

**Petition for Aggregate Revenue Requirement
&
Determination of Tariff
for**

FY 2009-10

Volume -I

Main Text and Formats

Submitted to

Punjab State Electricity Regulatory Commission
Chandigarh

By

PUNJAB STATE ELECTRICITY BOARD

The Mall, Patiala – 147001

December 2008

TABLE OF CONTENTS

1	ARR & DETERMINATION OF TARIFF PETITION FOR FY 09-10	6
2	CONTENTS OF THIS PETITION	8
3	METERED ENERGY SALES	9
4	AGRICULTURE CONSUMPTION	11
4.2	METHODOLOGY FOR ESTIMATION OF AP CONSUMPTION	12
5	TRANSMISSION & DISTRIBUTION LOSSES	14
5.1	PROPOSED TRANSMISSION AND DISTRIBUTION LOSSES	14
5.2	T&D LOSSES ACROSS THE STATES OF INDIA	15
5.3	T&D LOSSES REDUCTION TARGETS ACROSS THE STATES OF INDIA	15
5.4	INITIATIVES TAKEN BY PSEB TO REDUCE T & D LOSSES	16
5.5	OTHER INITIATIVES TAKEN TO REDUCE T&D LOSSES	17
5.6	STATUS OF IMPLEMENTATION OF T&D ROAD MAP	18
6	ENERGY REQUIREMENT	20
7	ENERGY AVAILABILITY	21
7.2	STATE GENERATING STATIONS- THERMAL GENERATION	21
7.3	PLANT AVAILABILITY	21
7.4	PLANT LOAD FACTOR	22
7.5	PLANT LOAD FACTOR INCENTIVE	23
7.6	GROSS GENERATION	23
7.7	AUXILIARY CONSUMPTION	23
7.8	DETAILS OF GENERATION	24
7.9	STATE GENERATING STATIONS- HYDEL GENERATION	26
7.10	HYDEL AVAILABILITY- BBMB SHARE	27
7.11	TOTAL HYDEL AVAILABILITY	28
8	ENERGY BALANCE	29
9	FUEL COST	30
9.2	SPECIFIC OIL CONSUMPTION AND OIL PRICES	30
9.3	STATION HEAT RATE	31
9.4	COAL TRANSIT LOSS	32
9.5	PRICE AND CALORIFIC VALUE OF COAL	33
9.6	SUMMARY OF FUEL COST OF THERMAL STATIONS	35
10	POWER PURCHASE	40
10.2	ASSESSMENT OF AVAILABILITY	41
10.3	POWER PURCHASE COST	44
10.4	AVERAGE COST OF POWER	46
11	EMPLOYEE COSTS	47
11.2	BASIS FOR EMPLOYEE COST PROJECTIONS	48
11.3	TERMINAL BENEFITS	48
11.4	BBMB SHARE	49
11.5	OTHER STAFF EXPENSES	49
11.6	FIFTH PAY COMMISSION OF GOVT. OF PUNJAB: REVISION OF PAY	50
11.7	PSEB INITIATIVES TO CONTROL EMPLOYEE COSTS	51
12	REPAIRS & MAINTENANCE COSTS	56
12.2	R&M FOR ADDITIONAL ASSETS ADDED DURING THE YEAR	56
13	ADMINISTRATION & GENERAL EXPENSES	60
14	INTEREST & FINANCE CHARGES	62

14.2	INTEREST ON SHORT TERM BORROWINGS	62
15	DEPRECIATION	67
16	RETURN ON EQUITY	68
17	FRINGE BENEFIT TAX	68
18	NON-TARIFF INCOME	69
19	PRIOR PERIOD INCOME/ EXPENSES	70
20	EXTRA-ORDINARY ITEMS AND OTHER DEBITS	70
21	CAPITAL EXPENDITURE	71
22	REVENUE FROM SALE OF POWER AT EXISTING TARIFFS	73
23	AGGREGATE REVENUE REQUIREMENT	75
24	REVENUE GAP	76
25	PSEB'S RESPONSE TO COMMISSION DIRECTIVES	77
26	OTHER TARIFF RELATED ISSUES	94
26.1	EXTRA LEVY FOR PRIVATE HOSPITALS	94
26.2	REVIEW AND ENHANCEMENT OF RATE OF PEAK LOAD EXEMPTION CHARGES (PLEC)	94
26.3	SEGREGATION OF COSTS - GENERATION, TRANSMISSION AND DISTRIBUTION	98
27	WAIVER	100
28	PRAYER	100
29	DETAILED FORMATS	101

