.5.9.1 In the ARR of 2008-09, the Board had projected R&M expenses at Rs.398.30 crore against which the Commission had approved Rs.323.19 crore on this account. However the Commission had revised the approved R & M expenses to Rs 339.56 crore for 2008-09 based on the submissions made by the Board and practicing its own due diligence on the submitted expenditure.

3.5.9.2 The actual expenditure on R & M (net of capitalization) as per the books of account is Rs 338.54 crore. PSEB request the Commission to consider the same for true-up.

3.5.10 Administration and General (A & G) expenses

3.5.10.1 In the ARR of 2008-09, the Board had projected A&G expenses at Rs.90.34 crore. Against the same, the Commission had approved the amount of Rs.79.29 crore. However based on the revised estimates submitted by PSEB in the ARR of 2009-10, the Commission had allowed A&G expenses at Rs.71.93 crore for 2008-09.

3.5.10.2 PSEB submits that the actual A & G expenses (net of capitalization) are Rs 70.96 crore. PSEB submits that wherever it is possible for the Board to contain the expenses, it is adopting prudent measures to optimize the same.

3.5.10.3 PSEB submits that the Commission should consider a realistic view on the overall O & M expenses. While it may be possible for PSEB to optimize the A & G expenses, however in case of other component of O & M expenses, especially employee expenses, the Board has little control over the same. PSEB requests the Commission to kindly consider the actual O & M expenses as submitted in the petition.

3.5.11 Depreciation charges

3.5.11.1 In the Tariff petition of 2009-10, PSEB had projected depreciation charges at Rs.721.73 crore for assets valued at Rs.16420.73 crore as on April 01, 2008. The Commission had however approved a depreciation of Rs 721.50 crore for 2008-09. The actual depreciation as per books of accounts is Rs 693.73 crore. The Board submits that the same may be considered for true-up by the Commission.

3.5.12 Interest and Finance charges

3.5.12.1 The Board had claimed Interest and Finance charges of Rs.1394.94 crore for 2008-09 against which the Commission had approved an amount of Rs.767.48 crore in the tariff order of 2009-10.

3.5.12.2 PSEB submits that the actual interest on loans for 2008-09 as per the books of accounts is Rs 1194.59 crore. In this regard, it may be observed that the Commission had been disallowing the interest charges on the following grounds:

a. Re-estimation of loan requirement based on the availability of funds available to PSEB (for loans other than Govt. Loans and WCL loans)
b. Diversion of capital funds towards revenue expenses
c. Disallowance of excess working capital loans

3.5.12.3 Regarding the disallowance in the interest charges, PSEB humbly submits as follows:

a. Re-estimation of loan requirement based on the availability of funds available to PSEB

The Commission while estimating the quantum of loan required for funding the approved investment plan considers the availability of incentive grant under APDRP, consumer deposits, etc. In this regard, it is submitted that PSEB is already facing cash flow issues and consideration of such funds despite the presence of audited loan portfolio leads to disallowances in the actual interest expenses. PSEB understands that the audited accounts of the Board clearly depict the financial position of the Board and that the Commission is well aware of the underlying uncontrollable factors which have contributed a lot for the same. PSEB therefore requests the Commission to consider the practical aspects of working capital management prevalent in the Board and take a considerable stand by not considering such availability of funds for capital investment.

b. Diversion of capital funds towards revenue expenses

With regard to the diversion of funds, PSEB submits the excerpts of the observations of the Commission in the tariff order for 2003-04 as cited below:

*"….**The Commission is conscious of the fact that the situation which prevails in the Board is due to historical factors and events which took place before this Commission came into existence**. Otherwise also, these matters are to be settled mutually by the Govt. and the Board. In fact, in response to the suggestions of the Commission, the Govt. has conveyed its willingness to address these issues pertaining to re-apportionment of RSDP, cleaning up the balance sheet and restructuring the finances of the Board, possibly through a medium term Financial Restructural Plan…."* (Emphasis added)

*"…..If the subsidy due from the Govt. is reduced by the overstated amount of Rs.3241.94 crores, the balance sheet will acquire a very different appearance with regard to the accumulated losses. These losses will go up from Rs.272.39 crores as on March 31, 2002 to Rs.3514.33 crores. **To overcome this cash crunch, the Board has utilized the funds generated from items like depreciation, consumer contributions and deposits, provident fund and working capital loans. The Board also adopted the device of defaulting on some current liabilities like power purchases, coal purchases due of suppliers. Such measures may be permissible only to tide over a passing crisis because they do not solve the problem but only postpone it**. Over a medium or longer period, they can prove to be ruinous and thus they can never pass the test of prudent expenditure…."* (Emphasis added)

*"….It was on such considerations that in its last Tariff Order, the Commission had highlighted the issues pertaining to valuation of RSD, cleaning up the balance sheet of PSEB and the need for a Financial Restructuring Plan. **The Commission, however, recognizes the practical difficulties which come in the way of an instant solution of the problems which have actually emerged over a number of years**. …"* (Emphasis added)

*"….In view of the above, **the Commission has decided to disallow Rs.100.00 crores** out of a much larger amount claimed as interest on loans which were clearly obtained to bridge the revenue deficit in earlier years….."* (Emphasis added)

PSEB appreciates the considerations of the Commission while approving the interest expenses of the Board in the aforementioned tariff order for 2003-04. However, it may also be seen that there is a disallowance of Rs 100 crores for the past couple of years based on the aforementioned principles. From the aforementioned excerpts, PSEB understands that the Commission itself recognizes the requirement of a financial restructuring plan and appropriate intervention by the State Government to uplift the financial position of the Board. However, in the absence of such measures, PSEB feels that it is penalized for such factors which are beyond the control of the Board. PSEB therefore requests the Commission to allow recovery of Rs 100 crores in the tariff or else issue adequate orders by which the Board is not penalized for such uncontrollable factors.

c. Disallowance of excess working capital loans

Regarding the issue of higher working capital loans, PSEB submits that the key reasons for the same as follows:

- Disallowance in power purchase cost
- Disallowance in Employee cost
- Disallowance in fuel cost for generation of power.
- Non-refund of interest payment by State Government leading to cash flow issues and eventual borrowing of short term loans

PSEB submits that disallowances in legitimate expenses over the last several years had lead to severe cash flow issues in day to day operations of the Board. The prevailing regime if continued will result into immense accumulated losses which will eventually erode the entire net worth of the Board. The same will not be in the interest of any stakeholder relating to the power sector in the state.

One significant factor leading to the deviation in the working capital requirement is the disallowance in employee cost. PSEB submits that disapproval of any cost on normative basis by the Commission does not mean that the same expenditure has not been incurred. While PSEB has been repeatedly pleading before the Hon'ble Commission and has submitted the measures adopted for rationalization of the employee cost, however the Commission has not taken cognizance of the same and had disallowed the employee cost actually incurred by the Board.

It may be appreciated that PSEB is in the process of expanding its generation capacity and that it will take all possible prudent measures for optimal utilization of available manpower. At the same time, it is also important that the talent within the organization is retained for taking over the operations of the upcoming plants efficiently. It may be appreciated that private utilities normally pay far more compensation to its employees as compared to any PSU. In the wake of competition in generation, many CPSUs in the country are experiencing high attrition in its skilled manpower at senior positions which may critically influence the efficient operations of the utility.

It is therefore submitted that while PSEB is doing the needful for optimal utilization of its manpower, however given the fact that PSEB has a large manpower base, the same does not mean that legitimate expenses be disallowed on normative basis. PSEB had already substantiated this point in the earlier paragraphs for approval of actual employee expenses and requests the Commission to take a considerate view of the practical operational conditions of PSEB while approving the working capital requirement.

The other major factor for reduction in the working capital requirement is the disallowance in the fuel cost of the utility on a normative basis. Subject to the rationale submitted by PSEB in the earlier paragraphs on fuel cost, PSEB request the Commission to kindly consider the actual fuel cost as per the books of accounts for the purpose of calculating the working capital requirement.

Another component leading to increase in working capital is the disallowance in the power purchase cost. It may be highlighted that irrespective of the power purchase quantum approved by the Commission, the Board has to pay for the entire power purchased from outside the state.

It is worth appreciating that while the technical losses in the state are under the limits. However, the estimation of commercial T & D losses involve estimation of AP sales also for which there has been a contention between the basis of approval by the Commission vis-à-vis the estimation by the Board.

PSEB understand that no utility can function as a commercially viable entity unless the actual cost is allowed to be recovered from the consumers. Disallowance of expenses, leads to reliance on short term loans as even the ROE approved by the Commission is not enough to meet such deficit. It is therefore requested to the commission to consider the practical facets of the utility and approve the expenses of the board with the rationale submitted herein.

3.5.12.4 PSEB submits the impact of disallowances in various cost elements on the Return on Equity allowed by the Commission.

Table 3–11: Net RoE of PSEB after paying for all the Disallowances (Rs Crs)

Parameters	2006-07	2007-08
Return on Equity	412	412
Disallowances:		
Fuel Expenses	93	88
Power Purchase Expenses	487	963
Employee Expenses	193	411
Long term interest Expenses	100	108
Short term Interest Expenses	54	254
Total Disallowances	**928**	**1823**
Net ROE left with PSEB	**-515**	**-1411**
Cumulative Net RoE	**-515**	**-1926**

3.5.12.5 As can be seen from the above table, the returns available to PSEB will get completely utilized in meeting the disallowances in employee expenses in 2007-08. The net unmet disallowances to the extent of around Rs 1400 crores could only be managed through short term loans only. Also it may be observed that there had been an increase in short term loans in 2008-09 by around Rs 1435 crore from such loan amount in 2007-08. Needless to highlight that the increase in quantum of such short term loans is essentially due to disallowance in the actual expenditure incurred by the Board in managing its operations.

3.5.12.6 Further, the GoP has not returned the excess interest paid by PSEB as per the orders of the Commission. Rather, the GoP has preferred an appeal before the ATE challenging the decision of the Commission to refund the said excess payment. Such factors have further aggravated the financial issues in the Board.

3.5.12.7 While PSEB agrees with the views of the Commission regarding introduction of financial restructuring, however PSEB requests the Commission to devise some mechanism of interim relief so that the Board has enough funds to meet the working capital requirements. The same will also help in managing the operations of the Board in a more rational and organized manner.

3.5.13 Other Debits, Extraordinary items and Fringe Benefit Tax (FBT)

3.5.13.1 PSEB submits that the overall liability towards other debits, extra ordinary items and FBT have been Rs 10.71 crores. The detailed break up for the said expenses is provided in Schedule 15, 16 and 17(a) of the audited accounts. The summarized head wise expenses are tabulated below for reference:

Table 3–12: Details of other debits, FBT and Extraordinary items

Particulars	Rs Crore
Other Debits	4.16
Extra Ordinary Items	1.64
Fringe Benefit Tax	4.90
Total	**10.71**

3.5.14 Prior period Income/Expenses

3.5.14.1 Prior Period items are defined as those items which arise from retrospective changes in the basis of accounting. While care is undertaken to avoid such changes, however the same may arise on account of correction of fundamental error in accounts of prior periods, short or excess provision made in previous years or waiver of any liability relating to revenue expenses of past years. As per the books of accounts for 2008-09, there is a net expense under this category of around Rs 107 crore. In this regard, Schedule 18 of the account is reproduced below:

Table 3–13: Details of Prior period Expenses/Income

Sr.No	Particulars	Account	This Year
		Code	2008-09
1	**Income relating to previous year.**		**Rs. Crs**
	Fuel relating gains.	65.1	0.00
	Sale of Power	65.2	0.34
	Interest income for prior periods	65.4	0.74
	Excess prov. For depreciation	65.6	1.58
	Excess prov for Interest & finance Charges	65.7	18.02
	Other excess provision	65.8	0.41
	Other Income	65.9	(0.75)
	Sub Total		**20.36**
2	**Prior period expenses / losses**		
	Purchase of Power	83.1	100.64
	Fuel related losses & expenses	83.2	14.10
	Operating expenses	83.3	1.16
	Employee costs	83.5	3.08
	Depreciation unprovided in previous years	83.6	7.18
	Interest & finance charges	83.7	0.28
	Administrative Exps. Previous year	83.820	1.28
	Freight & other purchase related expenses	83.840	0.24
	Total		**127.95**
	Net prior period Credit / (Charges)(1-2)		**(107.60)**

3.5.14.2 PSEB request the Commission to allow the same as per the books of accounts.

3.5.15 Summary of True-up

3.5.15.1 PSEB submits that the overall gap based on the approved and actual expenses and revenue during the year 2008-09 is Rs 1453.54 crores. The same is represented in the table below:

Table 3–14: Summary of Overall Gap for 2008-09

Sr. No.	Item of Expense	Revised estimates by Board (Rs Crs)	Approved by the Commission in T.O. 2009-10 (Rs Crs)	Actual as per Accounts/ Regulations (Rs Crs)
1	**2**	**3**	**4**	**5**
1	Cost of fuel	2749.00	2978.85	3154.06
2	Cost of power purchase	6507.00	4414.59	5184.05
3	Employee cost	2243.60	1768.19	2202.04
4	R&M expenses	354.25	339.56	338.54
5	Admin & General Exp	71.93	71.93	70.96
6	Depreciation	721.74	721.50	693.73
7	Interest charges	1207.24	537.66	1194.59
8	Carrying cost of gap	-	-	0.00
9	Return on Equity	412.46	412.46	412.46
10	Fringe Benefit Tax	5.25	4.98	4.90
11	Other Debits and Extraordinary items	4.81	0.00	5.81
12	Prior period Expenses/Income	0.00	0.00	107.60
12	**Total revenue requirement**	**14277.28**	**11249.72**	**13368.74**
13	Less: non tariff income	424.02	442.57	471.21
14	**Net revenue requirement (12-13)**	**13853.26**	**10807.15**	**12897.53**
15	Revenue from existing tariff	11611.76	11139.38	8842.25
16	subsidy from GOP	*	*	2601.73
17	**Gap**	**-2241.50**	**332.23**	**-1453.55**

3.5.15.2 PSEB requests the Commission to kindly consider the submissions of PSEB and take a holistic view on the scarcity of resources available with the Board and make suitable provisions for smooth operations of the Board till the time a financial restructuring plan is introduced by the Government of Punjab. PSEB request the Commission to allow the net gap as depicted in the table above.

Section-2

Revised Estimates for 2009-10

and

Projections of ARR for 2010-11

4 REEVISED ESTIMATES FOR 2009-10 AND ARR PROJECTIONS FOR 2010-11

4.1 Metered Sales

4.1.1 PSEB is submitting the actual sales for the first half of the year 2009-10. For the purpose of estimation of sales during the second half of the year 2009-10, PSEB has followed the similar process as followed in the ARR petition for 2009-10. For projecting the sales for the period Oct ’09 to Mar ’10, PSEB has calculated the half yearly Compounded Average Growth Rate (CAGR) for individual consumer categories during second half of the period FY05-06 to FY08-09. The category-wise CAGR so calculated has been applied on the half yearly metered sales of respective categories for FY08-09 to arrive at the category wise metered energy sales projection for the second half of FY09-10 (Oct ’09 to Mar ’10).

4.1.2 The projections for metered category wise sales for FY 10-11 are based on CAGR computed on basis of last three year audited actual sales i.e. from FY05-06 to FY08-09 as per the methodology approved by Hon’ble Commission. The CAGR thus obtained is applied to the values of metered energy sales of FY08-09 for all the categories for projecting values for FY 2010-11.

4.1.3 The Board has proposed application of CAGR in case of Railway Traction category also since the Board has observed a significant increase in consumption during the first half of 2009-10 in comparison to the sales during the previous year for the same period.

4.1.4 The Compounded Annual Growth Rate (FY05-06 to FY08-09) for the metered categories has been tabulated below.

Table 4–1: Three Years CAGR for sales to Metered Categories (FY05-06 to FY08-09)

S.No.	Category of Consumers	3 Year CAGR (%)
1	Domestic (Inc. Others)	7.61%
2	Non-Residential Supply	10.30%
3	Small Power	2.15%
4	Medium Supply	1.98%
5	Large Supply (including PLEC)	5.39%
6	Public Lighting	6.12%
7	Bulk Supply & Grid Supply	2.56%
8	Railway Traction	4.32%
9	**Overall metered sales within State**	**6.05%**

4.1.5 The Sales to Common Pool for FY09-10 and FY10-11 has been projected based on the actual figures of Sales to Common Pool for FY08-09. The Board has estimated the Sales to Common Pool for FY10-11 envisaging a similar pattern to that of FY07-08 and FY08-09.

4.1.6 Outside State sales for first half of FY08-09 are based on actuals and the estimates for second half year are based on the committed sales on account of open access transactions and sale/banking through traders.

4.1.7 The Category wise metered energy sales for past year, current year and the ensuing year are summarized in the table below.

Table 4–2 : Energy Sales to Metered Categories (MU)

S.No.	Category of Consumers	2008-09 Actual	2009-10 RE	2010-11 Proj
1	Domestic (Inc. Others)	6695	7336	7894
2	Non-Residential Supply	1967	2135	2355
3	Small Power	743	768	784
4	Medium Supply	1556	1607	1639
5	Large Supply (including PLEC)	8747	8741	9212
6	Public Lighting	147	148	157
7	Bulk Supply & Grid Supply	480	495	508
8	Railway Traction	126	149	155
9	**Total metered sales within State**	**20461**	**21379**	**22705**

5 AGRICULTURE CONSUMPTION

5.1.1 Agriculture Consumption comprises of metered energy sales and Un-metered energy sales. Metered sale is taken as per actual and to predict the unmetered sales, sample meters have been installed by the Board across the state.

5.1.2 The revised yearly estimates of AP Consumption for FY09-10 are based on the actual AP consumption during the first half of FY09-10 i.e. Apr '09 to Sep '09 and projections of the next half i.e. Oct '09 – Mar '10. For estimation of such sales during the second half of 2009-10, a growth rate of 7.87% (based on the last three year CAGR for H2 sales) has been considered. This growth rate has been applied to the corresponding actual sales figures of second half of FY08-09 (i.e. Oct '08– Mar '09) to arrive at sales projections for the second half year in FY09-10.

5.1.3 For projecting the sales for the year 2010-11, CAGR of 8.51% (based on the last three years annual sales) has been considered. The said growth rate has been applied on the estimated sales for 2009-10. The details of Agriculture Consumption during past year i.e. FY2008-09, the current financial year FY09-10(RE) and the ensuing year (FY10-11) is provided in the table below:

Table 5–1 : Three Year CAGR for Agriculture Consumption FY04-05 to FY07-08

Category of Consumers	2005-06	2006-07	2007-08	2008-09	CAGR
Agricultural Sales	7317	8235	10030	9349	8.51%

Table 5–2 : Agriculture Consumption FY08-09 to FY10-11

Category of Consumers	2008-09 Actual	2009-10 RE	2010-11 Proj
Agricultural Sales (MU)	9349	10363	11245

5.1.4 PSEB submits that a drought like situation has prevailed during the year 2009-10 which lead to a substantial increase in the AP consumption during the year. The consumption in first half of 2009-10 had increased by around 12.72% over the sales during the first half of 2008-09. However, PSEB has not considered such spikes in consumption and has rather preferred the CAGR method for estimation of sales in the second half of 2009-10 and also for the year 2010-11 as discussed in the above paragraphs.

5.1.5 PSEB understands that the Commission has considered a normative increase of 5% over the base year consumption of 2007-08 to project the AP consumption in 2008-09 and 2009-10. However, PSEB requests the Commission to consider the actual trend in growth of AP consumption and consider the similar approach for estimation of AP sales as considered for the metered category sales.

5.1.6 In the tariff order for 2009-10, the Commission had directed the following:

"……The Commission has over the last several years been attempting to refine the methodology of computing AP consumption. With that end in view and in the light of the findings of the recent study on AP consumption, the Commission directs the Board as under:

(a) Monthly division-wise consumption recorded by sample meters be made available directly to the Commission by the agency undertaking this work.

(b) The Board will furnish to the Commission on monthly basis (division-wise)

- *The complete data on the basis of which AP factor has been calculated i.e. load of each AP sample meter, initial and final meter readings, total connected load of AP sample meters, total consumption recorded by sample meters.*
- *Details of increase/decrease in sample meter loads (including light load) along with total connected load of each division.*
- *Data of the actual AP supply hours.*

(c) Sample meter readings in excess of what can possibly be consumed with the given supply hours and connected load will not be taken into account for evaluation of AP factor and division-wise details of such meters will be furnished every month.

(d) Faulty/non-functional sample meters will be replaced in a time bound manner and in no case should the faulty meters exceed 10% of the total sample meters in a division during any month of the year.

(e) The size of sample meters may be gradually increased to 10% of the total number of AP connections for more accurate estimation of AP consumption…

…………………….………. "

5.1.7 In this regard, PSEB submits the action plan as follows:

a) The work for taking monthly reading of sample meters installed on AP motors has been awarded to M/s G4S and PSEB has been in constant discussion with the firm to streamline the overall deliverables of the firm. The company has shown appreciable improvement and is expected to streamline its operation in next 2-3 months. Accordingly, PSEB envisages submitting the monthly data in the said time frame.

b) The point wise replies is as follows:

- The data at the circle/zonal/Board level (on the basis of which monthly consumption is being calculated) is being supplied to the Commission every month. It will take 2 to 3 months to prepare the entire monthly data as required by the Commission in soft format.
- The AP sample meters have been installed in a geographically scattered area and due to various system constraints, the AP load is fed from various branches of 11 KV feeders. It is therefore, not possible to provide exact supply hours as per Sub-station data. Also many times due the system conditions, the supply hours to agriculture sector are increased /decreased to balance the supply demand parameter.

c) PSEB submits that the consumption of same capacity motors could be different than rating of a motor due to factors indicated below:-

- Whether motor is submersible or monoblock.
- Whether motor is star-rated or ordinary.
- Whether motor is re-wound or not
- Whether shunt capacitor has been working or not.

PSEB understands that correct estimation of AP consumption is possible only with actual energy consumption recorded by correct energy meters. While the Board feels that recording of excess consumption by the meters against the connected load may be a pointer toward the types of equipment, its degree of maintenance and also towards theft of energy, however, in compliance to the directives of the Commission, the consumption recorded more than permissible with standard current rating of the motor and 24 hours supply hour is being ignored for calculating AP consumption.

d) In compliance to the directive, the faulty / non functional sample meters are being replaced by DS organization and it is envisaged that the number of faulty/non functional meters will not exceed 10% of the total sample meters in a division every month.

e) The directive is being complied with the sample size has already increased to 6% and the same will be further improved as per the directives of the Commission.

5.1.8 PSEB understands that the Commission, on the basis of the study conducted by M/s ABPS, had reduced the AP consumption as per the books of accounts of PSEB by 11.50% in 2007-08 and by 10.20% in the revised estimates of 2008-09. In this regard, PSEB has submitted its detailed observations in the section on true-up for 2008-09. PSEB requests the Commission to kindly consider its submissions and allow the actual sales for 2008-09 and projections for 2009-10 and 2010-11. Going forward, PSEB has already started implementation of the directives given by the Commission in the tariff order for 2009-10. Considering that PSEB is actively pursuing the directives of the Commission, PSEB requests the Commission that the AP consumption estimates of the Board may kindly be accepted in the current and ensuing years and no disallowance in such sales be made as the same seriously impacts the financial position of the Board.

6 TRANSMISSION & DISTRIBUTION LOSSES

6.1 Proposed Transmission and Distribution Losses

6.1.1 Having achieved a steep reduction in T & D losses by around 2.61% in 2008-09 from a loss level of 22.53% in 2007-08, PSEB envisages continuing the loss reduction endeavors and proposes a reduction of around 1.92% by 2010-11 from the current level. The envisaged loss level for PSEB is around 19.50% in 2009-10 and around 18.00% in 2010-11. The year on year loss reduction trajectory proposed by the Board is tabulated below:

Table 6–1 : T&D Loss reduction projections

Particulars	2006-07	2007-08	2008-09	2009-10	2010-11
	(Actual)	(Actual)	(Actual)	(RE)	(Proj)
T & D Losses	23.92%	22.53%	19.92%	19.50%	18.00%
YoY Reduction	-	1.39%	2.61%	0.42%	1.50%

6.1.2 It may be appreciated that although PSEB has achieved a steep reduction in the T & D losses in 2008-09, the same may not be possible in the year 2009-10. The rationale for the same is the reduced AP sales in 2008-09 on account of good monsoon season. In comparison to 2008-09, the year 2009-10 had observed a relatively drought season during the monsoon months. Scanty rainfall has brought down the water table further down thereby increasing the pumping requirement. However going forward in 2010-11, PSEB envisages that with a normal monsoon season a loss reduction of 1.50% may be achievable subject to investments happening in the transmission and distribution networks.

6.1.3 The reason for flat loss reduction trajectory in the ensuing years is that it becomes increasingly difficult to have a year on year loss reduction in the same proportion when the losses are in the range of 25% to 35% in comparison to loss level range of 15% to 25%. PSEB resubmits its submissions in the tariff petition for 2009-10 wherein it is suggested that the Regulatory Commissions normally set a reduction target of 2-3% when the loss levels are in the range of 30% to 40%. The loss reduction targets specified by various State Commissions are reproduced below for ease of reference:

Table 6–2 : T&D Losses for Other States for year FY 08-09

Sr. No	State/ Licensees	Year	T & D Losses	Loss Reduction Targets
1.	Maharashtra - MSEDCL	FY 08-09	36.55%	4% till FY 2009
2.	MP - Central Discom	FY 08-09	44.90%	3% till FY 2010-11
3.	MP - West Discom	FY 08-09	33.40%	1.50% till FY 2010-11

Sr. No	State/ Licensees	Year	T & D Losses	Loss Reduction Targets
4.	Rajasthan - Ajmer Discom	FY 08-09	39.40%	3% till FY 2008-09
5.	Rajasthan - Jaipur Discom	FY 08-09	30.96%	2.66% till FY 2008-09
6.	Rajasthan - Jodhpur Discom	FY 08-09	32.56%	2.81% till FY 2008-09

**T&D losses at Discom Level includes Transmission Losses undertaken by Transmission utility serving the particular Discom*

6.2 Initiatives taken by PSEB to reduce T & D losses

6.2.1 In the tariff petition for 2009-10, the Board had mentioned several initiatives for loss reduction. The Commission had however suggested the following:

"……………………While the Board proposes to undertake several measures in this direction, the Commission would for the present look only at the progress achieved in respect of:

(i) Conversion of LT distribution system to HVDS.

(ii) Replacement of electro-mechanical meters by electronic meters.

(iii) Installation of capacitors at all 11 KV feeders in urban and rural areas.

(iv) Shifting of meters outside residential premises.

………………………."

6.2.2 In this regard PSEB submits as follows:

a. Conversion of LVDS System in to HVDS is quite capital intensive. Six (6) such schemes have already been completed in Board and 34 such schemes (for 5,24,856 connections of AP Tube Wells) stand sanction by REC. The procedure for tendering is in progress and work orders will be issued subsequently.

b. The work of replacement of electro-mechanical with electronic meters will be taken side by side along with the shifting of meters outside the consumer premises.

c. The Board has also prepared its low cost Demand side Management plans which are quite effective and will result in controlling growing demand these are as under:-

- The Board has also started the process of replacement of incandescent lamps with CFL under Bachat Lamp Yojna (BLY). Under this scheme CFLs will be provided to 48.00 lakhs domestic consumers @ Rs.15/- per CFL. The developer shall provide maximum of 4 CFL Lamps to each consumer and recover the balance cost of CFL by utilizing CDM (clean development mechanism) thus costing nil to PSEB.

- By adding 2100 MVAR capacity at a cost of Rs.20.00 Cr., the Board aims to reduce demand by 200 MW and envisages a decrease in losses by around 1%.
- The tender process for BLY stands completed after pre-bid conference. Now, the offers of firms are being evaluated. The work is expected to be completed in 12-15 months from the start of the scheme.

d. Shifting of meters outside the consumer premises in respect of 32 Lakhs consumers will be covered in Non-APDRP areas up to October 2010. Further, 17 Lakhs consumers will be covered under APDRP schemes up to June 2011. The balance electro-mechanical meters will be replaced under R-APDRP scheme for 47 Towns.

6.3 Key Constraints in reducing T & D Losses

6.3.1 PSEB had been submitting in it tariff petitions that reduction in T & D losses is a function of not just the capital expenditure approved by the Commission but also the investments actually incurred into such loss reduction initiatives. While the Board is aggressively pursuing the loss reduction targets and is taking prudent measures to make the investments into such schemes, however, the ability to invest may be severely constrained by other factors which need to be considered while evaluating the performance of the Board vis-à-vis the approved norms. A list of such practical constraints, however not limited to the following, could be:

- Lead time in drafting tender documents and suggesting technical and financial credentials for potential bidders
- Non-availability of raw material/equipments for deployment into capex schemes
- Unreasonable prices quoted by the bidders leading to re-tendering
- Negotiating the prices for supply of materials with the vendors
- Delay in implementation of schemes by the vendors
- Force Majeure

6.3.2 While the administrative issues can be handled by PSEB, however, there may be delay in actual implementation of the schemes due to reasons beyond the control of the Board. The Commission is requested to consider submissions of the Board in case the proposed loss reduction target is not materialized on account of the aforementioned issues. Under such circumstances, a revised timeline for the proposed loss reduction target may be considered by the Hon'ble Commission on a year to year basis.

6.4 Proposed Loss Reduction vis-à-vis Approved Losses in 2009-10

6.4.1 The Hon'ble Commission in the tariff order for 2009-10 has disallowed the AP sales to the extent of around 10.20% based on the findings of the report submitted by M/s ABPS. The Hon'ble Commission had stated the following:

"The Commission has repeatedly observed that the Board has not been able to draw up a comprehensive plan for the reduction of T&D losses with quantifiable annual targets and monitor its implementation. There is, however, some merit in the plea of the Board that it would be counterproductive to persist with fixation of T&D losses that are entirely unrealistic and bear no relationship to the actual prevailing levels thereof. The Commission notes that the National Tariff Policy notified by the Govt. of India does indeed suggest that in such a situation it is advisable to relax the norms and refix the targets which a licensee would be required to achieve. Given the consistent inability of the Board to achieve levels of T&D loss as prescribed by the Commission, it becomes necessary to reconsider the entire issue. Taking note of the fact that actual losses on the basis of revised AP consumption at the end of 2008-09 was 24.07%, the Commission now prescribes that loss level to be achieved during the year 2009-10 would be 22%."

6.4.2 In this regard, PSEB submits that the proposed loss reduction trajectory does not take into account the revision in AP consumption as considered by the Commission in the tariff order for 2009-10. However, if the approach adopted by the Commission is considered, the revised loss reduction trajectory is as depicted in the table below:

Table 6–3 : Revised Loss Reduction Trajectory after Reduction in AP sales

Item	FY 2008-09 (Actuals)	FY 2009-10 (RE)	FY 2010-11 (Proj.)
Energy Available for sale	37226	39430	41401
AP Sale (As per PSEB)	9349	10363	11245
T&D Losses (As per PSEB) in MU	7416	7689	7452
T&D Losses (As per PSEB) in %	19.92%	19.50%	18.00%
Losses on account of Deduction in AP Sale (@10.2%) in MU	954	1057	1147
Revised T&D Losses (MU)	8370	8746	8599
Revised Losses (%)	22.48%	22.18%	20.77%

6.4.3 PSEB submits that a reduction in AP sales as considered in the tariff order for 2009-10 may be reconsidered in light of the views submitted by the Board in the earlier section on true-up of 2008-09. PSEB believes that AP sales depicted in the books of accounts represent a fair estimate and may be considered by the Commission without any disallowance in 2008-09. Considering that the T & D losses based on the AP sales as per the books of accounts is 19.92%, the Board requests the Commission to kindly consider the same and approve the loss reduction trajectory from the current level of 19.92 % to 18% by 2010-11.

7 ENERGY REQUIREMENT

7.1.1 Based on the T&D loss reduction targets and demand projections, the following table lists down the energy requirement of the state

Table 7–1 : Energy Requirement (MU)

Sr. No.	Item	FY 2008-09 (Actuals)	FY 2009-10 Projected	FY 2010-11 (Proj)
A)	**ENERGY REQUIREMENT**			
1	Energy sales to metered category within the State	20461	21379	22705
2	Energy sales to AP	9349	10363	11245
3	**Total sales within the State**	**29810**	**31741**	**33949**
4	Sales to common pool consumers	302	302	302
5	Sales outside state	2515	1383	1211
6	**Total sales**	**32627**	**33427**	**35462**
7	T&D losses			
i)	%	19.92%	19.50%	18.00%
ii)	MU	7416	7689	7452
8	**Total energy requirement**	**40043**	**41116**	**42915**

8 ENERGY AVAILABILITY

8.1.1 The bulk of energy requirement of the State is met by own generating stations, share from BBMB, banking with other states and state's share from central generating stations. The balance power purchase requirement is met through other external sources i.e. from traders, UI etc. The state generating stations comprises of three thermal stations viz. GNDTP Bhatinda, GGSSTP Ropar and GHTP Lehra Mohabbat. PSEB envisages commissioning of Unit-4 of GHTP station by December 2009. Besides, there are 5 hydel stations and micro-hydel projects. The basis and projections for FY09-10(RE) & FY10-11 from each of the sources are summarized below.

8.2 State Generating Stations- Thermal Generation

8.2.1 The actual generation parameters for FY 08-09, revised estimates for FY 09-10 and the projections for FY 10-11 are discussed in detail as under.

8.2.2 The projections for the ensuing year and the revised estimate of the generation (MU) from state's own thermal generating stations, namely, GNDTP Bhatinda, GGSSTP Ropar and GHTP Lehra Mohabbat are made based on the following parameters:

a. Plant Availability

b. Plant Load Factor

c. Gross Generation

d. Auxiliary Consumption

8.3 Plant Availability Factor (PAF)

8.3.1 The actual availability of GNDTP Bhatinda during the first half of the current year had been higher as compared to the previous year. However, the availability is envisaged to reduce drastically during the second half and also in the ensuing year. This is mainly because of the scheduled Renovation and Modernization work planned on the two units (Unit-III & IV) and also the annual over hauling of the Units I & II, besides consideration of forced outages of 3.85% on the plant.