LIST OF TABLES

TABLE 3-1 : THREE YEARS CAGR FOR METERED CATEGORIES (FY04-05 TO FY07-08)	9
TABLE 3-2 : ENERGY SALES TO METERED CATEGORIES	10
TABLE 4-1 : AGRICULTURE CONSUMPTION FY07-08 TO FY09-10	11
TABLE 4-2 : THREE YEAR CAGR FOR AGRICULTURE CONSUMPTION FY04-05 TO FY07-08	11
TABLE 4-3 : AGRICULTURE PUMPSET DETAILS FY07-08 TO FY09-10	12
TABLE 4-4 : VOLUNTARY DISCLOSURE SCHEME DETAILS (FY04-05 TO FY08-09)	13
TABLE 5-1 : T&D LOSS REDUCTION PROJECTIONS	14
TABLE 5-2 : T&D LOSSES FOR OTHER STATES FOR YEAR FY 08-09	15
TABLE 5-3 : T&D LOSSES REDUCTION TARGETS	16
TABLE 5-4 : DETECTION OF THEFT OF ENERGY BY ENFORCEMENT AND OPERATION	18
TABLE 5-5 : ENERGY QUANTUM HANDLED BY PSEB FROM FY 02-03 TO FY 07-08	19
TABLE 6-1 : ENERGY REQUIREMENT (MU)	20
TABLE 7-1 : THERMAL GENERATION: GNDTP – BHATINDA	24
TABLE 7-2 : THERMAL GENERATION: GGSSTP – ROPAR	24
TABLE 7-3 : THERMAL GENERATION: GHTP – LEHRA MOHABBAT STAGE-I (UNIT I&II)	25
TABLE 7-4 : THERMAL GENERATION: GHTP – LEHRA MOHABBAT STAGE-II (UNIT III&IV)	25
TABLE 7-5 : THERMAL GENERATION: GHTP – LEHRA MOHABBAT STAGE-II (TRIALS RUNS)	25
TABLE 7-6 : TOTAL THERMAL GENERATION	25
TABLE 7-7 : HYDEL AVAILABILITY FROM OWN STATIONS	27
TABLE 7-8 : NET HYDEL AVAILABILITY FROM BBMB SHARE	27
TABLE 7-9 : NET HYDEL AVAILABILITY FOR PSEB	28
TABLE 8-1 : ENERGY BALANCE (MUS)	29
TABLE 9-1 : PRICE OF COAL (INCLUDING & EXCLUDING TRANSIT LOSSES)	34
TABLE 9-2 : THERMAL GENERATION COST: GNDTP – BHATINDA	35
TABLE 9-3 : THERMAL GENERATION COST: GGSSTP – ROPAR	36
TABLE 9-4 : THERMAL GENERATION COST: GHTP – LEHRA MOHABBAT STAGE-I (UNIT I&II)	37
TABLE 9-6 : THERMAL GENERATION FOR GHTP - STAGE II DURING TRIAL RUNS (FY07-08 & FY08-09)	39
TABLE 9-7 : TOTAL THERMAL GENERATION COST	39
TABLE 10-1 : CGS: PERCENTAGE FIRM ALLOCATION AND TOTAL PERCENTAGE SHARE FOR PUNJAB	40
TABLE 10-2 : POWER PURCHASE (MU)	42
TABLE 10-3 : GROSS POWER PURCHASE COST FOR FY06-07, FY07-08(RE), FY08-09(PROJ) (RS. CR)	45
TABLE 10-4 : AVERAGE COST OF POWER	46
TABLE 11-1 : EMPLOYEE COST DETAILS	47
TABLE 11-2 : TERMINAL BENEFITS	49
TABLE 11-3 : BBMB SHARE	49
TABLE 11-5 : PENSION INCREMENT DETAILS	50
TABLE 11-6 : EMPLOYEE PRODUCTIVITY PARAMETERS FOR FY 07-08 TO FY 09-10	53
TABLE 11-7 : EMPLOYEE COST APPROVED BY PSERC IN TARIFF ORDER FY08-09	54
TABLE 11-8 : OTHER EXPENSES (RS. CR)	54
TABLE 12-1 : GFA & ASSETS ADDED DURING THE YEAR	57
TABLE 12-2 : REPAIRS & MAINTENANCE EXPENSES	58
TABLE 12-3 : REPAIRS & MAINTENANCE EXPENSES APPROVED BY PSERC IN TARIFF ORDER FY08-09	59
TABLE 13-1 : ADMINISTRATION & GENERAL EXPENSES (RS. CR)	60
TABLE 14-1 : NORMATIVE INTEREST ON WORKING CAPITAL (RS. CR)	64
TABLE 15-1 : DEPRECIATION (RS. CRS)	67
TABLE 15-2 : DEPRECIATION RATES (%)	68
TABLE 16-1 : RETURN ON EQUITY	68
TABLE 17-1 : FRINGE BENEFIT TAX	68
TABLE 19-1 : PRIOR PERIOD INCOME AND EXPENSES (RS. CRS.)	70
TABLE 21-1 : CAPITAL INVESTMENT PLAN (SCHEME-WISE) (RS. CRS.)	71

TABLE 21-2: INVESTMENT PLAN (YEAR WISE) APPROVED OUTLAY (RS. IN CR)	72
TABLE 22-1 : REVENUE FROM SALE OF POWER AT EXISTING TARIFFS	73
TABLE 22-2: SUBSIDY FROM GOVT. OF PUNJAB	74
TABLE 22-3: REVENUE FROM SALE OF POWER TO AP, SC DS AND NON SC BPL CONSUMERS	74
TABLE 24-1 : REVENUE GAP	76
TABLE 26-1: PEAK LOAD RESTRICTION HOURS AS PREVALENT	95
TABLE 26-2: SEGREGATION OF COSTS – G T D	98
TABLE 26-3: OPEN ACCESS CHARGES FOR FY 09-10	99

1 ARR & DETERMINATION OF TARIFF PETITION FOR FY 09-10**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 2009-10 under Section 62 and 86 of the Electricity Act, 2003 read with the relevant regulations 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 2009-10 and revised ARR estimate for FY 08-09 and actual figures of FY 07-08 for truing up.

In order to meet the requirement of the Electricity Act 2003, Government of Punjab is in the process of restructuring PSEB. Government of Punjab, Department of Power vide its notification no. 1/36/07 – EB (PR)/1048 dated October 7, 2008 has authorized PSEB to continue to function as a state transmission utility and a licensee for the period upto 30th Nov '08. The notification has been attached as a separate annexure with Volume II. Further, the Govt. of Punjab has requested the Ministry of Power for further extension for continuation of the Board to function as an integrated utility beyond 30th Nov '08.

PSEB submits to the Hon'ble Commission that after the restructuring of PSEB, the successor entities would file separate petitions before the commission to determine the wheeling charges, cross subsidy

surcharge, and additional surcharge to be charged to the consumers opting for power purchase from third parties.

This Petition elaborates the Board's Aggregate Revenue Requirement (ARR) for the Financial Year FY 09-10 as a vertically integrated utility. Meanwhile the Board is in the process of segregating the costs for the Generation, Transmission and Distribution..

The Commission had issued the Tariff Order for FY08-09 on July 03, 2008. The Board had filed a review petition (admitted as Petition No. 14 of 2008 by the Hon'ble Commission) against this order before the Hon'ble Commission. The Hon'ble Commission had 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) Employee Cost for assets added during the year
- (b) R&M expenses
- (c) A&G expenses
- (d) Interest Cost on Approved Gap
- (e) Diversion of Funds
- (f) Metered Energy Sales (Disallowance on Account of Theft)
- (g) AP Consumption
- (h) Incentive for Thermal Generation based on Target PLF
- (i) SHR & Aux Consumption - GNDTP Bhatinda Unit –I & II.