Table 8–1 : Availability of Thermal Stations

Sr.No.	Plant Availability	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	GNDTP	%	89.15	92.23	79.81	71.22
2	GHTP (Unit I, II, III)	%	95.98	96.08	94.00	86.00
3	GHTP (Unit IV)	%			92.50	92.50
4	GGSSTP	%	89.92	96.12	89.92	91.98

8.3.2 Availability of GHTP (Unit I, II and III), for second half of FY09-10 is re-estimated considering the planned maintenance of the Unit-I (20 days of AOH) during the second half of FY09-10. The plant availability for FY 10-11 is projected as on the basis of the planned maintenance schedule of Unit-I (43 days COH), Unit-II (43 days COH) and Unit-III and past trends in the forced outage duration of the stage-I Units of the plant. The maintenance schedule of the plant is provided in the Formats 3, 3A, 3B & 3C.

8.3.3 Plant Availability of GGSSTP is revised for the second half based on the actual plant availability figures attained till Sept'09 and the planned maintenance schedule of Units (Unit-1: 19 days for essential R & M works; Unit-2 and Unit-4: 45 days each for COH; Unit-6: 35 days for COH) during Oct'09 to Mar'10 period. For FY10-11 the plant availability is projected based on the planned maintenance Schedule (Unit-1: 26 days; Unit-3: 43 days and Unit-5: 30 days for essential R & M works) of the generating station of 99 days and also taking into account the average forced outage duration of plant in previous years.

8.4 Plant Availability Factor Incentive

8.4.1 The Board submits that the Board has already submitted a Review Petition against the Tariff Order FY09-10 issued by the Hon'ble Commission seeking review and modifications for incentives payable against the Plant Availability Factor. The same is discussed in detail in the Review Petition (admitted as Petition No. 23 of 2009).

8.4.2 As detailed in the Review Petition submitted by the Board, the Board requests the Hon'ble Commission to consider the Thermal Generation Incentive as per CERC norms. As per CERC norms, the Commission is requested to allow generation incentive to GGSSTP Ropar & GHTP Lehra Mohabbat on achieving a PAF above 85%.

8.5 Plant Load Factor (PLF)

8.5.1 The Plant Load Factor of GNDTP is expected to be lower in the second half of the current year as compared to actual PLF for the first half on account of annual overhauls of Unit I and Unit-III besides the starting of renovation and modernization of Unit-IV. The revised estimates and the projections for the future year are made considering the R&M and overhauling schedule of the plant. It needs to be noted that despite of the age of these stations, PSEB has been able to sustain generation at these levels from GNDTP through pro-active, consistent and regular maintenance and by taking- up timely renovation & overhaul of its units.

Table 8–2 : Plant Load Factor of Thermal Stations

Sr.No.	Plant Load Factor and Gross Generation	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	**GNDTP**	%	73.83	75.89	64.26	59.15
		MU	2846	1467	1235	2280
2	**GHTP (Unit I, II, III)**	%	94.89	95.84	91.40	81.54
		MU	4442	2820	2675	4786
3	**GHTP (Unit IV)**	%	-	-	79.20	81.23
		MU	-	-	575	1779
4	**GGSSTP**	%	87.07	95.11	78.13	86.07
		MU	9611	5264	4300	9500

8.5.2 The Plant Load Factor for three units of GHTP for the second half of the current year is expected to be slightly lower than the actual PLF achieved in the first half on account of 20 days of annual overhaul of Unit-I. A further reduction in PLF is expected in the ensuing year on account of capital overhaul of Unit I and II. The PLF is projected in line with the plant availability during the period and the revised monthly target generation figures.

8.5.3 The Plant Load Factor of GGSSTP for the current year is re-estimated as per the actual generation till Sept'09 and the revised monthly target generation level for Oct'09 till Mar'10. The PLF for FY10-11 is projected on similar lines.

8.5.4 Plant load factor for Unit-IV of GHTP is projected at 79.20% for FY09-10, (considering the commissioning of the unit from Dec 1, 2009) and the PLF is projected at 81.23% for 2010-11.

8.5.5 Considering the above facts, PSEB submits to the Commission to approve the projected PLF of the thermal stations.

8.6 Gross Generation

8.6.1 The gross generation from the thermal stations is shown in the Table 8-2 above. The Gross Generation for GNDTP, GGSSTP, GHTP stations for FY09-10 has been re-estimated as per the actual generation of the respective plants up to Sept'09 and considering the revised generation targets set for the respective plants for the second half of FY09-10 (Oct'09-Mar'10).

8.6.2 The Gross generation of the three thermal plants i.e. GNDTP, GGSSTP and GHTP (Unit I & II & III), has been projected for FY 10-11 on the basis of envisaged availability in line with the planned maintenance schedule for various units.

8.6.3 The Gross generation of Unit-IV of GHTP Stage-II for FY 10-11 has been projected considering that the unit will be commissioned in December 2009.

8.7 Auxiliary Consumption

8.7.1 Auxiliary Consumption of GNDTP, GGSSTP and GHTP (Unit-I, II & III) for FY09-10 are re-estimated as shown in the table below. The projections are made on the basis of the actual generation data till Sep'09. The auxiliary consumption for the ensuing year is projected based on the past trend of the respective plants.

8.7.2 For GHTP Unit-IV auxiliary consumption has been projected at 9.0% for FY09-10 & FY10-11, in accordance with the CERC norms for auxiliary consumption of thermal plants with cooling towers.

8.7.3 PSEB submits that the auxiliary consumption in GNDTP is inclusive of losses in generator transformer, unit auxiliary transformers, station transformers, excitation power, BCW system and cooling water system. Hence, considering that an auxiliary consumption of 12% is allowed for Tanda Thermal Power Station by CERC, the same may be considered while approving the auxiliary consumption of GNDTP station.

8.7.4 Considering the above aspects, PSEB requests the Commission to allow the auxiliary consumption as submitted in this petition.

Table 8–3 : Auxiliary Consumption and Net Generation of Thermal Stations

Sr.No.	Auxiliary Consumption and Net Generation	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	**GNDTP**	Ax Con (%)	11.57	11.66	11.60	11.60
		Ax Con (MU)	329	171	143	264
		Nt Gen (MU)	2516	1296	1092	2016
2	**GHTP (Unit I, II, III)**	Ax Con (%)	8.71	8.58	9.00	9.00
		Ax Con (MU)	387	242	241	431
		Nt Gen (MU)	4055	2578	2434	4355
3	**GHTP (Unit IV)**	Ax Con (%)	-	-	9.00	9.00
		Ax Con (MU)	-	-	52	160
		Nt Gen (MU)	1071	1165	523	1619
4	**GGSSTP**	Ax Con (%)	8.34	8.24	8.50	8.50
		Ax Con (MU)	801	434	366	808
		Nt Gen (MU)	8809	4830	3935	8693

8.8 State Generating Stations- Hydel Generation

8.8.1 The total available Hydel Generation is shown in the table below. The same includes the yearly generation of Shanan HEP on account of Royalty payable to the State of Himachal Pradesh (HP). Similarly, it also includes the unit share of H.P. @ 4.6% from the yearly generation of RSPP.

8.8.2 The Actual Generation from Anandpur Sahib Hydel Project (ASHP) during the year FY08-09 is 751.50 MUs which includes diversion of 62.22 MUs from BBMB (due to diversion of water from NHC to AHC). Hence generation from ASHP for FY08-09 stands at 689.28 MUs. Similarly for FY09-10, 5.75 MU are diverted to BBMB net generation as a result of diversion of water from NHC to AHC up to Sept’09 and hence generation for ASHP for first half of FY09-10 stands at 369.30 MUs.

8.8.3 The Net Hydel availability for FY09-10 has been revised on the basis of the actual generation figures available till Sept ’09 and the revised generation target envisaged for the respective Hydel Plants for the period Oct’09 till Mar’10. Considering the present reservoir position at the start of depletion period to be almost identical to that prevailing during 2004-05 in case of RSD reservoirs, the generation of MHP, RSD and UBDC has been assumed to be same as in 2004-05 during second half of the year 2009-10. While for Shanan and ASHP, the net availability is based on last three years average for the corresponding months.

8.8.4 The Hydel plants auxiliary losses are also dependent upon the fact that the plant's auxiliary systems have to be kept running even when the Hydel plants are not operating due to lack of required water level in the reservoirs/hydel channel.

8.8.5 The hydel generation for ensuing year has been estimated by taking an average of the actual hydel generation for last three years viz., FY 2006-07 to FY 2008-09.

8.9 **Hydel Availability- BBMB share**

8.9.1 The Net Hydel availability from BBMB and Common Pool Share for the current year (FY09-10) has been revised at 3689.22 MUs and 302.14 MUs respectively, which has been computed by taking into consideration the actual availability from such sources till Sept'09. The external Losses for the BBMB energy excluding common pool share have been considered at 3.70 %.

8.9.2 The Net Hydel availability from BBMB and Common Pool Share for FY10-11 has been projected on the basis of 3 year's average of gross PSEB share for FY06-07, FY07-08 & FY08-09. The External Losses applicable for BBMB energy excluding Common Pool Share have been considered as per FY'09 figures of 3.70%.

Table 8–4 : Hydel Availability from Own Stations

Sr. No.	HYDEL STATION	FY 2008-09 (Actuals)	FY 2009-10 H1(R.E.)	FY 2009-10 H2(Proj.)	FY 2010-11 (Proj.)
A)	**OWN GENERATION**				
I)	**Capacity (MW)**				
1	Shanan HEP	110	110	110	110
2	UBDC Hydel Project	91	91	91	91
3	Mukerian Hydel Project	207	207	207	207
4	Anandpur Sahib Hydel Project	134	134	134	134
5	Ranjit Sagar Project	600	600	600	600
6	Micro Hydel Projects	4	4	4	4
7	**Total**	**1146**	**1146**	**1146**	**1146**
II)	**Gross Generation(MU)**				
1	Shanan HEP	532	372	124	522
2	UBDC Hydel Project	339	246	135	384
3	Mukerian Hydel Project	1132	463	330	1222
4	Anandpur Sahib Hydel Project	689	369	234	688
5	Ranjit Sagar Project	1474	800	400	1564
6	Micro Hydel Projects	10	6	3	8
7	**Total**	**4175**	**2256**	**1226**	**4388**
8	Aux Consumption (MU)	-7	-4	-3	-8
9	Transformation Losses (MU)	-37	-22	-18	-39
10	**Net Own Hydel Generation (MU)**	**4131**	**2231**	**1205**	**4342**
B)	**BBMB (MU)**				
1	PSEB Share excluding Common Pool	4307	2267	1422	4102
2	Common Pool Share (Net)	302	152	150	302
3	**Availability from BBMB**	**4609**	**2418**	**1573**	**4404**
	Total Hydel Availability (MU)	**8741**	**4649**	**2778**	**8746**

9 ENERGY BALANCE

9.1.1 The Table below summarizes the energy balance for the previous year, current year and the ensuing year. The Total energy sale within the state is estimated to grow at 6.48% for the current year and 6.96% for the next year.

Table 9–1 : Energy Balance (MUs)

Sr. No.	Item	FY 2008-09 (Actuals)	FY 2009-10 Projected	FY 2010-11 (Proj)
A)	**ENERGY REQUIREMENT**			
1	Energy sales to metered category within the State	20461	21379	22705
2	Energy sales to AP	9349	10363	11245
3	**Total sales within the State**	**29810**	**31741**	**33949**
4	Sales to common pool consumers	302	302	302
5	Sales outside state	2515	1383	1211
6	**Total sales**	**32627**	**33427**	**35462**
7	T&D losses			
i)	%	19.92%	19.50%	18.00%
ii)	MU	7416	7689	7452
8	**Total energy requirement**	**40043**	**41116**	**42915**
B)	**ENERGY AVAILABILITY**			
1	Net thermal generation	16451	17853	16682
2	Net hydel generation (own+shared)	8741	7427	8746
3	Net power purchase	14851	15836	17487
4	**Total energy availability**	**40043**	**41116**	**42915**

9.1.2 On the availability side, own generation from thermal plants is expected to go up by 8.52% in FY09-10 with the Commissioning of Thermal Plant, GHTP Lehra Mohabbat – Unit-IV envisaged to be on 01st December 09. However in FY 2010-11, own generation is expected to reduce because of the overhauling schedules of the generating stations.

9.1.3 The Hydel availability to PSEB from own generation stations and BBMB is estimated to reduce by 15.03% in FY09-10 due to less rainfall and a drought year. However in the ensuing year, hydel plant availability is expected to increase by approx 17.76%.

10 FUEL COST

10.1 Factors influencing Fuel Cost

10.1.1 The fuel cost of Thermal stations of PSEB, namely, GNDTP, GGSSTP and GHTP is based on the following parameters:

a. Generation (already discussed in previous chapters)
b. Specific Oil Consumption and Oil Prices
c. Station Heat Rate
d. Coal Transit Loss
e. Price and Calorific Value of Coal

10.1.2 The projected figure of the fuel cost parameters for FY08-09; the Revised Estimates for FY09-10 and FY10-11 are discussed in detail as under.

10.2 Specific Oil Consumption and Oil Prices

10.2.1 The Specific Oil Consumption of GNDTP, GHTP (Unit I, II, III) and GGSSTP has been estimated for the second half of the current year and also projected for the ensuing year i.e., FY10-11 on the basis of actual Oil Consumption till Sept'09.

10.2.2 The Specific Oil Consumption for GNDTP for FY09-10 (first six months) is slightly on higher side due to A.O.H (Annual Overhauling) of Unit II during Apr'09.

Table 10–1 : Details of Sp. Oil Consumption and Oil Prices

Sr.No.	Specific Oil Consumption and Oil Prices	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	**GNDTP**	ml/Kwh	2.38	2.52	2.50	2.50
		Rs./KL	28297	24081	26489	29138
2	**GHTP (Unit I, II, III)**	ml/Kwh	0.80	0.46	2.00	2.00
		Rs./KL	28347	29167	32084	35292
3	**GHTP (Unit IV)**	ml/Kwh			2.00	2.00
		Rs./KL			33000	35000
4	**GGSSTP**	ml/Kwh	0.96	0.58	1.50	1.50
		Rs./KL	30712	22613	24874	27362

10.2.3 For GHTP Unit- IV, specific oil consumption is estimated as 2.0ml/kWh for FY09-10(Revised Estimate) and FY 10-11 post the commissioning of the unit.

10.2.4 The Hon'ble Commission will appreciate that the oil prices for the three plants are substantially different. This is on account of the fact that that different levels of mix of oil is used at thermal plants i.e., FO (Fuel Oil) and LDO (Light Diesel Oil) and that there is significant difference in the prices of FO and LDO.

10.2.5 The proportion of FO and LDO usage varies from plant to plant. LDO is used for initial start-up of the plant and later FO is used till 70% loading. In case of GHTP, since the plant runs mostly at full load, the consumption of FO is quite low whereas in case of GGSSTP the consumption of FO is comparatively high due to partial load. The proportion of LDO varies from 30% to 40% for different plants and accordingly the weighted average of oil price is different for different plants.

10.2.6 The prices of oil for FY09-10 and FY10-11 have been projected considering an escalation of 10% on the actual average price for the respective Generating stations (six month FY09-10 figures till Sept'09 for GNDTP, GGSSTP & GHTP).

10.3 Station Heat Rate

10.3.1 The Board submits to the Hon'ble Commission that GNDTP's SHR need to be seen in the light of the fact that the station is over 25 years old and has outlived its useful life. The detailed issues with regard to the SHR of this station have been elaborated in the earlier section on true-up for 2008-09. The Board requests the Commission to kindly consider the submissions and allow the SHR as submitted in the petition.

10.3.2 The Board further submits that it has submitted a Review Petition against the Tariff Order of FY09-10 issued by the Hon'ble Commission seeking review and modifications for Station Heat Rate and Auxiliary Consumption as allowed for GNDTP, Bhatinda Power Plant.

Table 10–2 : Details of SHR

Sr.No.	Station Heat Rate	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	**GNDTP**	Kcal/Kwh	3154	3070	3059	3010
2	**GHTP (Unit I, II, III)**	Kcal/Kwh	2459	2402	2500	2500
3	**GHTP (Unit IV)**	Kcal/Kwh			2500	2500
4	**GGSSTP**	Kcal/Kwh	2682	2654	2693	2697

10.3.3 The Station Heat Rate for GHTP (Unit-I, II & III) has been taken on the basis of the actual data till Sept'09 for the second half of FY09-10. The SHR has been projected in line with the Tariff Regulations at 2500 kCal/kWh. Station heat rate of GHTP Unit-IV for FY09-10 and FY10-11 has been considered as 2500 kCal/kWh in accordance with CERC norms.