The Board has complied with the requirements of the new terms and conditions issued by the Commission on the 2nd December, 2005 to the maximum possible extent. The Board, however, has reservations to some clauses of the regulation which have been discussed in this Petition in detail. PSEB had already submitted a Petition for Amendment/Modification/Substitution of the provisions of the Terms & Conditions for Determination of Tariff regulations 2005 which has been admitted as Petition No. 15 of 2008 by the Hon'ble Commission. In the aforementioned Petition PSEB respectfully submits to the Commission that the following aspects of the Tariff Regulations, 2005 need to be reviewed and modified taking into account the realities of the situation and to avoid further cascading effect on the finances of PSEB:

- (a) Operating and Maintenance Expenses (Regulation 28);
- (b) T & D Loss (Regulation 16);
- (c) Working Capital and Interest Rate on the Working Capital (Regulation 30);
- (d) Fuel Cost to be allowed (Regulation 20);
- (e) Other norms for operation of the electricity utilities

PSEB's response/compliance of various directives of the Order dated July 03, 2008 is given in Chapter 25 of the petition.

Auditor General, Punjab (Audit), Chandigarh has conducted the audit of the Annual Accounts of the Board for 2007-08. The Audit Report/ Certificate is yet to be received by the Board. In the meantime, eight copies of the statement of annual accounts for FY 07-08 are enclosed herewith for Commission's Records as Volume III.

2 CONTENTS OF THIS PETITION

- 2.1.1 This Petition covers in detail the basis, assumptions and projections of individual elements constituting the determination of ARR for FY 09-10. The petition also covers the revised estimates for FY08-09. The following sections explain in detail the basis and forecasts of the elements given below for FY 09-10:
- a. Metered Energy Sales & Revenues (Category wise) at existing tariffs
 - b. Agriculture Energy Sales & Revenues at existing tariffs
 - c. T&D Losses
 - d. Energy Requirement
 - e. Energy Balance
 - f. Generation from Owned & Shared stations and Power Purchase from various sources to meet the Energy Requirement
 - g. 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
 - xi. Revenues at existing tariffs
 - xii. Summary of Aggregate Revenue Requirement
 - h. Determination of Gap between Revenue at existing Tariff & Annual Expenditure.
 - i. Capital Investment Plan for Generation, Transmission, Rural Electrification & Distribution

3 METERED ENERGY SALES

- 3.1.1 Revised Estimates for Energy Sales to metered categories for FY08-09 is based on actual values in first half of current fiscal year (till Sep '08) and projections of the second half of the year (Oct '08 to Mar '09). For projecting figures for next half of current fiscal year (i.e. Oct '08 to Mar '09), category wise half yearly CAGR derived from category wise values of second half of the years for the period FY04-05 to FY07-08 have been taken. The category-wise CAGR thus calculated has been applied on the half yearly metered sales figures of respective categories for FY07-08 to arrive at the category wise metered energy sales projection for the second half of FY08-09 (Oct '08 to Mar '09).
- 3.1.2 The projections for metered category wise sales for FY 09-10 are based on CAGR computed on basis of last three year audited actual sales i.e. from FY04-05 to FY07-08 as per the methodology approved by Hon'ble Commission. The Compounded Annual Growth Rate thus obtained is applied to the values of metered energy sales of FY08-09 for all the categories for projecting values for FY09-10.
- 3.1.3 The Board has proposed not to apply the CAGR method in case of Railway Traction category since the Board does not foresee any increase in the demand for this category, so the sale to Railway Traction for FY09-10 has been kept at the same level as the revised estimates of FY08-09.
- 3.1.4 The Compounded Annual Growth Rate (FY04-05 to FY07-08) for the metered categories has been tabulated below.

Table 3-1 : Three Years CAGR for Metered Categories (FY04-05 to FY07-08)

Categories	CAGR FY 04-05 to FY 07-08
Domestic	7.80%
Non-Residential Supply	12.24%
Small Power	1.35%
Medium Supply	2.23%
Large Supply	8.05%
Public Lighting	7.72%
Bulk Supply & Grid Supply	3.86%

- 3.1.5 The Sales to Common Pool for FY08-09 and FY09-10 has been projected based on the actual figures of Sales to Common Pool for FY07-08. The Board has estimated the Sales to Common Pool for FY09-10 envisaging a similar pattern to that of FY07-08 and FY08-09.
- 3.1.6 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. The Board has estimated the Outside State sales for FY09-10 envisaging a similar pattern to that of FY08-09
- 3.1.7 The Category wise metered energy sales for past year, ensuing year and projected year are summarized in the table below.

Table 3-2 : Energy Sales to Metered Categories

ENERGY SALES (MU)	Units	FY 07-08	FY 08-09	FY 08-09	FY 08-09	FY 09-10	Growth
		Actuals	Apr - Sep (Actuals)	Oct - Mar (Projected)	R E	Proj.	FY 08-09 to FY 09-10
Metered Sales							
Domestic	MU	6,491	3,335	3,357	6,692	7,240	8.18%
Non-Residential Supply	MU	1,919	998	1,069	2,067	2,320	12.24%
Small Power	MU	738	362	369	731	741	1.35%
Medium Supply	MU	1,579	732	823	1,555	1,590	2.23%
Large Supply	MU	8,733	4,329	4,752	9,081	9,812	8.05%
Public Lighting	MU	140	66	81	147	158	7.72%
BS,GS & RT#	MU	614	293	331	624	649	3.92%
TOTAL (Metered)	MU	20,214	10,115	10,783	20,898	22,511	7.72%
Common Pool	MU	302	152	151	303	302	
Outside State Sale	MU	1,576	571	970	1,541	1,307	
TOTAL SALES	MU	22,093	10,838	11,904	22,742	24,120	6.06%
BS,GS & RT #							
Bulk Supply	MU	496	233	268	501	525	4.77%
Grid Supply	MU	5	3	2	6	6	10.56%
Railway Traction	MU	113	57	60	118	118	0.00%
TOTAL BS,GS & RT	MU	614	293	331	624	649	3.92%

NOTE: The Growth Rate for Domestic consumers shown above (8.18%) is higher than the 3 Yr CAGR (7.8%) as the projected Domestic Energy Consumption (7240 MU) for FY 09-10 also includes the consumption of 1,48,000 additional connections to be released under RGGVY scheme.