10.3.4 The Station Heat Rate for GGSSTP has been taken on the basis of the actual data available till Sept'09. The Station Heat Rate for GGSSTP has been projected considering the fact that two of the six units at GGSSTP are more than 22 years old. The Station Heat Rate for GGSSTP has been projected for FY10-11 on the basis of the previous year's data and has been taken as 2697 kCal/kWh which is lower than the SHR of Badarpur Thermal Station as allowed by CERC.

10.3.5 The Board submits to the Hon'ble Commission to approve the Station Heat Rate at the levels submitted herein by PSEB, without any disallowance.

10.4 Coal Transit Loss

10.4.1 Coal Transit loss for GNDTP and GHTP have been taken on the basis of the actual data available from the respective stations till Sept'09 for the second half of FY09-10.

10.4.2 Coal Transit loss for GNDTP and GHTP (all units) has been assumed to be 2% for the year FY10-11, as per the values approved by the Commission in the Tariff Order for FY 09-10.

10.4.3 For GGSSTP, the Coal Transit loss for second half of FY09-10 has been considered same as that of the actual transit loss for the plant for FY 2008-09.

Table 10–3 : Details of Transit Losses

Sr.No.	Coal Transit Losses (Excluding the PANAM Coal)	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	GNDTP	%	1.41	1.84	2.00	2.00
2	GHTP (Unit I, II, III)	%	1.69	1.22	2.00	2.00
3	GHTP (Unit IV)	%			2.00	2.00
4	GGSSTP	%	2.20	0.94	2.20	2.00

10.4.4 The Boards submits to the Commission that it doesn't have control in reducing Coal transit loss beyond a certain level, as there are many uncontrollable external factors associated with such losses. The Coal Transit Loss mainly arises on account of natural phenomena during transportation of coal and also on account of loss of coal in transit due to theft, pilferage, etc

10.4.5 There is an expected element of loss in weight of coal due to natural losses on account of evaporation, wind and seepage of fine coal through the wagons. These losses vary depending on route and time of transportation of coal. These losses are also a function of nature of carriage, with open wagons which are susceptible to higher losses.

10.4.6 The losses relating to natural phenomena, by their very nature, are expected to remain uncontrollable. Given that PSEB has the disadvantage of having the longest average distance of coal transportation in the country, it is expected that the losses on account of natural phenomena would be higher in comparison to other states. However, in this regard, it may be appreciated that the said losses in Haryana are much higher than that in PSEB.

10.4.7 The Board therefore requests the Hon'ble Commission to approve the coal transit loss for the generating stations without any disallowance.

10.5 Price and Calorific Value of Coal

10.5.1 The price of coal for FY10-11 and FY09-10 (Second Half) has been projected by considering an escalation of 5% on the actual average coal prices for the respective stations -GNDTP, GGSSTP, GHTP (Unit-I, II & III) till Sept'09, keeping in view of the recent coal price hike by Coal India Limited (CIL).

Table 10–4 : Price and Calorific Value of Coal

Sr.No.	Calorific Value of Coal and Coal Prices	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	**GNDTP**	Kcal/kg	4239	4102	4100	4100
		Rs./Tonne	2449	2517	2643	2775
2	**GHTP (Unit I, II, III)**	Kcal/kg	4077	4023	4025	4025
		Rs./Tonne	2531	2589	2718	2854
3	**GHTP (Unit IV)**	Kcal/kg			4025	4025
		Rs./Tonne			2800	2950
4	**GGSSTP**	Kcal/kg	4019	3979	4015	4015
		Rs./Tonne	2518	2652	2785	2924

10.5.2 PSEB understands that prices of coal are an uncontrollable element. Hence, any change in the projected coal prices will be recoverable through the Fuel Cost Adjustment as per Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005 which contains the FCA formula according to which any change in fuel cost would be passed on to the consumers with the prior approval of the Commission.

10.5.3 The projected prices of coal including transit loss for GNDTP, GGSSTP and GHTP Stage-I & Stage-II, has been shown in the table above.

10.5.4 The Gross calorific value of coal for GNDTP, GGSSTP and GHTP (Unit-I, II & III) have also been shown in the table above. PSEB understand that any changes in the actual calorific value at the Stations will be shown in the Fuel Cost Adjustment filing by PSEB.

10.6 Summary of Fuel Cost of Thermal Stations

10.6.1 The Tables below summarizes the performance on various parameters of the three Thermal plants in FY08-09 (Actuals), FY09-10 (Revised Estimate) and the Projection for FY10-11.

Table 10–5 : Thermal Generation Cost: GNDTP – Bhatinda

Sr.No.	Item	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	Installed Capacity	MW	440	440	440	440
2	PLF	%	73.83	75.89	64.26	59.15
3	Plant Availability*	%	89.15	92.23	79.81	71.22
4	Gross Generation	MU	2846	1467	1235	2280
5a	Auxiliary Consumption	%	11.57	11.66	11.60	11.60
5b	Auxiliary Consumption	MU	329	171	143	264
6	Net Generation	MU	2516	1296	1092	2016
7	Station Heat Rate	Kcal/kwh	3154	3070	3059	3010
8	Specific Oil Consumption	ml/kwh	2.38	2.52	2.50	2.50
9	Coal Transit Loss	%	1.41	1.84	2.00	2.00
10	Quantity of PANAM coal	Tonnes	1095070	648835	600000	1200000
11	**Total Fuel Cost**	**Rs. Crores**	537.35	285.01	251.40	479.85

Table 10–6 : Thermal Generation Cost: GGSSTP – Ropar

Sr.No.	Item	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	Installed Capacity	MW	1260	1260	1260	1260
2	PLF	%	87.07	95.11	78.13	86.07
3	Plant Availability	%	89.92	96.12	89.92	91.98
4	Generation	MU	9611	5264	4300	9500
5a	Axuilary Consumption	%	8.34	8.24	8.50	8.50
5b	Axuilary Consumption	MU	801	434	366	808
6	Net Generation	MU	8809	4830	3935	8693
7	Station Heat Rate	Kcal/kwh	2682	2654	2693	2697
8	Specific Oil Consumption	ml/kwh	0.96	0.58	1.50	1.50
9	Transit loss of coal	%	2.20	0.94	2.20	2.00
10	Quantity of PANAM coal	Tonnes	2452406	1555520	1003835	2221100
11	**Total Fuel cost**	**Rs. Crores**	1660	941	826	1919

Table 10–7 : Firm Thermal Generation Cost: GHTP – Lehra Mohabbat (Unit I, II & III)

Sr.No.	Item	Unit	FY 2008-09	FY 2009-10		FY2010-11
			Actual	H1 (Actual)	H2 (Proj)	(Proj)
1	Installed Capacity	MW	670	670	670	670
2	PLF	%	94.89%	95.84%	91.40%	81.54%
3	Plant Availability	%	95.98%	96.08%	94.00%	86.00%
4	Generation	MU	4442	2820	2675	4786
5a	Auxiliary Consumption	%	8.71%	8.58%	9.00%	9.00%
5b	Auxiliary Consumption	MU	387	242	241	431
6	Net Generation	MU	4055	2578	2434	4355
7	Station Heat Rate	Kcal/kwh	2459	2402	2500	2500
8	Specific Oil Consumption	ml/kwh	0.80	0.46	2.00	2.00
9	Coal Transit Loss	%	1.69	1.22	2.00	2.00
10	Quantity of PANAM coal	Tonnes	2086934	1339335	1560665	2000000
11	**Total Fuel Cost**	**Rs. Crores**	688.62	440.04	465.88	881.35

Table 10–8 : Thermal Generation Cost: GHTP – Lehra Mohabbat (Unit III & IV)

Sr.No.	Item	Unit	FY 2008-09 (Actuals)	FY 2009-10 upto COD	FY 2009-10 post COD	FY 2010-11 (Projected)
			Unit-3 & 4 Infirm	Unit-4 Infirm	Unit-4 Firm	Unit-4 Firm
1	Installed capacity	MW	0	0	250	250
2	PLF	%	0.00%	0.00%	79.20%	81.23%
3	Plant availablity	%	0.00%	0.00%	92.50%	92.50%
4	Generation	MU	1168	1247	575	1779.00
5a	Auxillary consumption	%	8.35%	6.57%	9.00%	9.00%
5b	Auxillary consumption	MU	98	82	52	160.11
6	Net generation	MU	1071	1165	523	1618.9
7	Station heat rate	Kcal / Kwh	0	0	2500	2500
8	Specific oil consumption	ml/KWH	0	0.00	2.00	2.00
9	**Total fuel cost**	**Rs. Crores**	268.35	186.95	105.07	342.57

Table 10–9 : Total Thermal Generation Cost

S.No.	Item	Unit	FY 2008-09 (Actual)	FY 2009-10 (RE)	FY2010-11 (Proj)
1	Installed Capacity	MW	2370	2620	2620
2	Generation	MU	18066	19583	18345
3	Axuilary Consumption	MU	1615	1730	1663
4	**Net Generation**	**MU**	**16451**	**17853**	**16682**
5	**Total Fuel cost**	**Rs. Crores**	**3154**	**3502**	**3623**

11 POWER PURCHASE

11.1.1 The PSEB procures its power from the central generating stations and other external sources. The shortage in supply due to excess demand is met through the Power Trading Corporation and other trading sources. The major sources from which PSEB procures Power are:

a. Central Generating Stations viz. NTPC, NHPC, NPC, SJVNL and THDC
b. Traders
c. Co-Generation Plants
d. Banking Arrangements

11.1.2 The power purchase bills for Sept. 09 have been attached as Volume IV for the kind reference of the Commission.

11.1.3 The state of Punjab receives fixed allocated share from Central generating stations (CGS) to meet its energy requirements. Moreover, Punjab also receives a quantum of power from the unallocated share of 15% in various CGS at different intervals during a year.

11.1.4 The percentage share of power received for FY09-10 and FY10-11 from the respective central generating stations has been considered at the levels approved by the Hon'ble Commission in TO for FY 09-10. The Hon'ble Commission had approved the percentage figures based on the 3 year average of actual allocation figures for the year FY 04-05 and FY 05-06, FY 06-07. For plants where past data is not available, the actual share allocation for FY09-10 (Apr '09 to Sep '09) has been taken.

11.2 Assessment of Availability

11.2.1 Though the availability from own generation (Thermal and Hydel (Own stations +BBMB)) in FY10-11 is expected to be higher than FY09-10, PSEB still has to procure costly power from PTC, NVVNL (NTPC Vidyut Vyapar Nigam Limited) and other sources to meet its high energy requirement. This is due to the substantial increase in energy sales projected for FY10-11 over FY09-10.

11.2.2 In FY09-10, total sale (MUs) within the state is expected to increase by 6.48% over the sales figures of FY08-09. The net Hydel generation is expected to decrease by 15.03% over the figures of FY08-09. The net thermal generation is expected to increase by 8.52% as compared to FY08-09. As the Energy Requirement (MUs) is increasing by a substantial amount in FY09-10, the net power purchase for FY09-10 is expected to increase by 6.64% i.e. from 14851 MUs in FY08-09 to 15836 MUs in FY09-10.

11.2.3 For FY10-11, the total Energy requirement within the state is expected to increase approximately by 6.96%, whereas the net thermal availability is expected to go down by 6.56% on account of the maintenance schedule of number of units. The net Hydel availability (Own stations +BBMB) is expected to increase by 17.76% during the year FY10-11 as compared to FY09-10. Considering all these factors, the net power purchase is expected to increase by 10.43% i.e. from 15836 MUs in FY09-10 to 17487 MUs in FY10-11.

11.2.4 Availability projections from various stations for the year FY10-11 has been based upon the average of energy received for the last 3 years 2006-07 to 2008-09.

11.2.5 For Unchahar-III, Dulhasti, Tala and Tehri stations, energy has been projected based on average energy availability in FY07-08 & FY08-09.

11.2.6 PSEB submits that accounting procedure of purchase and sale of power under banking arrangement has been changed by the Board w.e.f. 1.04.09. Under the earlier system, power received under banking arrangement was treated as power purchased and power returned was considered as sale of power. Though there was no cash flow involved in the banking transaction, still the cost of power was booked to the power purchase, thus inflating the expenditure incurred under power purchase. Under the new accounting procedure implemented from 1.04.09, only the net sale/purchase of power under banking arrangement is being accounted for. The power purchase data for banking during the year 2009-10 and 2010-11 has been shown accordingly.

11.2.7 The following new power stations have been considered commercially operational as per the dates mentioned against each:

a. Malana-II (50x2=100 MW) has been considered to be operative w.e.f. June-10 (unit#1) & July-10 (unit#2). PSEB has the entire 100 MW share in this plant.

b. Commercial Operation of Kahalgaon stage-II (3x500 MW), unit#3 is considered from Oct. 2009. PSEB share considered in the plant is 18 MW.

c. Maithon Power Project (525x2=1050 MW) has been considered to be operative w.e.f. December-2010 (unit# 1). Accordingly, out of total PSEB share of 300 MW from the project, energy corresponding to 150 MW has only been considered.

d. RAPS# 5 has been considered to be commercially operational w.e.f. Dec.-09 and RAPP# 6 from Feb.-10.Energy has accordingly been reflected corresponding to PSEB share of 45 MW in this plant.

e. SEWA-II (3x40 MW) has been considered operational as unit#1 w.e.f. Jan-10, unit# 2 w.e.f. Feb.-10 and unit# 3 w.e.f. Mar-10 . The overall share of PSEB is considered as 17 MW.

f. Four modules of Bawana Gas based Project (1370 MW) have been considered to be operative from April-10, May-10, July-10 and September-10 respectively. PSEB's share is considered as 137 MW.

g. Durgapur Thermal Project (500x2=1000 MW) (DVC) has been considered to be commercially operative w.e.f. December-2010 (unit# 1) and February-11 (Unit#2). Accordingly, energy corresponding to PSEB share of 200 MW has been considered.

h. Raghunathpur Thermal Project (600x2=1200 MW) (DVC) has been considered to be commercially operative w.e.f. March-2011 (unit# 1). Therefore, energy corresponding to PSEB share of 75 MW only (total share 150 MW) has been considered.

i. Nagarjuna Thermal Project (507.5x2=1015 MW) has been considered to be operative w.e.f. April-2010 (unit# 1) and July-2010 (unit#2). Accordingly, energy corresponding to PSEB share of 102 MW has been considered.

j. Koteshwar HEP (100x4=400 MW) has been considered to be operative w.e.f. Oct.-10 (unit#1), Dec. 2010 (unit#2), Feb. 2011 (unit#3) & March-2011 (unit#4). PSEB has considered a share of 25.5 MW in the plant.

k. Parbati-III HEP (130x4=520 MW) has been considered to be operative w.e.f. Jan.-2011 (unit#1), Feb. - 2011 (unit#2) & March-2011 (unit#3). PSEB has a total share of 80 MW in the project.

l. Chamera-III HEP (77x3=231 MW) has been considered to be operative w.e.f. Dec.-2010 (unit#1), Jan. - 2011 (unit#2) & Feb.-2011 (unit#3). PSEB has a total share of 23 MW in the project.

m. Uri-II HEP (60x4=240 MW) has been considered to be operative w.e.f. Nov.-2010 (unit#1), Dec.-2010 (unit#2), Jan-2011 (unit#3) & Feb.-2011 (unit#4). PSEB has a total share of 39 MW in the project.