4 AGRICULTURE CONSUMPTION

4.1.1 The details of Agriculture Consumption during past year i.e. FY2007-08, the current financial year FY08-09(RE) and the ensuing year (FY09-10) based on sample meter reading has been given in table below. Agriculture Consumption comprises of metered energy sales and Un-metered energy sales. Metered sale is taken as per actuals whereas to predict the unmetered sales, sample meters have been installed across the state as per directions of the Hon'ble Commission.

Table 4-1 : Agriculture Consumption FY07-08 to FY09-10

Particular	Units	FY 07-08	FY 08-09	FY 09-10
AP Consumption (MU)		Actuals	RE	Proj.
Apr - Sept	MU	6,288	5,726	7,335
Oct - Mar	MU	3,741	4,041	4,364
Total	MU	10,030	9,766	11,699

4.1.2 The estimates of AP Consumption for FY08-09 (RE) are based on the actual AP consumption for the first half of FY08-09 (i.e. Apr '08 to Sep '08) and projections of the next half of FY08-09 (i.e. Oct '08 – Mar '09). For the next six months (Oct'08 - Mar'09) the projections are based on a normative growth rate of 8%. This growth rate has been applied to the corresponding actual sales figures of second half of FY07-08 (i.e. Oct '07 – Mar '08) to arrive at sales projections for the second half year in FY08-09. The Hon'ble Commission may appreciate that the actual 3 Year CAGR computed on basis of last three year actual sales i.e. from FY04-05 to FY07-08 is 15.72%.

Table 4-2 : Three Year CAGR for Agriculture Consumption FY04-05 to FY07-08

ENERGY SALES (MU)	Units	FY 04-05	FY 05-06	FY 06-07	FY 07-08	3 Yr CAGR
		Actuals	Actuals	Actuals	Actuals	FY 04-05 to FY 07-08
AP Sales	MU	6,472	7,317	8,232	10,030	15.72%

4.1.3 Out of 36 meteorological subdivisions in India, only 2 (two) Punjab and Orissa subdivisions recorded excess rainfall. The uneven temporal rainfall distribution even caused flood situations in Punjab. The southwest monsoon withdrew this year from Punjab on 29th Sep '08 while the normal date of withdrawal of southwest monsoon is usually 1st September. Taking into account heavy rain in first half of FY08-09 and late start of paddy season i.e. from 15th June '08, it is observed that the actual AP consumption for first half of the FY08-09 has been very low as compared with that observed in similar period of previous year and hence same cannot be taken as base for estimating the AP consumption pattern for next Fiscal Year (FY09-10). Thus for estimation of AP consumption for FY09-10, base year is considered as FY07-08 and a normative growth rate of 8% has been applied twice for projecting the AP consumption for FY09-10.

4.1.4 For FY09-10, the AP consumption is estimated as 11,699 MUs. The Hon'ble Commission had approved a Growth Rate of 5 % in the Tariff Order for FY 08-09. However, since PSEB envisages release of 40,000 new connections in each of the years, i.e FY08-09 & FY09-10, PSEB has

projected AP consumption to grow @ 8% p.a. Also, part from that, the load added through VDS schemes will further lead to rise in demand for AP consumption.

4.2 Methodology for Estimation of AP Consumption

4.2.1 The AP Consumption is estimated on the basis of the sample metering in each of the divisions to get the AP Consumption factors for each of the divisions which are used to compute the aggregate consumption for each division. The consumption of all divisions is summed up to find the consumption of each circle & then zone and subsequently the total consumption of Punjab is computed.

4.2.2 As on 31st March 2008, there were 53858 sample meters installed for assessment of AP Consumption and PSEB is continuously increasing the number of sample meters for more realistic/accurate assessment of AP consumption. PSEB has proposed addition of about 46142 sample meters raising it to 10.33% of total AP consumers in the state. Board would like to draw the attention of Hon'ble Commission to the fact that the total size of sample metering for assessment of AP Consumption was 5.56% as on 31st Mar '08 corresponding to total 968007 AP connections as against 2% sample metering directed by the Hon'ble Commission.

Table 4-3 : Agriculture Pumpset details FY07-08 to FY09-10

Particular	FY 07-08	FY 07-08
Pumpset Details	No. of Pumps	No. of Sample Meters
Sumersible	456680	21128
%age	47.18	39.23
Monoblock	511327	32730
%age	52.82	61%
Total	968007	53858

4.2.3 **Automated Meter Reading:** The Board further submits that as per the commitment made in the meeting with Hon'ble Chief Minister, Punjab on 5.12.2007 for commissioning of AMR (Automatic Meter Reading) of feeders, an open tender enquiry had been floated by the Board. The work has already been allotted to M/s Easun Reyrolle, Bangalore and is under progress for commissioning of AMR of meters of 11KV and above feeders.

4.2.4 **Segregation of AP Feeders:** The segregation of feeders shall enable the Board to verify more accurately the agriculture consumption in the state. The segregation of all AP feeders is complete except for 3 phase 4 wire rural feeders. For 3 phase 4 wire feeders, the segregation work stands completed but the separate feeding lines for tubewells and general loads have been proposed to be erected in the project which will cover 2607 villages for which the work has been allotted and is under progress.

4.2.5 **Voluntary Disclosure Scheme:** The Board had introduced a Voluntary Disclosure Scheme (VDS) for the consumers during recent years. The implementation of the VDS scheme has resulted in total load enhancement of 386 MW in FY07-08 and 183 MW in FY08-09 till date.

Table 4-4 : Voluntary Disclosure Scheme Details (FY04-05 to FY08-09)

Sr. No.	Period	No. of Applicants	Total Unauthorized Load Regularized (MW)	Total Amount Received (Rs. Cr)
A	FY 04-05	314925	715	115
B	FY 06-07	171691	548	66
C	FY 07-08	152561	386	72
D	FY 08-09	70913	183	24
	TOTAL	7,10,090	1,831	277

4.2.6 In compliance with the Commission’s directives, PSEB has implemented all the suggestions received from Punjab Agricultural University in respect of various issues pertaining to Agricultural Consumption. The steps taken by Board are enumerated below.

- a. The AP factor is regularly calculated on monthly basis as per data supplied by Operation Organization. PSEB has taken steps to increase total number of sample meters from 5.56% to 10% of total AP consumption for more accurate projections of unmetered sales and has proposed to increase the number of sample meters from 53,858 to 1, 00,000.
- b. The sample meters are distributed evenly throughout the state and located scientifically to represent total area comprehensively.
- c. Each selected feeder has been divided in 5 equal segments along the length of the feeder and 20% of sample meters have been installed within each segment to take care of variability in energy norm, if any, due to variations in soil type, cropping pattern, water table etc.

4.2.7 PSEB submits to the Commission to approve AP consumption of 11699 MU proposed for FY 09-10 without any disallowance, by taking into consideration the following points

- a. PSEB has increased the sample size for assessment of AP consumption to 5.56 % of the total AP connections, which is higher than sample size (2%) prescribed by the Hon’ble Commission.
- b. Commission may acknowledge the fact that lower assessment of agricultural consumption allowed by the Commission would result in corresponding increase in T & D Losses and the corresponding disallowance of power purchase cost would put financial burden on the Board.
- c. The Hon’ble Commission may note that the Growth Rate of AP consumption for the year FY 09-10 has been taken as 8% against the 3 Yr CAGR of 15.72 %. Despite the fact that the Board envisages the release of 60,000 AP connections under OYT scheme and 40,000 AP connections under general connection. PSEB humbly requests that the Commission allow the entire AP consumption as projected.
- d. Any disallowance in AP Consumption may force the Board to reduce supply of power to agriculture, especially during paddy season (June – October), which would adversely affect the agricultural production of the state and as a result the economy of the state.

5 TRANSMISSION & DISTRIBUTION LOSSES

5.1 Proposed Transmission and Distribution Losses

5.1.1 PSEB proposes to reduce the T&D losses from 22.53% in FY07-08 to 19.5% in FY09-10, a reduction of 3.03% during the current & ensuing year, as provided in Table below.

Table 5–1 : T&D Loss reduction projections

Particulars	FY07-08 (Proposed by PSEB)	FY07-08 (Actuals)	FY08-09	FY09-10	FY10-11	FY11-12
	T&D Losses	22.70%	22.53%	21.00%	19.50%	18%

5.1.2 The Hon’ble Commission in its Tariff Order FY2008-09 has set a T&D loss level target for FY08-09 at 19.5%. Considering the actual T&D loss levels recorded for FY07-08 i.e. 22.53%, the target implied a reduction of 3.03% in FY08-09 from the actual levels in FY07-08, which is difficult to achieve at T&D Loss levels of 22% to28%.

5.1.3 The Board submits that it has already submitted a Petition for Amendment/ Modification/ Substitution of the provisions of the Terms & Conditions for Determination of Tariff regulations 2005 which has been admitted as Petition No. 15 of 2008 by the Hon’ble Commission As regards Transmission and Distribution Losses, Regulation 16 of the Tariff Regulation, 2005 provides for the loss level trajectory previously fixed to be adopted as the basis for determination of tariff. Over the years, PSEB has undertaken significant efficiency gain in its operation. However, for various reasons the loss level trajectory already fixed by the Hon’ble Commission could not be achieved. These include the fact that the loss level trajectory was fixed at a different level as compared to the actuals earlier on account of non-availability of complete information and also in the absence of accurate metering and energy accounting.

5.1.4 The Hon’ble Commission may acknowledge the fact that, in recent years, reduction in T&D losses amongst other states having T&D loss level in the range of 20%-30% has not been achieved to this extent in any one year. However, PSEB has significantly reduced the T&D losses and had brought down the loss level to 23.92% in FY 2006-07 (audited), a reduction of 1.15% from previous year. As against the above, the Commission had prescribed the loss level of 20.75% for FY 2006-07 & 19.5% for FY07-08 for the purpose of tariff in its Tariff Order FY07-08. It was estimated that PSEB would achieve a T&D loss level of 22.70% in the year FY07-08 as also mentioned in the ARR FY08-09. Against this the Commission had stuck to its approved T&D loss levels and had allowed T&D losses of 19.5% for FY 07-08 and FY08-09 in the Tariff Order of FY08-09.

5.1.5 It may be noted that the reduction in the loss from 23.92% (audited figures of FY 2006-07) will involve significant capital expenditure as these mainly relate more to technical loss than to commercial loss. In view of the fact that PSEB has achieved a good reduction in the commercial loss, the Hon’ble Commission may fix the targeted level of loss from 23.92% and consider further reduction in the loss vis-à-vis actual capital expenditure incurred by PSEB. In the absence of significant capital investments, it will be impractical to reduce the loss from 22.53% (FY07-08) to 19.5% as allowed by the Hon’ble Commission for FY 08-09.

5.1.6 It is urged that the T&D loss trajectory should be linked to the actual investment done by PSEB. There are various reasons like unavailability of funds, lack of supplier interest etc which lead to under achievement in the investment as compared to the plan. Such reasons for under achievement are not in control of PSEB.

5.1.7 PSEB further submits to the Hon'ble Commission that reduction of T&D losses has been a key priority for the Board. All possible efforts are being made to reduce T&D Losses by the Board. Besides the short-term measures aiming mainly at reduction of commercial losses, the Board also plans long-term measures for reduction of Technical losses by augmenting and strengthening its distribution network.