Table 11–1 : Gross Power Purchase (MUs)

S. No	Source	FY08-09 (Actual)	FY09-10 (RE)	FY10-11 (Projected)
		(MU)	(MU)	(MU)
	NTPC			
1	Anta (G/F)	261.5	200.1	284.6
2	Anta (R/F)	8.1	80.2	19.4
3	Anta (L/F)	42.1	29.5	37.5
4	Auraiya (G/F)	410.7	483.7	444.1
5	Auraiya (R/F)	7.7	19.2	29.0
6	Auraiya (L/F)	71.6	51.0	60.6
7	Dadri Gas (G/F)	624.7	650.1	647.4
8	Dadri Gas (R/F)	4.5	24.2	30.5
9	Dadri Gas (L/F)	168.0	132.4	153.1
10	Singrauli	1722.7	1722.8	1618.8

S. No	Source	FY08-09 (Actual)	FY09-10 (RE)	FY10-11 (Projected)
		(MU)	(MU)	(MU)
11	Rihand-I	962.6	980.5	916.7
12	Rihand-II	986.8	795.3	913.6
13	Unchahar-I	277.7	308.8	284.1
14	Unchahar-II	524.0	500.2	500.2
15	Unchahar-III	150.3	169.3	155.7
16	Farakha (ER)	296.1	256.3	207.4
17	Kahalgaon-I (ER)	540.8	418.3	443.6
18	Kahalgaon-II (ER)	238.1	491.4	700.8
19	Talcher (ER)	0.0	67.3	0.0
20	Kawas(WR)	0.6	0.0	0.0
21	Jhanor Gandhar(WR)	1.3	0.0	0.0
	NHPC			
22	Bairasuil	310.6	288.3	302.0
23	Salal	799.4	855.3	854.6
24	Tanakpur	65.1	62.1	66.7
25	Chamera-I	218.3	210.9	222.8
26	Chamera-II	171.9	175.4	168.0
27	Uri	413.1	374.6	382.0
28	Dhauliganga	134.2	142.2	132.5
29	Dulhasti	224.8	235.6	247.5
30	SEWA-II	0.0	13.1	75.6
31	Parbati-III	0.0	0.0	14.7
32	Chamera-III	0.0	0.0	10.5
33	Uri-II	0.0	0.0	50.4
	NPC			
34	NAPP	78.8	95.7	86.7
35	RAPP-3	219.9	242.1	228.4
36	RAPP-4	239.8	210.8	240.3
37	RAPP-5 & 6	0.0	72.9	295.7
	OTHER SOURCES			
38	NJPC	753.8	768.3	706.0
39	TEHRI	278.3	130.5	232.0
40	Koteshwar (THDC)	0.0	0.0	30.1
41	Durgapur TPS (DVC) ER	0.0	0.0	367.2
42	Raghunathpur TPS (DVC) ER	0.0	0.0	47.4
43	Bawana Gas (NR)	0.0	0.0	826.7
44	Nagarjuna TPS (SR)	0.0	0.0	440.0
45	Traders(Short Term)	1884	4336	3255
46	Traders(Long Term)	112.3	692.5	1351.27
47	Co-gen. including Jalkheri	198.3	216.0	203.3
48	Short Term Purchase within	103.1	149.9	151.6

S. No	Source	FY08-09 (Actual) (MU)	FY09-10 (RE) (MU)	FY10-11 (Projected) (MU)
	Punjab			
	Net Banking			
49	HPSEB	297.6	-95.0	-95.0
50	Rajasthan	106.4	-10.0	-10.0
51	UPCL	186.3	10.1	10.1
52	J&K	248.3	-33.2	-33.2
53	Banking Thro. Traders	759.7	205.2	205.2
54	UI	483.1	110.8	0.0
55	Reactive Charges			
56	UI (State)		-22.6	0.0
	Total	**15587**	**16818**	**18513**

11.3 Power Purchase Cost

11.3.1 The power purchase cost for each station is estimated as per the capacity charges and the variable charges for each station.

The capacity charges for the central sector generating stations have been considered as per the CERC orders issued for the respective stations. The abstract of CERC orders for various stations is attached with Volume IV. The Sep '09 bills of NTPC stations are attached with Volume IV for reference. In this regard, PSEB understands that CERC will be issuing the tariff orders for the period 2009-14 as per the revised Tariff Regulations for 2009-14. It is envisaged that the tariff for such central stations may get increased by around 10% from the current level. Although, PSEB has not considered the impact of such envisaged increase in tariff in this ARR petition, however PSEB requests the Commission to consider the same at the time of true-up of power purchase expenses in the subsequent years.

11.3.2 For estimating the variable charges for the second half of the current year, variable charges (V.C.) of the various plants for the month of September, 2009 have been taken, except for the following plants:-

- Since energy from Auraiya (R/F) was not scheduled in Sept, 09; its variable charges have been taken as that of average of April to September, 09.
- Variable charges for traders (both long term and short term) have been taken as that of average rates of April to September, 09(H-1).
- Variable charges for RAPP-5 & 6 have been taken same as that of RAPP-4.

- For Sewa-II HEP plant of NHPC, variable charges have been assumed as that of highest average per unit energy rate of NHPC plant for April, 09 to September, 09 period (which is of Dulhasti plant) and this rate is 266.95 Ps/unit.

11.3.3 The per unit fixed cost (FC) and others cost projections for Oct '09 –Mar '10 & FY10-11 have been taken in the same energy ratio as that for Apr '09-Sep '09.

11.3.4 For projection for FY 2010-11, all variable charges (VC) have been assumed to be 5% higher than the revised estimate for the second half of the current year except for the followings:

- Variable charges (VC) for short term traders have been taken same as that of revised estimate for the second half of the current year.
- For long term traders, TALA and Baglihar variable charges are as per actual rate. Variable charges for Malana-II HEP and Maithon TPP are estimated rates.
- Variable charges (VC) for RAPP-5 & 6 have been assumed same as that of RAPP-4.

11.3.5 For FY 2010-11, per unit fixed cost (FC) and Other cost have been taken in the same energy ratio as that for Oct, 09 to March, 10 period.

11.3.6 For FY 2010-11 for SEWA-II HEP of NHPC, energy rate assumed is 5% higher than that assumed for Oct, 09 to March, 10 period.

11.3.7 For Uri-II HEP, Parbati-III HEP, Chamera-III HEP; energy rate assumed is same as that of SEWA-II HEP for FY2010-11.

11.3.8 For FY 2010-11 for Koteshwar HEP (project of Tehri Hydro Development Corporation), variable rate assumed is same as that of Tehri HEP. Its fixed and other charges are also assumed in same energy ratio of Tehri HEP.

11.3.9 For Durgapur TPP (DVC), Raghunathpur TPP (DVC) and Nagarjuna TPP (Udupi Power Corporation Ltd.), per unit energy rate assumed is that of highest rate of NTPC thermal station, which is 262.70 Ps/unit for Unchahar-III in year 2010-11.

11.3.10 For Bawana Gas based power project (Pragati Power Corporation Ltd. Of Delhi Govt.), per unit energy rate assumed is that of highest rate of NTPC gas stations, which is 309.05 Ps/Unit for Dadri gas station for year 2010-11.

11.3.11 The Central Electricity Regulatory Commission (CERC) has notified the new tariff regulations for the year 2009-14. These are effective from 1.04.09. Pending final determination of station wise tariff, all Central Sector Generating Companies (except NPCIL for NAPP/RAPP plants, whose tariff are governed by the guidelines of Deptt. of Atomic Energy) are provisionally raising the bills at the tariff approved by CERC for the year 2008-09. Therefore, for year 2009-10 and 2010-11, the Annual fixed charges (AFC) amount has been taken similar to those for the year 2008-09.

11.3.12 In the Tariff order for 2009-10, the Commission had desired that PSEB should submit the details of additional UI charges paid on account of drawl of power when frequency was below 49.2 Hz. In this regard the information for the period April 09 to Sep 09 is submitted in Volume –IV for the consideration of the Commission.

11.3.13 The Table below shows the total power purchase in absolute amounts for previous year, current year and the next year

Table 11–2 : Gross Power Purchase Cost

Sr. No.	Source	Gross Power Purchase (MU)			Power Purchase Cost (Rs. Cr)			Gross Power Purchase Cost (Rs. /Unit)		
		FY 2008-09	FY 2009-10	FY 2010-11	FY 2008-09	FY 2009-10	FY 2010-11	FY 2008-09	FY 2009-10	FY 2010-11
		Actual	RE	Projected	Actual	RE	Projected	Actual	RE	Projected
1	NTPC	7300	7381	7447	1564	1537	1597	2.14	2.08	2.14
2	NHPC	2337	2357	2527	344	297	348	1.47	1.26	1.38
3	NPC	539	621	851	142	170	249	2.63	2.73	2.92
1	CGS Stations (NTPC, NHPC & NPC)	10176	10360	10826	2049	2003	2194	2.01	1.93	2.03
2	Other Sources									
a	NJPC	754	768	706	203	167	157	2.69	2.17	2.23
b	TEHRI	278	130	232	127	75	137	4.55	5.76	5.89
c	Koteshwar (THDC)			30			18			5.89
d	Durgapur TPS (DVC) ER			367			96			2.63
e	Raghunathpur TPS (DVC)ER			47			12			2.63
f	Bhawana Gas (NR)			827			255			3.09
g	Nagarjuna TPS (SR)			440			116			2.63
h	Cogen and Short Term Purchase within State	301	366	355	112	140	141	3.73	3.82	3.97
3	Through Traders (Short and Long Term) incl Open Access Charges	1997	5028	4606	1266	2931	2444	6.34	5.83	5.31
4	Banking (Self and through Traders) Incl Open Access Charges	1598	77	77	892	112	29	5.58	14.48	3.80
5	UI	483	88	0	288	39	0	5.97	4.38	
6	Other Charges (Reactive Charges and PGCIL)				247	279	276			
	Total	**15587**	**16818**	**18513**	**5184**	**5746**	**5876**	**3.33**	**3.42**	**3.17**

11.4 Average Cost of Power

11.4.1 The average cost of power available to PSEB is provided in the table below:

Table 11–3 : Average Cost of Power (Rs/unit)

Item	2008-09	2009-10	2010-11
	Actual	RE	Proj.
Gross Power Purchase(MU)	15587	16818	18513
Net Power Purchase (MU)	14851	15836	17487
Total power purchase cost (Rs Crs)	5184	5746	5876
Gross Power Purchase Cost (Rs/unit)	**3.33**	**3.42**	**3.17**
Net Power Purchase Cost (Rs/unit)	**3.49**	**3.63**	**3.36**
Gross Inhouse Thermal Generation (MU)	18066	19583	18345
Net Inhouse Thermal Generation (MU)	16451	17853	16682
Total cost of in house Thermal Generation (Rs Crs)	3154	3502	3623
Gross Inhouse Thermal Generation Cost (Rs/unit)	**1.75**	**1.79**	**1.97**
Net Inhouse Thermal Generation Cost (Rs/unit)	**1.92**	**1.96**	**2.17**
Total Gross Power Sourcing Cost Excl. Own Hydro (Rs/unit)	**2.48**	**2.54**	**2.58**
Total Net Power Sourcing Cost Excl. Own Hydro (Rs/unit)	**2.66**	**2.75**	**2.78**

12 EMPLOYEE COSTS

12.1 Background

12.1.1 The Employee Costs for the Board consists of Salaries & Allowances of Employees of PSEB, Expenses by PSEB for ex-PSEB employees and BBMB Shares.

12.1.2 Till 2008-09, the Commission had approved the employee costs based on increase in WPI indices for the year to be applied on the approved employee expenses for the previous year. Such methodology had lead to yearly disallowance in the actual employee costs to the extent of around Rs 1147 crore during the period 2002-03 to 2007-08.

12.1.3 However from the year 2009-10, the Commission had made the following amendments as elaborated in the tariff order for 2009-10:

"While disposing of Petition No.15 of 2008 of the Board, the Commission has amended its Tariff Regulations in 2009. As per Regulation 28 (8) of the amended Tariff Regulations, employee cost is to be considered in two parts of which the first comprises of terminal benefits such as payment of Death-cum-Retirement Gratuity, Pension, Commuted Pension, Leave encashment, LTC, Medical reimbursement including fixed medical allowance in respect of pensioners and share of BBMB employee expenses. All other expenses accounted for under different sub-heads of employee cost taken together will be the second part. The cost component of terminal benefits and BBMB expenses will be allowed on actual basis and increase in all other expenses under different sub-heads will be limited to the average increase in WPI during the year."

12.1.4 However, the Commission in the tariff order for 2009-10 had further directed the following:

"4.9.4 In compliance with the amended provisions of the Tariff Regulations, the Commission allows Rs.737.43 crore on account of terminal benefits in 2009-10 as claimed by the Board.…
…. Accordingly, total employee cost of Rs.2113.36 (737.43+1375.93) crore is allowable for 2009-10 under the amended Tariff Regulations. However, the Commission is obliged to take note of the fact that the employee cost of the Board is one of the highest in the country, seen either in normative terms or in comparison to costs incurred by similarly placed licensees in other states. The Commission is further constrained to note that the Board has conspicuously failed to initiate steps to right-size its manpower. The Board has since the previous year been referring to the commissioning of a study to determine its manpower norms which will then enable it to bring its staff strength to the desired level. However, there is nothing to indicate that this study has concluded or that the Board has taken any policy decision in this respect. The Commission is of the considered view that it is imperative for the Board to immediately

ensure that the findings of the study on manpower norms and related issues are forthcoming and that it takes the requisite decisions regarding norms of manpower that will in future be applicable to achieve reduced manpower levels. It is only when the roadmap for revising staff strength of the Board becomes available would the Commission consider allowing extra employee cost due to the Board on the basis of the amended regulations. For the time being, the Commission approves employee cost of Rs.1856.60 crore for 2009-10 after allowing an increase of 5% over the approved cost of Rs.1768.19 crore in 2008-09."

12.1.5 With regard to the completion of the study (for detailed staffing on manpower requirement across difference business groups of Generation, Transmission, Distribution, Accounts and Finance Wing, Secretariat, Vigilance and all other departments of PSEB), PSEB submits that the initial report on the study has recently been submitted by the consultants. The Members of the Board are currently in the process of analyzing the findings of the reports. Based on the acceptance of this report, PSEB will consider entering into the second phase of the project. PSEB will share the findings of the final report subsequent to the finalization of the same.

12.1.6 PSEB submits before the Hon'ble Commission that the Board is making efforts to rationalize the manpower. Currently, the Board is planning to roll over a pilot project in Patiala city. The project involves reorganization of the distribution staff under a refined two tier system. The existing staff will be reorganized on functional basis for urban areas to handle technical and commercial functions separately. The project does not involve any additional financial liability and only involves redeployment of existing staff. It is envisaged that there might be a reduction of around 10-12% in the deployed workforce to handle the operations. The pilot project will be under observation to understand the issues (if any) on account of such re-organization. If successful, PSEB will replicate the plan at other places in the State.

12.1.7 It may be appreciated that any action plan implemented on the basis of the report will eventually take a bit of time to materialize and finally deliver the desired results. There may not be any instant measure to right size the manpower and therefore a drastic reduction in manpower may not happen in the short term. The Board will however implement firm measures which can control the manpower costs in the medium to long term.

12.1.8 However, in order to reduce the increase in manpower cost, the Board has taken a number of measures and the same have been shared with the Commission in the previous ARR submissions as well. Some of the key initiatives of the Board have been:

- PSEB has frozen fresh recruitments against retirement/death cases since 1999.
- Only very specific need based technical manpower are being recruited to take over the operations of the Board.
- Complete ban on creation of new posts/charges.
- The Board has withdrawn the compassionate employment to dependents of deceased employees by providing solatium benefits, thus reducing the manpower and saving on long-term liability
- The Current or new expansion projects are also getting executed through the existing man power, which has enhanced the Employee Productivity. Induction of technical personnel had been taken to ensure that the employee productivity is maintained at high standards.

12.2 Basis of Projecting Employee Expenses

12.2.1 Going forward, the employee expenses have been projected in the following manner:

a. An increase of 3% has been considered from the actual employee cost in the first half of 2009-10
b. Yearly recurring liability of Rs 450 crore on account of pay revision has been considered from 2009-10. However the same is assumed to be payable from August 2009. Accordingly the impact of such liability has been considered as Rs 300 crore for eight months during the current year. Copy of memorandum for applicability of such pay revision is enclosed as Annexure-III in Volume-II.
c. PSEB has not considered WPI indices for projecting the expenses in 2010-11. Instead, an increase of 5% has been considered for making such projections. However, for making the projections, the base year (2009-10) expenses were considered as inclusive of Rs 450 crore of annual recurring liability on account of pay revision.
d. Impact of pay arrears is considered to be payable in two equal yearly installments starting from 2010-11. The one time liability has been estimated to be around Rs 525 crore in 2010-11. A similar amount will be considered in the tariff petition for 2011-12 towards the said expenses.
e. The aforementioned assumptions in escalations have been used to project the terminal benefits as also the expenses of BBMB.

12.3 Proposed Employee Expenses

12.3.1 Based on the aforementioned assumptions, the revised estimates of employee costs for 2009-10 and projections for the year 2010-11 are provided in the table below:

Table 12–1 : Employee Cost Details

Sr. No	Item	FY 2008-09 Actual	2009-10 RE	2010-11 Proj.
	Salaries and Allowances			
1	Basic Pay	911.88	1162.65	1364.63
2	Overtime	9.39	11.52	12.10
3	Dearness Allowance	468.35	459.04	408.49
4	Fixed medical Allowance	28.03	44.45	54.02
5	Other Allowances	122.98	186.49	230.83
6	Bonus/ Generation Incentive	50.82	90.86	113.94
7	Medical Expenses Reimbursement	10.91	13.03	13.68
	Total (1 to 7)	**1602.36**	**1968.04**	**2197.69**
Less:	Amount capitalised	117.82	120.00	126.00
	Net amount	**1484.54**	**1848.04**	**2071.69**
	Terminal Benefits			
8	Earned Leave Encashment	59.20	73.93	81.83
9	Gratuity	100.48	109.99	122.47
10	Workman's compensation	0.24	0.17	0.18
	Total (8 to 13)	**159.80**	**184.09**	**204.48**
	Pension Payments			
11	Basic Pension	418.24	561.71	604.86
	Dearness pension	0.00	0.00	0.00
	Dearness Allowance	0.00	0.00	0.00
12	Any other expense*	81.28	81.97	86.07
	Total	**499.52**	**643.68**	**690.93**
Add:	**BBMB share**	**58.18**	**70.92**	**74.47**
Add:	Arrear of pay revision for 1.1.06 to 31.7.09			525.00
	Total Employee Expenses	**2202.04**	**2746.73**	**3566.57**

12.3.2 The Board further submits that as per PSERC Tariff Regulation 28(6) O&M expenses for Gross Fixed Assets (GFA) added during the year are to be considered on a pro-rata basis from the date of Commissioning. The Board submits to the Hon'ble Commission that the Commission may allow the Employee Cost on Assets added during the year on a pro-rata basis for FY09-10 and FY10-11.