5.2 T&D Losses across the states of India

5.2.1 T&D losses prevailing across some important states/ utilities of India are given in table below.

Table 5-2 : T&D Losses for Other States for year FY 08-09

Sr. No	State/ Licensees	Year	T & D Losses
1	Maharashtra - MSEDCL	FY 08-09	36.55%
3	MP - Central Discom	FY 08-09	44.90%
4	MP - West Discom	FY 08-09	33.40%
5	Chattisgarh (CSEB)	FY 08-09	30.81%
6	Gujarat - Paschim Discom	FY 08-09	34.57%
7	UP - Meerut Discom	FY 08-09	29.10%
8	UP - Agra Discom	FY 08-09	29.10%
9	Rajasthan - Ajmer Discom	FY 08-09	39.40%
10	Rajasthan - Jaipur Discom	FY 08-09	30.96%
11	Rajasthan - Jodhpur Discom	FY 08-09	32.56%

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

5.2.2 As indicated above most of the important states and their utilities are having T&D losses in the range of 29-45%. In comparison with other agrarian states of India, Punjab has relatively lower level of T&D losses (22.53%) for FY 2007-08, thus indicating better performance by PSEB amongst other Licensees in India.

5.2.3 Hon'ble Commission may acknowledge the fact that PSEB has been able to achieve loss reduction of 1.38% in FY 2007-08, which is more than the earlier proposed loss reduction from 23.91% for FY06-07 to 22.70% for FY07-08 in ARR submitted to Commission in the previous year.

5.3 T&D Losses reduction targets across the states of India

5.3.1 T & D loss reduction target set by various State Electricity Regulatory Commission across the India are listed in table below.

Table 5-3 : T&D Losses Reduction Targets

Sr.No	State/ Licensees	Target Reduction in T&D Losses
1	Maharashtra – MSEDCL	4% till FY 2009
2	MP - East Discom	3% till FY 2010-11
3	MP - Central Discom	3% till FY 2010-11
4	MP - West Discom	1.50% till FY 2010-11
5	Rajasthan - Ajmer Discom	3% till FY 2008-09
6	Rajasthan - Jaipur Discom	2.66% till FY 2008-09
7	Rajasthan - Jodhpur Discom	2.81% till FY 2008-09

5.3.2 PSEB further submits to the Hon’ble Commission that most of the states/ utilities having loss levels in the range of 30-45% are given loss reduction target of 3% per year which seems to be realistic and achievable by state utilities through implementation of effective T&D loss reduction measures. However, the Hon’ble Commission has given PSEB a loss reduction target of 4.41 % from the level of 23.91% to 19.5% in the year 2008-09 which seems almost unachievable given the ground realities. Commission may appreciate that PSEB was able to achieve the Losses at the Level of 22.53% which is more than as proposed by PSEB

5.3.3 Trend for loss reduction target across the states shows that as the loss level is reduced, the loss reduction target is also brought down by SERCs. In case of Rajasthan, Jaipur Discom having T&D loss of level of 30.96% is provided with loss reduction target of 2.66% while in the same state, Ajmer Discom having T&D loss level of 39.40% is provided with loss reduction target of 3%. Even private utility like BEST (Mumbai) having a loss level of 16.35% has been provided with loss reduction target of 0.50%.

5.3.4 In light of above, PSEB requests the Hon’ble Commission to review the loss reduction target and accept the reduction target of 1.53% proposed by Board from 22.53 % to 21.0% for the year FY 08-09.

5.4 Initiatives taken by PSEB to reduce T & D losses

5.4.1 Addition of New electrical networks with HVDS – PSEB has initiated the work of converting all 11 KV feeders in to HVDS to achieve 100% conversion in next 2-3 years. PSEB is in the process of adding new electrical network, designed in such a manner to reduce overall T&D losses in the state.

- a. Installation of LT capacitors on all the AP connections
- b. 100% replacement of electro-mechanical meters by more accurate electronic meters. The electronic meters capable of online monitoring & control of various parameters including energy accounting will be installed upto 11 KV feeders.
- c. Effective Earthing has been provided to all the Substation and Distribution Transformers to bring down losses due to high earth resistance.
- d. IT implementation: PSEB has initiated IT implementation by introducing measures like spot Billing, GIS mapping, and Centralized Call Centers for complaint registration, remote metering etc.

- e. Refurbishing/strengthening of Distribution System under APDRP Programme.
- f. **Installation of HT Capacitors** – 11KV Feeders in Urban and rural areas are provided with capacitors of capacity 600/450 KVAR. Additional Capacitors of adequate capacity had been provided at transmission substation to improve the power factor and voltage profile.
- g. All the overloaded feeders are deloaded by way of bifurcation or augmentation of higher capacity conductors.
- h. Monitoring of T & D losses is being done by PSEB management at Division /Circle/Zonal level and concerted efforts are being made to achieve the targets by cutting down both technical and commercial losses.

5.5 Other Initiatives taken to reduce T&D losses

5.5.1 The Board has taken a number of steps/ measures to reduce T&D losses. Some of the major steps are as follows:

5.5.2 **Installation of Meters outside Premises** - Under the T&D loss reduction roadmap Board has started shifting energy meter outside the premises of the consumers by installing these outside in “Meter Pillar Boxes” or in standard Meter Cupboard on the outer walls of the consumer Premises/poles. The outcome of this exercise has been encouraging. Some of the positive results of this exercise are

- a. Decrease in Input units
- b. Increase in Units billed & consequent increase in revenue
- c. Decrease in Overall demand on the feeder
- d. Decrease in T&D losses
- e. Improvement in quality of supply due to decrease in load on the system
- f. Improvement in voltage profile

5.5.3 **Replacement of Electro-mechanical Meters** - The Board has taken steps to replace electro-mechanical meters with electronic meters so as to improve the metering efficiency. The status of replacement of electromechanical meters is given in Volume II.