13 REPAIRS & MAINTENANCE COSTS

13.1 Background

13.1.1 PSEB submits that quality of supply has a direct bearing on the maintenance expenses incurred on the upkeep of the generation, transmission and distribution equipments to ensure reasonable availability, reliability and quality of supply & consumer service.

13.1.2 With ageing, the quantum of such expenses is bound to increase in future. Such expenditure is further influenced by a number of other factors namely:

- Overloading of equipments leading to equipment failures
- Availability of time for system shut down for maintenance of equipments. For example, non-availability of cheap power may lead to deferring the overhauling schedule of generating equipments.
- Length of network and Voltage level
- Escalation in cost of raw materials
- Timely Availability of raw materials

13.1.3 While allowance of such expenditure based on increase in WPI indices may cover part of such expenses, however the same may not be able to address the other factors leading to increase in the overall quantum of such expenses.

13.1.4 It may therefore be appreciated that R&M costs actually incurred by the Board be prudently checked in light of the above factors and not merely as a link to the change in WPI.

13.2 Basis of Projections of R & M expenses

13.2.1 For the purpose of projecting the R & M expenses, an escalation of 5% is considered over the actual expenditure in 2008-09. Similar escalation rate has been considered over the revised estimates for 2009-10 to work out the projections for the year 2010-11.

13.3 R&M for Additional Assets added during the Year

13.3.1 In addition to the above mentioned reasons, the Board submits that as per PSERC Tariff Regulation 28 (6) O&M expenses for gross fixed asset added during the year are to be considered on a pro-rata basis from the date of Commissioning. To calculate the R&M for assets added during the year FY09-10 and FY10-11, the following steps have been followed:

a. All assets added during the year have been assumed to be added in the middle of the year

b. Additional R&M has been calculated by prorating the additional assets added during the year with the ratio of R&M costs & opening GFA. GFA and net addition in the gross fixed asset is shown in the table below:

Table 13–1 : GFA & Assets Added during the Year

Gross Fixed Assets (Rs Crores)	2008-09 Actual	2009-10 RE	2010-11 Proj
GFA Opening Balance			
Thermal	3020.44	4319.19	5545.47
Hydro	5847.98	5957.44	5972.53
Internal combustion	2.68	2.68	2.68
Transmission	1965.69	2040.46	2696.38
Distribution	5447.20	5975.25	7137.36
Others	136.74	136.74	236.74
Total	16420.73	18431.76	21591.16
Additions During the Year			
Thermal	1298.75	1226.28	249.62
Hydro	109.46	15.09	0.00
Internal combustion	0.00	0	0.00
Transmission	74.77	655.92	842.92
Distribution	528.05	1162.11	1561.51
Others	0.00	100	124.23
Total	**2011.03**	**3159.40**	**2778.28**
GFA Closing Balance			
Thermal	4319.19	5545.47	5795.09
Hydro	5957.44	5972.53	5972.53
Internal combustion	2.68	2.68	2.68
Transmission	2040.46	2696.38	3539.30
Distribution	5975.25	7137.36	8698.87
Others	136.74	236.74	360.97
Total	**18431.76**	**21591.16**	**24369.44**

Table 13–2 : Repairs & Maintenance Expenses (Rs Crore)

Sr. No	Particulars	FY 2008-09 (Actuals)	FY 2009-10 (RE)	FY 2010-11 (Proj)
1	2	3	4	5
1	Plant& machinery	159.94	182.33	191.45
2	Building	11.04	12.59	13.21
3	Hydraulic works & civil works	8.79	10.02	10.52
4	Line cable & network	33.85	38.59	40.52
5	Vehicles	2.99	3.41	3.58
6	Furniture & fixtures	0.08	0.09	0.10
7	Office equipments	0.24	0.27	0.29
8	Operating expenses	19.07	21.74	22.83
9	**Total**	**236.00**	**269.04**	**282.49**
10	Add BBMB share	105.78	120.59	126.62
11	**Total expenses**	**341.78**	**389.63**	**409.11**
12	Less capitalized	3.24	3.69	3.88
13	**Net expenses**	**338.54**	**355.47**	**373.24**
14	Add prior period *	-	-	0.00
15	R & M for asset addition during year	0	30.47	56.00
16	**Total expenses charged to revenue**	**338.54**	**385.93**	**429.24**

*considered separately

13.3.2 PSEB submits to the Hon'ble Commission that PSEB has been functioning as an integrated utility. The Hon'ble Commission has fixed the standards of performance for various functions of PSEB including and in particular, relating to the distribution and retail supply of electricity. The assets created by PSEB relating to generation, transmission and distribution are all mainly old assets which require significant amount of repair and maintenance cost to be incurred on the same. The incurring of Repair and Maintenance Cost will have a direct bearing on the ability of PSEB to meet the standards of performance laid down by the Hon'ble Commission.

13.3.3 The Board submits that although the expenses have been projected to increase by a nominal escalation rate of 5% which is much lower than the average WPI increase of 8.41% for the previous year, however the Commission is requested to examine the prudence of actual expenditure incurred by the Board. While the Board will pursue all possible means to contain the extent of such expenses, however, the overall actual expenditure may be considered in light of practical issues suggested by the Board.

14 ADMINISTRATION & GENERAL EXPENSES

14.1.1 Gross A & G Costs are estimated to increase by around 7% between FY08-09 and FY 09-10, while in FY10-11 the Gross A&G costs are expected to grow by 5.0% over FY09-10.

14.1.2 The table given below summarizes the A&G Costs for FY08-09, FY09-10 & FY10-11.

Table 14–1 : Administration & General Expenses (Rs. Cr)

Sr.	Item	FY 2008-09	2009-10	2010-11
No		Actual	RE	Proj.
1	Rent Rates & taxes	3.36	3.55	3.73
2	Insurance	0.72	0.75	0.79
3	Telephone, postage & Telegram	6.21	6.5	6.83
4	Consultancy Fee	0.40	0.45	0.47
5	Technical Fee	0.02	0.05	0.05
6	Other Professional Charges	0.04	0.05	0.05
7	Conveyance & Travelling	17.28	18.15	19.06
8	Electricity & Water	12.72	13.35	14.02
9	Other	35.47	37.25	39.11
10	Freight	2.37	2.5	2.63
11	Other Material related expenses	8.91	9.35	9.82
12	**Total Expenses**	**87.50**	**91.95**	**96.55**
Add:	BBMB share	3.23	4.00	4.20
	Total Expenses	**90.73**	**95.95**	**100.75**
Less:	capitalised	19.77	20.00	21.00
	Net Expenditure	**70.96**	**75.95**	**79.75**

14.1.3 PSEB submits to the Hon'ble Commission that it has been consistently making earnest efforts on factors under its control to reduce the A&G Costs, as a result of which net A & G costs has increased at only 1.81% from Rs 69.92 crore in FY07-08 to Rs 70.96 crore in FY08-09.

14.1.4 PSEB has not considered the WPI increase for projections of the said expenses as PSEB believes that these expenses are incidental towards governing the entire power system operations in the State. The said expenses may therefore be allowed on actual by the Hon'ble Commission.

14.1.5 In this regard, PSEB requests the Commission to allow the A & G expenses as per Regulations 28(6) of the PSERC Tariff Regulations 2005.

14.1.6 In view of the mentioned reasons, PSEB would like to request the Hon'ble Commission that A&G Expenses that PSEB incurs should be allowed as actuals without any disallowance since it cannot be confined to the level of O & M Expenses approved by the Hon'ble Commission in the base year of FY05-06 and the escalation proposed thereon.

15 INTEREST & FINANCE CHARGES

15.1 Proposed Interest and Finance Charges

15.1.1 The Board submits it has a wide portfolio of loans in order to meet its investment requirements in the areas of addition in generating capacities, capacity augmentation of transmission and distribution networks, besides other investments for system improvements.

15.1.2 The interest expenses for all commercial loans for the first half of FY09-10 are given as per the actual figures; for the second half and for FY 10-11, expenses have been estimated based on the additional loans taken in the period, loan repayment schedule and the interest rate charged to the respective loans. The loan schedules for FY08-09, FY09-10 and FY10-11 have been given in the formats attached at the end of the ARR petition.

15.1.3 On account of the factors outlined above the Interest Costs on Commercial Loans are estimated to increase from Rs. 1194.59 Cr in FY08-09 to Rs. 1,624.54 Cr in FY09-10 and Rs. 1,923.01 Cr in FY 10-11, as shown in the table below.

15.2 Interest on Short Term Borrowings

15.2.1 The increase in the interest expenses for FY08-09 and FY09-10 is mainly due to the increase in interest on short term borrowings for meeting working capital expenses. The interest on actual short term borrowings for FY09-10 is estimated at Rs. 659.22 Cr; while for FY10-11 it is projected at Rs. 680.52 Cr.

15.2.2 The interest charges have been calculated based on the non-capital borrowings of the Board in the previous years and the borrowings made in the current financial year so far. The Board requests the Commission to approve the interest charges on short term borrowings considering the issues highlighted in this section.

15.2.3 In the tariff petition of 2009-10, PSEB had submitted that the Government had recalled overdue loans of Rs. 1362 Cr after adjusting it against subsidy. However, PSEB had to pass on the requisite subsidy to the consumers and thereby has to take short term loan to finance it. The Hon'ble Commission had appreciated this fact and had allowed the interest on such loans to be charged to the consumers separately apart from the normative interest on working capital.

Table 15–1 : Interest & Finance Charges (Rs Crore)

Source of loan	FY 2008-09 (Actuals)	FY 2009-10 (RE)	FY 2010-11 (Proj)
SLR bonds	12.85	10.32	7.08
Non SLR Bonds	37.29	56.99	78.60
LIC	46.96	42.24	36.10
REC	356.57	495.05	677.12
Commercial Banks (Long Term)	125.15	118.42	195.97
Bills Discounting	0.00	0.00	0.00
Lease rentals	0.04	0.02	0.04
PFC	29.51	15.74	81.96
GPF	112.65	115.00	120.00
CSS/APDRP	10.40	9.92	9.21
Working Capital Loans	569.54	576.34	596.90
Commercial Banks (Short Term)	0.00	82.88	83.62
Interest to Consumers	70.48	164.21	176.00
Discount to Consumers	52.45	0.24	0.00
TOTAL	**1423.89**	**1687.37**	**2062.60**
State Govt Loans	0.00	0.00	0.00
TOTAL(14+15)	1423.89	1687.37	2062.60
Less:Capitalistion	251.53	74.83	154.59
Net Interest	**1172.36**	**1612.54**	**1908.01**
Add:prior period	0.00	0.00	0.00
Total Interest	**1172.36**	**1612.54**	**1908.01**
Finance Charges	22.23	12.00	15.00
Total Interest And Finance	**1194.59**	**1624.54**	**1923.01**

15.2.4 PSEB had further submitted that Govt. of Punjab has not refunded the excess refund paid to the Govt. for the years FY 06-07, FY 07-08 and FY 2008-09. The excess interest refunded is to the tune of Rs. 782.72 Cr. The detailed computation of this outstanding liability is provided as Annexure-IV in Volume II. This non-payment of refund of excess interest by the Govt. of Punjab has further increased the short term loans to cover its expenses.

15.2.5 PSEB understands that Govt. of Punjab has preferred an appeal before the ATE against the Commission's order for refund of such interest payment. Considering that the matter is sub-judice, PSEB requests the Hon'ble Commission to allow interest on short term loans taken to bridge this liability separately from Working Capital as allowed by the Hon'ble Commission towards adjustment of Rs 1362 Cr of Subsidy in the Tariff Order FY 2009-10 till the amount of Rs 782.72 Cr is being refunded from Govt. of Punjab.

15.2.6 Thus, the Board requests the Hon'ble Commission to allow the interest on Rs. 1362 Cr and Rs. 782.72 Cr on actuals and segregate the same from normal Working Capital requirements in light of the above statements.

15.2.7 PSEB has submitted its requests in detail in the chapter on true-up of expenses for 2008-09. Reiterating its stand, PSEB submits that huge disallowances of actual costs creates a deep impact on the normal operations of the Board and in the absence of financial restructuring, the Board is left with no option but to meet the expenses through short term borrowings. Such a mechanism may be suitable in a short term scenario, however considering that such issues have been prevailing in the Board for the past couple of years, it is requested that the Commission may kindly take a considerate view on the situation and allow such interest to be recovered through tariff or else the Commission may devise appropriate mechanism to cover such costs which will help the Board to govern the operations smoothly.

15.2.8 It is resubmitted that on account of the disallowances, the Board has a negative return on the investments and there is no additional resource to meet the shortfall. The table showing the negative return on equity is resubmitted for the kind consideration by the Commission:

Table 15–2: Net RoE of PSEB after Disallowances

Parameters	2006-07	2007-08
Return on Equity	412	412
Disallowances:		
Fuel Expenses	93	88
Power Purchase Expenses	487	963
Employee Expenses	193	411
Long term interest Expenses	100	108
Short term Interest Expenses	54	254
Total Disallowances	**928**	**1823**
Net ROE left with PSEB	**-515**	**-1411**
Cumulative Net RoE	**-515**	**-1926**

15.2.9 As can be seen from the above table, the returns available to PSEB will get completely utilized in meeting the disallowances in employee expenses in 2007-08. The net unmet disallowances to the extent of around Rs 1411 crores in 2007-08 could only be managed through short term loans only. The Board therefore requests the Hon'ble Commission to approve these costs without any disallowance as that would mean increased financial burden on PSEB.

16 DEPRECIATION

16.1.1 The Depreciation for FY09-10 and FY10-11 has been calculated by depreciation rate of last year category wise and the opening balance of gross fixed assets of these two years.

16.1.2 The tables given below summarize the Depreciation, Depreciation Rates and the details of Gross Fixed assets for FY07-08, FY08-09 & FY 09-10.

Table 16–1 : Depreciation (Rs. Crs)

Sr. No.	Item	Assets as on April 2008	Depreciation for FY2008-09	Assets as on April 2009	Depreciation for FY2009-10	Assets as on April 10	Depreciation for FY2010-11
1	2	3	4	5	6	7	8
1	Thermal	3020.44	137.31	4319.19	196.35	5545.47	252.10
2	Hydel	5847.98	133.76	5957.44	136.26	5972.53	136.61
3	Internal Combustion	2.68	0.00	2.68	0.00	2.68	0.00
	Total Generation	**8871.10**	**271.07**	**10279.31**	**332.62**	**11520.68**	**388.71**
4	Transmission	1965.69	97.63	2040.46	101.34	2696.38	133.92
5	Distribution	5447.21	325.61	5975.26	357.17	7137.37	426.64
6	Others	136.74	1.83	136.74	1.83	236.74	3.17
	Total	**16420.74**	**696.14**	**18431.77**	**792.96**	**21591.17**	**952.44**
	Depreciation Capitalised	0.00	2.41	0.00	0	0	0
	Total	**16420.74**	**693.73**	**18431.77**	**792.96**	**21591.17**	**952.44**

16.1.3 The PSEB requests the Hon'ble Commission to approve these costs as submitted by the Board.

17 RETURN ON EQUITY

17.1.1 According to the Determination of Tariff Regulations issued by the Commission in December, 2005, Board is entitled to Return on Equity @ 14% p.a. on equity capital as on 1st April 2006.

17.1.2 PSEB understands that the Hon'ble Commission has been referring to the CERC Tariff Regulations while approving many of the normative parameters for the Board. PSEB understands that for the purpose of allowing returns to utilities, the CERC in its Tariff Regulations for the period 2009-14 has approved a base rate of 15.5% (pretax) to be grossed up with the tax rate applicable to the utility.

17.1.3 In this regard, PSEB requests the Commission to kindly consider the CERC norms for allowing the ROE. In case such revised norms are considered by the Hon'ble Commission, the effective rate of return applicable to PSEB would be around 23.48% (15.5 %/(1-33.99%)).

17.1.4 PSEB in its submissions has considered such effective rate for the purpose of calculating the Return on Equity. PSEB requests the Commission to consider the submissions and allow a higher return which may be justified considering the weak financial position of the Board. The higher returns would add in normalizing the skewed operations of the Board.

17.1.5 PSEB hereby requests the Hon'ble Commission to approve the return on equity as submitted by the Board.

18 NON-TARIFF INCOME

18.1.1 Non-Tariff Income, as shown in the table below, is estimated to increase at 5 % p.a. from FY08-09 to FY09-10 and similarly from FY09-10 to FY10-11.

18.1.2 PSEB requests the Commission to approve the Non-Tariff Income, with truing up to actual income at the end of the current and ensuing year.

Table 18–1 : Non Tariff Income (Rs Crore)

Sr. No.	Particulars	FY 2008-09 (Actuals)	FY 2009-10 (RE)	FY 2010-11 (Proj)
1	2	3	4	5
1	Meter/service rent	81.46	85.55	89.83
2	Late payment surcharge	80.56	84.50	88.73
3	Theft/pilferage of energy	63.80	67.00	70.35
4	Misc. receipts	161.79	170.00	178.50
5	Misc. charges (except PLEC)	20.84	21.90	23.00
6	Wheeling charges	2.07	2.15	2.26
7	Interest on staff loans & advance	1.16	1.21	1.27
8	Interest on advances to suppliers	0.69	0.72	0.76
9	Income from trading	6.71	7.05	7.40
10	Income staff welfare activities	0.05	0.05	0.05
11	Excess on verification	0.00	0.00	0.00
12	Investments & bank balances	50.30	52.30	54.92
13	**Total income**	**469.43**	**492.43**	**517.05**
14	Add prior period income*	0.00	0.00	0.00
15	BBMB Income	1.78	1.87	1.96
16	**Total non tariff income**	**471.21**	**494.30**	**519.01**

19 CAPITAL EXPENDITURE

19.1.1 Capital investment planned for current and ensuing year is shown in the Table below.

Table 19–1: Capital Investment Plan (Scheme-wise) (Rs. Crs.)

Name of Scheme /Project	Approved outlay	FY 2008-09 (Actuals)	FY 2009-10 (RE)	FY 2010-11 (Proj)
2	3	4		7
Ranjit Sagar Dam Project	-	-	0	-
Shahpur kandi HEP	5.00	0.00	62.68	216.20
Mukerian Hydro Electric Project Stage-II	50.00	6.22	4.17	45.69
Micro Hydel Power Houses at Ropar	-	-	0	0
R&M of Bhakra Power Houses	43.15	1.99	109.72	114.35
Shanan & Other Board Projects	-	16.89	6.80	73.31
GHTP Stage-I	0.00	0.06	0.63	21.13
GHTP Stage-II Lehra Mohabbat	68.30	322.74	127.43	41.52
Gidderbaha Thermal Plant (2X660 MW)	0.00	0.00	2.00	600.00
Gas Based Power Plant at Roper (1000 MW)	0.00	0.00	0.40	600.00
Doraha gas Based Thermal Plant	0.00	0.00	0.00	0.00
R&M works at Thermal Plants as per RLA study (unit I & II)	10.05	71.85	11.33	6.64
R&M of GNDTP Bhatinda Phase-II	0.00	0.00	0.00	0.00
R&M GNDTP Bhatinda Unit-III&IV based on RLA study	140.00	0.00	132.49	227.50
R&M of GGSSTP Ropar under APDRP scheme	3.50	1.26	17.47	86.11
Transmission & Distribution including APDRP	1665.50	935.17	2055.40	2906.76
Release of tube-well connections	0.00	82.86	0.00	0.00
Revamping of ME Labs. and workshops	0.00	0.00	0.00	0.00
24 Hours supply to villages	0.00	34.88	0.00	0.00
Rural Electrification (PMGY)	14.50	0.00	194.03	5.00
Talwandi Sabo T.P	0.00	0.00	0.00	0.00
Survey & investigation of GHTP Lehra Mohabbat Extension Stage-III	0.00	6.61	0.00	0.00
Rajpura T.P	0.00	442.62	0.00	0.00
Misc	0.00	1.37	0.00	0.00
Total	**2000.00**	**1924.52**	**2724.55**	**4944.22**

19.1.2 For the Revised Estimates of FY09-10 and FY10-11, the planned Capital Expenditure Plans is detailed as under:

a. The projected investment (RE) of the Board for the year FY09-10 is Rs. 2724.55 Cr. The same is on account of the investments that are to be incurred in the Transmission & Distribution system apart from the planned R&M schedules of Thermal plants.

b. Expenditure of Rs 2055.40 crore in 2009-10 and Rs 2906.76 crore in 2010-11 under Transmission & Distribution includes investments towards APDRP schemes, release of tube well connections.

c. PSEB submits that the Board would be carrying out investment of the tune of Rs 194.03 Cr for Rural Electrification in 2009-10.

d. Hence PSEB requests to the Hon'ble Commission to allow this Capex plan without any disallowance as it is needed for meeting future power requirements of the state of Punjab.

19.1.3 The Board hereby requests the Hon'ble Commission to approve this Capex Plan (details enclosed as Annexure-V in Volume-II without any disallowance as any disallowance would deteriorate the growth of the infrastructure needed to support the increasing power requirements of the state of Punjab.

20 REVENUE FROM SALE OF POWER AT EXISTING TARIFFS

20.1 REVENUE AT EXISTING TARIFFS

20.1.1 Revenue from sale of power for FY09-10 & FY 10-11 is determined based on the Energy sales estimated in the previous chapters, growth in connected load based on the CAGR methodology and category wise tariff approved by the Commission in its Tariff Order dated September 08, 2009.

20.1.2 The connected load of the different consumer categories is projected considering a 3 years CAGR viz., FY 2005-06 to FY 2008-09 on the actual connected load. However, growth in the Railway Traction consumer category is considered as zero despite a CAGR of 0.8%.

Table 20–1 : Growth in Connected Load (KW)

Category of Consumer	3 Years CAGR	Connected Load (KW)	
		FY 2009-10	FY 2010-11
Domestic	3.6%	8674718	8984589
Commercial (NRS)	7.0%	2527719	2703701
Small Supply	1.1%	890887	900716
Medium Supply	4.7%	1428005	1494743
Large Supply	8.1%	4651209	5028820
Total Industrial	*6.5%*	*6970101*	*7424278*
Street Lighting	8.1%	39214	42390
Bulk Supply	2.2%	216353	221078
Railway Traction	0.8%	72923	72923
Total Metered Sales (except AP) within State	**5.1%**	**18501027**	**19448959**
Agricultural Consumers	10.9%	6757333	7491002
Total Sale Within State	**6.7%**	**25258360**	**26939961**

20.1.3 As per the current policy of the Govt. of Punjab, Domestic consumers belonging to SC category with connected load up to 1000 watts will be given 200 units of free power per month in view of the Government subsidy. Similarly, Non-SC BPL Domestic Consumers with connected load up to 1000 watts will be given 200 units free power per month in view of the Government subsidy. Also AP consumers are given free power in view of Govt. subsidy.

20.1.4 Sale of Power Revenue at existing tariff for FY 2009-10 is estimated considering discounts for the above discounting categories (SC DS, Non SC BPL) and zero tariff rates for agricultural consumers.

20.1.5 Sale of Power Revenue at existing tariff for FY 2010-11 is estimated considering actual existing tariff rates approved by the Commission without taking any effect of subsidy expected.

20.1.6 The revenue expected for current year and ensuing year is shown in the table below:

Table 20–2 : Revenue from Sale of Power at existing tariffs

Sr. No.	Category of consumers	Revenue (Rs. In Cr)		
		FY 2008-09	FY 2009-10	FY 2010-11
1	Domestic (Inc. Others)	1758	2473	3042
2	Non-Residential Supply	884	1092	1207
3	Small Power	271	311	318
4	Medium Supply	626	717	732
5	Large Supply (including PLEC)	3496	3849	4054
6	Public Lighting	66	82	87
7	Bulk Supply & Grid Supply	187	217	226
8	Railway Traction	58	76	79
	Sub-total metered sales within State	**7346**	**8819**	**9745**
9	Agriculture (relating to Temp.T/W Charges)	0	0	3205
10	Common Pool	100	100	100
11	Outside State (Banking)	1396	768	672
	GRAND TOTAL	**8842**	**9687**	**13722**

20.1.7 The actual subsidy received from the Govt. of Punjab in the year FY 08-09 is Rs. 2601.73 Cr.

20.1.8 However, the actual subsidy requirement against the sale of power to Domestic SC Consumers, Domestic Non- SC BPL Consumers and AP Consumers for the year FY 08-09 is estimated to be Rs. 2489.36 Cr.

Table 20–3: Subsidy from Govt. of Punjab for FY 2008-09 (Rs Crore)

Particulars	Consumption as per account for the FY 2008-09 (in Mus)	Revenue	Revenue actually receivable from consumers	Amount of subsidy due from GOP	Amount of subsidy received from GOP	Amount of subsidy received from GOP excess/short (+/-)
		Total				
AP Consumers	9349	2243.76	0.00	2243.76	2296.97	53.21
Scheduled Castes DS Consumers	826	243.62	0.00	243.62	304.76	59.16
Non- SC BPL DS Consumers	7	1.98	0.00	1.98		
Total	**10182**	**2489.36**	**0.00**	**2489.36**	**2601.73**	**112.37**

20.1.9 The revised estimates for the subsidy against the sale of power to Domestic SC Consumers, Domestic Non- SC BPL Consumers and AP Consumers for the year FY 09-10 is as follows:

Table 20–4: Subsidy from Govt. of Punjab for FY 2009-10 (Rs Crore)

Particulars	Consumption in FY 2009-10 (in Mus)	Revenue	Revenue actually receivable from consumers	Amount of subsidy due from GOP	Amount of subsidy receivable from GOP	Amount of subsidy receivable from GOP excess/short (+/-)
		Total				
AP Consumers	10363	2953.34	0.00	2953.34	2804.99	-148.35
Scheduled Castes DS Consumers		335.62	0.00	335.62	335.62	0.00
Non- SC BPL DS Consumers		3.64	0.00	3.64	3.64	0.00
Total	**10363**	**3292.60**	**0.00**	**3292.60**	**3144.25**	**-148.35**

20.1.10 For the year FY 10-11, the Hon'ble Commission may note that in view of the present policy of the Govt. to provide free power to AP Consumers and Domestic SC and Domestic Non SC BPL Consumers, the revenue from sale of power to these Consumers may be recovered from Govt. of Punjab as subsidy. However, this is subject to the commitment by the Govt. of Punjab.

21 AGGREGATE REVENUE REQUIREMENT

21.1.1 The table given below summarizes the Aggregate Revenue Requirement for FY 08-09, FY 09-10 & FY 10-11.

Table 21–1: Aggregate Revenue Requirement (Rs Crore)

Sr. No.	Item of expense	2008-09 (Actual)	2009-10 (RE)	2010-11 (Proj)
Costs				
1	Cost of fuel	3154	3502	3623
2	Cost of power purchase	5184	5746	5876
3	Employee cost	2202	2747	3567
4	R&M expenses	339	386	429
5	A&G expenses	71	76	80
6	Depreciation	694	793	952
7	Interest charges (Net of Capitalization)	1195	1625	1923
8	Prior Period Expenes/Revenue	108		
9	Fringe Benefit Tax	5	0	0
10	Extraordinary items and debits	6	0	0
11	**Total revenue requirement**	**12956**	**14874**	**16450**
12	Add: ROE	412	682	682
13	**Less NTI**	**471**	**494**	**519**
14	**Net Revenue Reqirement**	**12898**	**15062**	**16612**

22 REVENUE GAP

22.1.1 The Board has computed a revenue gap at existing tariff for FY08-09 at Rs. 1453.67 Crs, which is based on the difference in expenditures and revenues including subsidy as per the audited accounts. For the year FY 2009-10, the revenue gap has been re-estimated at Rs 3684 Cr, after incorporating the gap for the previous year.

22.1.2 The expenditure for FY 10-11 have been projected as Rs. 16612 Crs whereas the revenues at existing tariff have been estimated at Rs. 13722 Crs, which includes estimated revenue of Rs 3205 Crs from sale of power to AP Consumers and such other categories for which subsidy was paid by the GoP.

Table 22–1 : Revenue Gap (Rs Crore)

Sr. No.	Item of expense	2008-09 (Actual)	2009-10 (RE)	2010-11 (Proj)
1	**Annual Revenue Requirement**	**12898**	**15062**	**16612**
2	Covered by Revenue @ Existing Tariff	8842	9687	10517
3	AP Consumers	0	0	3205
4	**Total Revenue @ Existing Tariff**	**8842**	**9687**	**13722**
5	Add Govt. Subsidy	0	0	0
6	GoP Subsidy	2602	3144	0
7	**Rvenue @ Existing Tariff + GoP subsidy**	**11444**	**12831**	**13722**
8	**Rvenue Gap/(Surplus)**	**1454**	**2231**	**2890**
9	**Cumulative Gap/(Surplus)**	**1454**	**3684**	**6575**

Note: The Revenue from Sale of Power to AP consumers, Domestic SC and Domestic Non SC Consumers may be recovered from Govt. of Punjab as subsidy, subject to the commitment of the Govt. of Punjab.

22.1.3 The Total gap for FY 10-11 is projected at Rs.2890 Crs and the Cumulative gap for PSEB constituting the Gap of FY08-09, FY09-10, FY 10-11 works out to Rs.6575 Crs which may kindly be approved by the Hon'ble Commission.

23 PSEB'S RESPONSE TO COMMISSION DIRECTIVES

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
1.	**Energy Audit and T&D Loss Reduction.**	**Background** The Commission noted that the Board engaged Consultants for a period of 5 years for comprehensive IT road -map and multi-stage IT implementation which would include various activities like creation of IT infrastructure (Hardware, Software and Net-working), ERP implementation in the entire Board and implementation of specific engineering solutions like energy audit, meter data management (AMR and RMR), load forecasting, CIS and CRM etc. The Commission expected that the objective of linking incentives/ disincentives to the performance of employees would be suitably built into the monitoring system being devised. The Commission desired to be apprised of the annual targets in the implementation of	In the absence of the yearly targets and the Board's achievements against them, the Commission is unable to comment on the steps being taken by the Board for carrying out the energy audit and T & D loss reduction. Attention is also invited to para 4.2 (Annexure-I) of this Tariff Order. The Board is also advised to furnish a comprehensive IT implementation plan with yearly targets and achievements.	PSEB had placed two No. work order for carrying out energy audit at GGSSTP Roop Nagar have been placed upon the following firms:- • M/s Electrical Research & Development Association Vadodara for balance of plant area. • M/s Energy & Resources Institute, New Delhi for Main Plant Unit No.3, 4, 5 & 6. The firms at Sr.No.1 have submitted the final report and the follow up action is in process. The firm at Sr.no.2 has submitted the draft energy audit report and the final report is being awaited. Work of Energy Audit for GHTP was also placed on above firms and final energy reports are being awaited from the

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
		the computerization scheme. The issue of T&D loss reduction was discussed in detail in para 4.2. As no further T&D loss trajectory was fixed, the Commission observed that it will separately take up this matter with the Board and based on their overall strategy in this regard, draw up the milestones for the next phase of loss reduction. In doing so, the implementation of preliminary steps such as the base line data survey, segregation of technical and commercial losses as well as energy audit will also be taken into account. **Directive** (i) To apprise the Commission regarding the targets and achievements of the implementation of IT solutions with an inbuilt monitoring system linking incentives/ disincentives to the performance of employees.		firms. Work of Energy Audit for GNDTP Bhatinda of Unit-II was conducted by firm at S. No.(ii) above and detailed energy audit of balance of plant area was audited by firms at S. No.,(i). The reports of energy audit of Unit-II are attached as per Annexure-VI of Volume-II. Following measures were planned to be taken for achieving the target of reduction of losses up to 17% by the year 2011-12 from the present losses of 19.92% for the year 2008-09:- • Conversion of LT DS system to HVDS • Installation of LT capacitor on AP tube well connections • 100% replacement of electromechanical meters with electronic meters • Providing effective earthling at sub-stations and DS transformers • Refurbishing/strengthening the DS

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
		(ii) Take steps such as the base line data survey, segregate the technical and commercial losses and energy audit for drawing up the trajectory for T& D loss reduction.		system R-APDRP • Installation of capacitors on 11 KV Feeders in urban as well as rural areas. • IT initiatives like spot billing GIS mapping, Centralized Call Centers, Remote metering etc. • Augmentation of over loaded and de-loading of DS transformers and 11 KV feeders. • Installations of meters outside the consumers' premises. • More theft detection by Enforcement Agencies. The financial and physical targets for the current year and next two years in respect of items (i) to (iv) under para 4.2 of Tariff Order 2009-10 is as under:- As regards Item No.(i) i.e. conversion of LVDS System in to HVDS is quite capital intensive. 6 Nos such schemes stand already completed in Board and 34 Nos

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
				schemes (for 5,24856 connections of AP Tube Wells) stand sanction by REC and work of tendering is in progress to issue work orders. The Board has also prepared its low cost Demand side Management plans which are quite effective and will result in controlling growing demand these are as under:- The Board has also started the process of replacement of incandescent lamps with CFL under Bachat Lamp Yojna. Under this scheme CFLs will be provided to 48.00 lakhs domestic consumers @ Rs.15/- per CFL. The developer shall provide maximum of 4 CFL Lamps to each consumer and recover the balance cost of CFL by utilizing CDM (clean development mechanism) thus costing nil to PSEB. By adding 2100 MVAR capacity at a cost of Rs.20 Cr., the Board aims to reduce the demand significantly and the same

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
				will also help in reducing the losses. The tender process for BLY stands completed after pre-bid conference. Now, the offers of firms are being evaluated. The work will be completed in 12-15 months from the start of the scheme. The work of replacement of electro-mechanical with electronic meters will be undertaken parallel to the shifting of meters outside the consumers' premises in respect of 32 Lac consumers to be covered in Non- APDRP areas up to 10/2010 and further 17 Lac under APDRP schemes up to June 2011. The balance electro-mechanical meters will be replaced under R-APDRP scheme for 47 Towns. Part-A of APDRP for IT initiative for implementation stand sanctioned for Rs.272.83 Cr. from steering committee of IT set up by