5.5.4 **Deloading of Distribution Transformers and 11 kV feeder/ Bifurcation** – For the year FY 08-09, a total of 31783 Distribution Transformers that have been identified as overloaded are planned to be deloaded over the next 2-3 years. 11526 distribution transformers have been deloaded in FY 07-08 and 3402 distribution transformers have been deloaded in FY 08-09 upto 31st Sep '08

5.5.5 **Deloading of 11 kV feeders** – 17943 CKT KM of 11 KV feeders were identified as overloaded/overregulated in FY07-08. These are planned to be deloaded over the next 2-3 yrs.

5.5.6 **ABC cabling in theft prone areas** - In order to curb the theft of energy, LT lines shall be converted to Arial Bunched Cables in theft prone areas to make commercial losses almost zero.

- 5.5.7 **Theft detection** - The Board has been consistently making efforts in reducing losses and the same is borne by the fact that more than 23 Lakhs connections were checked and more than 2.44 Lakh detections were made in FY07-08 alone.

Table 5-4 Detection of theft of energy by Enforcement and Operation

Year	Enforcement			Operation		
	Connections Checked	Cases Detected	Revenue Detected	Connections Checked	Cases Detected	Revenue Detected
	No.	No.	(Rs Cr)	No.	No.	(Rs Cr)
FY 02-03	96,660	16,649	23	11,22,369	2,04,158	69
FY 03-04	1,07,607	34,875	58	9,55,873	2,21,870	89
FY 04-05	1,44,609	48,111	73	9,90,234	3,54,896	133
FY 05-06	1,51,795	47,260	80	8,54,046	1,52,906	51
FY 06-07	1,45,167	42,377	67	21,63,443	2,12,624	85
FY 07-08	1,83,408	60,192	68	23,14,161	2,44,866	101
FY 08-09 (upto Sept'08)	1,14,213	26,137	45	9,99,141	1,20,516	115

5.6 Status of Implementation of T&D Road Map

- 5.6.1 PSEB has prepared a road map for implementing the measures related to T&D loss reduction to bring down losses to around 17% by FY 2011-12. The detail of the road map has already been submitted to the Commission in the previous year ARR. The same has again been attached in Volume II.

- 5.6.2 The salient features of the road map are as given below:

- HVDS in AP - already started giving new connection on HVDS.
- LT less or less LT system in industrial and general service connections
- Providing meters outside the consumer premises
- Earthing of the Grid Substations and Distribution Transformers
- Providing capacitors at all Agricultural supply consumers and on the 11kV lines also
- Introduction of IT in distribution services to bring about transparency & to minimize employee intervention

- 5.6.3 Thus, PSEB submits to the Commission that

- Punjab is relatively more efficient than the utilities of other agrarian states, which are having losses in the range of 30-40%.
- In states/utilities where the T & D losses are on a higher side say 30-40%, it may be possible to achieve reduction in T & D Losses to the extent of even 2-3% per annum. But in case of PSEB, where losses have already reached 22.53%, further reduction of T & D losses by even 1% is a very difficult task and lot of investment is needed. It would require significant effort and resources to reduce losses from this level. This is also supported by law of diminishing returns. Moreover, the quantum of energy handled by the system has increased over a period of time and this also affects the

T & D Losses in the System.

Table 5–5 Energy Quantum handled by PSEB from FY 02-03 to FY 07-08

Description		FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08
Total Sale within State	MU	20,964	22,310	22,779	24,470	26,617	30,244

- c. In spite of recognition of this fact, PSEB proposes to reduce the overall T&D losses by 1.53% i.e. from 22.53 % (FY 07-08) to 21 % (FY 08-09) and further from 21% (FY 08-09) to 19.5% (FY 09-10) through pro-active loss reduction activities.
- 5.6.4 It is pertinent to mention that the Commission has been setting the T&D loss reduction targets for the ensuing years on the basis of a loss level trajectory set by the Commission (in Tariff Order 2004-05) instead of the actual targets achieved by the Board at the end of the year.
- 5.6.5 The Board would like to draw the attention of the Commission that many State Regulatory Commissions’ like Haryana, J&K, Rajasthan etc have been using the method of resetting the loss level targets on the basis of actual losses achieved at the end of the year. This implies that in case the utility is not able to achieve the losses as per the Loss level targets set by the Commission, the differential value on account of under-achievement/over-achievement of losses is adjusted in the ARR, as is the case in Punjab, but the targets are then revised based on the existing T&D loss levels.
- 5.6.6 Considering the above-mentioned facts, PSEB submits to the Commission to accept the loss reduction target proposed by the Board and accordingly determine the Energy requirement of the system as these targets are very realistic. Any further cut in the Loss reduction target would augment financial burden on the Board which will subsequently affect the Planning of PSEB adversely. The Hon’ble Commission may appreciate that the reduction of T&D Losses from 23.91% (FY 06-07) to 22.53% (FY 07-08) has been achieved by the Board in spite of the financial constraints faced by the Board.
- 5.6.7 PSEB also submits that the Tariff Regulations, 2005 providing for T & D Loss level norms may be reconsidered by the Hon’ble Commission as detailed in the Board’s previous Petition (admitted as Petition No. 15 of 2008 by the Hon’ble Commission). It is urged that the Commission may adopt the loss trajectory as projected in the PSEB ARR petition for FY08-09 and loss levels be reset every year subject to the actual investment done by the Board.

6 ENERGY REQUIREMENT

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

Table 6-1 : Energy Requirement (MU)

ENERGY REQUIREMENT (MU)	Units	FY 07-08 Actuals	FY 08-09 R E	FY 09-10 Proj.	Growth %
ENERGY REQUIREMENT					
Energy Sales					
Metered Consumers	MU	20,214	20,898	22,511	7.72%
AP Consumers	MU	10,030	9,766	11,699	19.79%
Total Energy Sales (Within State)	MU	30,244	30,665	34,210	11.56%
T&D Losses %	%	22.53%	21.00%	19.50%	-1.50%
T&D Losses	MU	8,796	8,151	8,287	
Energy Sales					
Common Pool	MU	302	303	302	
Outside State	MU	1,576	1,541	1,307	
Total Energy Requirement		40,918	40,660	44,106	8.47%

7 ENERGY AVAILABILITY

7.1.1 The majority of energy requirement of the state is met by generation at state's 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, including the two units of 250 MW, GHTP Stage-II, of which Unit-III started commercial operation from 16.10.2008 and the Unit IV is expected to be commissioned in Jan'09 (Unit IV), 5 hydel stations and micro-hydel projects. The basis and projections for FY09-10 & FY08-09(RE) from each of the sources is summarized below.