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
				Ministry of power, GOI. The schemes for part -B of APDRP are under preparation by Field Offices as per guidelines issued by MOP/GOI. Month wise physical and financial details are attached as per Annexure-VII in Volume-II. Regarding IT Implementation Plan, PSEB is in process of implementing IT under R-APDRP (Part-A) 11th Plan covering 47no. Towns of Punjab. The IT Implementation shall include the following modules:- 1. GIS based consumer indexing and asset mapping. 2. GIS based net work analysis modules. 3. Metering, Billing and collection. 4. Centralized Customer Care Service 5. Energy Audit. 6. Metering Data acquisition. 7. New Connection 8. Disconnection and dismantling

<table>
<tr><th>S. No.</th><th>Issues</th><th>Directive in Tariff Order FY 2008-09</th><th>PSERC's comments in T.O. 2009-10</th><th>Reply of PSEB</th></tr>
<tr><td></td><td></td><td></td><td></td><td>(CRM)
9. Management Information System(MIS)
10. Web self service.
11. Identity and asset management
12. System Security requirement.
The above IT implementation is scheduled to be completed in 18 months from the date of selection of ITIA (Under process). Salient IT modules for non-APDRP area/towns are also being covered so that a unified IT is implemented throughout in PSEB. Accordingly the same is likely to be taken up in 2009-10 and completed by 2011-12 as per the detailed scheduled given as follows:-
<table>
<tr><th>Year</th><th>Target Mile-stone</th><th>Activity/ Deliverable</th></tr>
<tr><td rowspan="2">2010 -11</td><td colspan="2">Data Centre Set -up (Patiala)</td></tr>
<tr><td>0-3 months</td><td>High level and low level Design approval (infrastructure &</td></tr>
</table>
</td></tr>
</table>

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB		
						application)
					3-5 months	Installation, commissioning and configuration of hardware, network & operating system
					5-8 months	Installation, configuration & customization of application software.
					8-12 months	User acceptance testing
					Pilot (Patiala Town)	
					3-5 month	Infrastructure design
					4-8 months	DGPS field survey including consumer indexing & asset mapping
					7-10 months	Installation Commissioning and configuration of H/W, N/W, O.S.
					10-12 months	Installation, configuration & customization of application

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB

		software.
	10-12 months	Integration with legacy application and data centre
	10-12 months	Data migration
	11-12 months	User acceptance testing.
	11-12 months	User training
2011-12	**Roll Out (Remaining 46 No. Towns))**	
	6 months (after successful completion of pilot)	Infrastructure Design
		DGPS field survey including consumer indexing & asset mapping.
		Installation, commissioning & configuration of H/W. N/W and O.S.
		Installation, configuration &

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
				customization of application software. Integration with legacy application and data centre Data migration User acceptance testing. User training Regarding status of AMR, the same has been implemented at about 500 substations and all AP feeder meter points (about 2000) have been covered under AMR system. MIS is being generated at the Energy Center; Patiala with Web enabled facility provided to the end users for monitoring purpose. Further, roll out to cover remaining (approx. 6000) feeders is in progress.
2.	**Agriculture Consum-**	**Background** While the Board had, by and large,	The Commission had appointed	Ending September-2009, PSEB has

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
	ption	implemented the methodology of computing AP consumption based on the findings of the PAU Report, the shortcomings in this respect were highlighted in para 3.2.3 of the Tariff Order of 2008-09 and observed that the correctives required for a more accurate estimation of AP consumption will emerge from the independent study proposed to be undertaken. **Directive** (i) The Board was to make up for the shortcomings for complete implementation of the PAU report. (ii)The Board was to carry out an independent study for a more accurate estimation of AP consumption.	an independent agency for validation of AP consumption. The findings of the study conducted by the agency have been taken into account in this Tariff Order. Attention is invited to para 4.1.3 (Annexure-II) of this Tariff Order for compliance of Directive	installed 62826 No. Sample Meters for assessment of energy consumption for 1059263 unmetered tube well - consumers f) The work for taking monthly reading of sample meters installed on AP motors has been awarded to M/s G4S. The company has shown appreciable improvement in taking readings and is expected to streamline its operation in next 2 - 3 months. PSEB would be able to submit the monthly data recorded by M/s G4S to the Commission only after streamlining the working of the firm. g) The detailed data reading in many cases is still maintained in the hard format at the sub division level and it will not be possible to transmit the data in the soft format immediately. It will take 2 to 3 months to prepare the entire monthly data as required by PSERC in the soft format. However, the

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
				data at the circle/zonal/Board level on the basis of which monthly consumption is being calculated is being supplied to the Commission every month. h) The AP sample meters have been installed in a geographically scattered area and due to various system constraints, the AP load is fed from various branches of 11 KV feeders. So it is not possible to provide exact supply hours as per S/S data. Also many times due the system conditions, the supply hours to agriculture sector are increased / decreased to balance the supply demand parameter. Moreover, the consumption of same capacity motors could be different than rating of a motor due to factors indicated below:- 1) Whether motor is submersible or monoblock. 2) Whether motor is star-rated or ordinary.

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
				3) Whether motor is re-winded or not 4) Whether shunt capacitor has been working or not. So correct estimation is only possible with actual energy consumption recorded by correct energy meter. However, the consumption recorded more than permissible with standard current rating of the motor and 24 hours supply hour is already been ignored for calculating AP consumption. i) The directive is being complied and faulty / non functional sample meters are being replaced by DS organization and it is hoped that in future number of faulty/non functional meters will not exceed 10% of the total sample meters in a division every month. j) The directive is being complied with the sample size has already increased to 6% and in this coming month, it will further improve.

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
3.	**Improvement in Quality of Service.**	**Background** The Commission had noted that with the implementation of the UPS scheme in rural areas, it was now possible to treat rural and urban areas on the same footing while considering the question of imposing cuts etc. This aspect was to be considered by the Board. The Commission had also observed that it was not necessary to link the placing of reliability indices on its website with the larger issue of implementation of the IT system. The Commission, accordingly, had reiterated that the reliability indices be placed on the Board's website without any further delay. **Directive** (i) To treat the rural areas at par with urban areas for imposing power cuts.	The Commission observes some improvement in achieving parity in the supply of power to the rural areas, but there is further scope of improvement. The directive for putting up the Reliability Indices on the Board's website as per the Electricity Supply Code has not been implemented which may now be complied with and a report to this effect be furnished within one month of the issue of this Tariff Order.	(i) As per the power supply positing of the State during the year 2009-10 (up to Aug.09), the duration of average power cuts on Urban Sector is 2.30 Hours per day (average of District Headquarter Urban Industrial Cat.1 and Main Cities) while for Rural Domestic Sector the same is 2.44 hours per day (average of UPS 3 wire and 4 wire) indicating that there is virtually no discrimination between these sectors. Month wise break up of power cut is enclosed as per Annexure-VIII of Volume-II (ii) PSEB is working on these lines to put reliability indices on the website. The modalities for putting up the data on the website and regular updation of the same are being discussed and will be implemented shortly.

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
		(ii) To put the Reliability Indices on the website of the Board without linking it with the comprehensive IT implementation program.		
4.	**Two Part Tariff.**	**Background** The Commission observed that the data had been received and the issue dealt with in Chapter-5.	The Tariff Policy provides for implementation of Two Part Tariff featuring separate fixed and variable charges and for fixing ToD tariff on priority for large consumers (say consumers with demand exceeding 1 MW). The Commission is awaiting a comprehensive proposal from the Board.	The Board is currently working on the implications of the introduction of such tariff in the State and will submit the details separately.
5	**KVAH Tariff.**	**Background** The Commission observed that the Board had submitted relevant data, along with its views as to the merits /demerits of	The Commission has introduced power factor surcharge/ incentive for BS and	The Board is currently working on the implications of the introduction of such tariff in the State and will submit the details separately.

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
		KWh/KVAH based tariff without any analysis of the practicability of introducing KVAH tariff and its implications for different categories of consumers. The issue was further discussed in Chapter 5. **Directive** Analyse the practicability of introducing KVAH tariff.	DS/NRS consumers with load exceeding 100 KW and SP consumers in this Tariff Order. Since more consumers have now been covered for levy of power factor surcharge/incentive, the Board needs to take into account the overall impact and submit a comprehensive report on the implications of introducing KVAH tariff.	
6.	**Bulk Supply Tariff.**	**Background** The Commission observed that the requisite information had been received and issue was dealt in Chapter-5. **Directive** To clearly identify and define the type of consumers who can be covered under this category.	The Commission in this Tariff Order has interalia effected suitable amendments in the BS Schedule.	The Board is working on the modalities of coverage of consumers under this tariff category and will submit its suggestions separately.

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
7.	**Metering Plan.**	**Background** The Commission noted the lack of any substantial progress regarding metering of AP connections and reiterated the need to effect 100% metering of AP connections. **Directive** (i) Implement 100% metering for the AP category.	The Commission notes lack of progress regarding metering of AP connections and reiterates its directive to implement 100% metering of AP connections as mandated in section 55 of the Electricity Act 2003.	Carrying out 100% metering of AP consumers not only involve heavy initial investment but also recurring expenditure for monthly recording of readings. Due to geographically scattered area, the recording of readings of more than 10 lac consumers every month is a gigantic exercise. Keeping in view the above, Central Electricity Authority(CEA) on the recommendations for Forum of Regulators has proposed to initiate R&D Project for developing cost effective method for remote metering of AP consumers PSEB has expressed its willingness to participate in the project. On its successful completion, the project may be extended to cover the State.

S. No.	Issues	Directive in Tariff Order FY 2008-09	PSERC's comments in T.O. 2009-10	Reply of PSEB
8.	**Employee Cost.**	**Background** The Commission observed that the continuing high Employee Cost of the Board is a matter of grave concern. The Commission noted that a study has been commissioned in this respect and observed that the Board will, in the shortest time frame possible, draw up a road map to bring down these costs to normative levels. **Directive** Draw a road map to bring down the employee cost of the Board to normative level.	Refer para 4.9 (Annexure-III) of this Tariff Order.	The initial report (submitted by PWC as Consultant for detailed Staffing Study on manpower requirement across different business groups of PSEB) has been recently received by the Board. The initial report is under consideration by the Board. The action plan along with complete Staffing Study will be submitted after finalizing and acceptance of above PWC Reports.
9.	**Fixed Assets Register.**	**Background** The Board was advised to ensure regular updating of Fixed Assets Registers/Cards.	The Commission notes the compliance.	PSEB has already complied with the directive of the Hon'ble Commission.

23.1 Segregation of Costs - Generation, Transmission and Distribution

23.1.1 The following table details the segregation of the total costs for FY 07-08 in terms of Generation, Transmission and Distribution costs.

Table 23–1: Segregation of Costs – G T D

Apportionment of Cost among various functions as per PSEB Accounts for 2008-09								
Sr. No.	Particulars	Hydel	Thermal	Total Generation	Transmission	Distribution	Total	Common Assets / Expenses
A – ASSETS								
	Direct	5,957	4,322	10,279	2,040	5,975	18,295	
	Apportioned	45	32	77	15	45	137	136.74
	Total (Amount)	5,897	3,049	8,946	1,982	5,493	16,421	
	Total (%)	32.56%	23.62%	56.19%	11.15%	32.66%	100.00%	
B – EXPENSES								
1	Power Purchase Cost	0	0	0	0	5184	5184	
	Power Purchase Cost - %	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	
2	Fuel Cost	0	3065	3065	0	0	3065	
	Other Fuel Related Costs	0	36	36	0	0	36	
	Sub Total	0	3101	3101	0	0	3101	
	Add: Fuel Related Losses	0	49	49	0	0	49	
	Less Capitalization		-4	-4			-4	
	Total	0	3154	3154	0	0	3154	
	Total Fuel cost (%)	0.00%	100.00%	100.00%	0.00%	0.00%	100.00%	
3	R&M Expenses							
	Gross	86	110	197	36	70	302	18.15
	Capitalisation	0	1	1	1	1	3	0.27
	Net	86	109	196	35	69	299	17.88
	Apportioned	5	7	12	2	4	18	
	Direct Expenses	9	12	21	0	0	21	
	Total R&M Expenses	101	128	229	37	73	339	
	R&M Expenses (%)	28.59%	36.48%	65.07%	11.76%	23.18%	100.00%	
4	Employee Expenses							
	Gross	84	236	320	143	1231	1694	625.61
	Capitalisation	4	18	22	37	44	103	15.10
	Net	80	219	298	106	1187	1592	610.51
	Apportioned	30	85	115	52	443	611	
	Total Employee Expenses	110	304	414	158	1630	2202	
	Employee Expenses (%)	4.97%	13.95%	18.92%	8.45%	72.64%	100.00%	
5	A&G Expenses							
	Gross	3.14	4.50	7.64	11.71	45.13	64.48	26.25
	Capitalisation	0.08	0.42	0.50	5.01	5.36	10.87	8.90
	Net	3.06	4.08	7.14	6.70	39.77	53.61	17.35
	Apportioned	0.85	1.21	2.06	3.15	12.15	17.35	
	Total A&G Expenses	3.91	5.29	9.20	9.85	51.92	70.96	
	A&G Expenses (%)	4.87%	6.98%	11.85%	18.16%	69.99%	100.00%	
6	Depreciation and Related Debits							
	Gross	134	137	271	98	316	685	11.03
	Capitalisation	0	0	0	2	0	2	0.03
	Net	133	137	271	96	316	683	11.00
	Apportioned	2	2	4	2	5	11	
	Total Depreciation and Related Debits	136	139	275	98	321	694	
	Depreciation and Related Debits (%)	19.52%	20.04%	39.57%	14.25%	46.18%	100.00%	
7	Interest and Finance Charges							
	Gross	621	197	819	164	460	1442	3.73
	Capitalisation	108	34	143	29	80	252	0.00
	Net	513	163	676	135	380	1191	3.73
	Apportioned	2	1	2	0	1	4	
	Total Interest and Finance Charges	515	163	678	136	381	1195	
	Interest and Finance Charges (%)	43.08%	13.67%	56.75%	11.35%	31.89%	100.00%	
8	Return on equity (in ratio of assets)	134	97	232	46	135	412	412.46
	Return on equity - %	32.56%	23.62%	56.19%	11.15%	32.66%	100.00%	

23.1.2 Based on the above segregation of costs for the year FY 08-09, the ARR for FY 10-11 (less Fuel Cost and Power Purchase Cost) has been segregated in terms of Generation, Transmission and Distribution Costs as summarized in the table below.

23.1.3 As per the Open Access Regulations notified by the Hon'ble Commission, the open access charges for the year FY10-11 are computed in the Table below:

Table 23–2: Open Access Charges for FY 09-10

	Trifurcation of ARR for FY 2010-11 into G-T-D Function		
A	**Total ARR for FY 2010-11**		
1	ARR for FY 2010-11	Rs. Cr	16612
	Less:		
2	Fuel Cost	Rs. Cr	3623
3	Power Purchase Cost	Rs. Cr	5876
4	Balance ARR for FY 2010-11	Rs. Cr	7114
B	**Trifurcation of Balance ARR into GTD**		
1	Generation	Rs. Cr	2659
2	Transmission	Rs. Cr	701
3	Distribution	Rs. Cr	3754
C	**Capacity**		
1	Total Transmission Capacity	MW	7009
2	Total Distribution Capacity	MW	6978
D	**Open Access Charges**		
1	Transmission Charges	Rs./MW/Day	2738.57
2	Wheeling Charges	Rs./MW/Day	14736.95
E	**Transmission & Wheeling Charges**		
1	Long Term Customers	Rs./MW/Day	5825.17
2	Short Term Customers	Rs./MW/Day	3495.10

24 WAIVER

24.1.1 This ARR Petition covers most of the requirements specified by the Commission from time to time. PSEB has endeavored to comply with the extensive information requirements prescribed by the Commission.

24.1.2 PSEB requests the Commission to condone any inadvertent omissions/ errors/ shortcomings and permit the Petitioner to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date.

24.1.3 PSEB has segregated the transmission and wheeling costs and the same has been furnished with the petition.

24.1.4 PSEB submits to the Commission that it would submit necessary additional information required by the Commission during the processing of this petition

25 PRAYER

25.1.1 PSEB requests the Hon'ble Commission to:

a. Consider the submissions and allow the true-up of expenses for the year 2008-09 as submitted by the Board.

b. Approve the Aggregate Revenue Requirement for FY 10-11.

c. Treat the filing as complete in view of substantial compliance as also the specific requests for waivers with justification placed on record;

d. Allow the remaining provisions for tariff as per existing PSEB Tariff for supply of Electricity rules, regulations and guidelines as amended up to date;

e. And pass such other and further orders as are deemed fit and proper in the facts and circumstances of the case.

BY THE APPLICANT THROUGH

Er. V K Bhatia
November 2009
Chief Engineer/ARR & TR
Punjab State Electricity Board, Patiala

26 DETAILED FORMATS