7.2 State Generating Stations- Thermal Generation

7.2.1 The generation (MU) of Thermal Stations of PSEB, namely, GNDTP, Bhatinda, GGSSTP Ropar and GHTP Lehra Mohabbat (Stage I & II), is based on the following parameters:

- a. Plant Availability
- b. Plant Load Factor
- c. Gross Generation
- d. Auxiliary Consumption

7.2.2 The projected figure of the generation parameters for FY 09-10, the Revised Estimate for FY08-09 and the actual for FY07-08 is discussed in detail as under.

7.3 Plant Availability

7.3.1 Plant availability of GNDTP, Bathinda is projected at 87.85% in FY08-09, estimated on the basis of the actual plant availability figures achieved up to Sept'08 and the planned maintenance schedule from Oct'08 till Mar'09, also taking into consideration the forced outage of the plant's units. The Projection of plant availability for FY 09-10 is expected to be 74.57% in view of the renovation & modernization work of Unit-III which is planned from 1st March 2010 to 30th October 2010 and Unit-IV which is planned from 1st March 2009 to 29th Nov 2009. The total number of days amounts to 334 days for which a single unit will be unavailable in totality.

7.3.2 The projected Plant availability of GNDTP for FY 09-10 is lower than the CERC norms due to major R&M requirement for Unit-IV. It is submitted that all the units of the thermal plant are over 25 years old (installed during 1975-79) and it is necessary to renovate & overhaul these units to bring improvement in the operational efficiency and sustaining the same in future years and Unit-IV will be undergoing major repair & maintenance from 1st March 2009 to 29th of Nov 2009 and also other units shall undergo R&M.

7.3.3 Revised Plant Availability of GGSSTP is estimated at 89.61% for FY08-09 as per the actual plant availability figures attained till Sept'08 and the planned maintenance schedule of Units from Oct'08 till Mar'09. For FY 09-10 the plant availability is projected at 91.20% based on the Planned Maintenance Schedule of the generating station of 145 days and also taking into account the last 3 years (excluding current year) average of forced outage duration of plant.

- 7.3.4 Availability of GHTP Stage-I, for FY08-09 is re-estimated at 96.17% based on the actual availability till Sept'08, and taking into account the planned maintenance on the Units for the second half of FY08-09. The plant availability for FY 09-10 is projected at 92.50% on the basis of the planned maintenance schedule of Unit-I & Unit-II and past trends in the forced outage duration of the plant's units.
- 7.3.5 It is submitted that the availability of GGSSTP and GHTP Stage-I is in the range of 89-96%, which is much higher than CERC norm of 80% for thermal generating stations for recovery of full fixed cost
- 7.3.6 GHTP Stage-II, Unit-III (250MW) started commercial operation from 16th Oct'08 and availability of 44.88% is projected for FY08-09. For FY 09-10 plant availability is projected as per CERC norms @ 90% as another unit, Unit-IV of 250MW is expected to be commissioned by 1st of Jan'09.

7.4 Plant Load Factor

- 7.4.1 The Plant Load Factor of GNDTP is expected to be 71.30% in the current year, based on the actual generation figures attained for the first six months till Sept'08 and the revised target generation level for second half of FY08-09. 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. The PLF for FY 09-10 is estimated at 60.45% based on the projection of the generation.
- 7.4.2 The Plant Load Factor of GGSSTP for the current year is re-estimated at 83.57% as per the actual generation till Sept'08 and the revised monthly target generation level for Oct'08 till Mar'09. The PLF for FY 09-10 is projected at 83.35%.
- 7.4.3 The Plant Load Factor for GHTP, Stage-I comprising of Unit-I & Unit-II for the current year is expected to be at 92.15% based on the actual till Sept'08 and the revised monthly target generation figures for second half of FY08-09. PLF projected for FY 09-10 is 87.52% as per the generation projections of the Generating Station.
- 7.4.4 Plant load factor for GHTP, Stage-II comprising of Unit-III & Unit-IV is projected at 75.82% for FY08-09, (Unit-III has started commercial operation from Oct'08). For FY 09-10, PLF is projected at 80%, as being in first year of operation past trends are not available considering Unit-IV would be commissioned by Jan'09.
- 7.4.5 Considering the above facts, PSEB submits to the Commission to approve the projected generation figures submitted herein as well as consider the provision of generation incentive for generation above 80% PLF (in case of GGSSTP & GHTP-Stage-I) for FY 08-09 and FY 09-10 in accordance with the CERC norms.
- 7.4.6 Actual PLF figures attained by the three Thermal stations for FY 2007-08 have also been provided in the attached formats.

7.5 Plant Load Factor Incentive

- 7.5.1 The Board further submits that the Board has already submitted a Review Petition against the Tariff Order FY 08-09 issued by the Hon'ble Commission seeking review and modifications for Plant Load Factor Incentive. The same is discussed in detail in the Review Petition (Petition No. 14 of 2008) as Section 3.6 to 3.7.
- 7.5.2 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, Generation Incentive should be given to GGSSTP Ropar & GHTP Lehra Mohabbat above 80% PLF whereas for GNDTP Bathinda Generation Incentive should be given for achieving PLF above 60%.

7.6 Gross Generation

- 7.6.1 The Gross Generation and performance under other parameters for GNDTP, GGSSTP, GHTP Stage-I (Unit-I&II) and GHTP Stage-II (Unit-III&IV) plants for FY08-09 has been re-estimated as per the actual generation of the respective plants up to Sept'08 and considering the revised monthly generation targets set for the respective plants for the second half of the FY08-09 (Oct'08- Mar'09).
- 7.6.2 The Gross generation of the three thermal plants i.e. GNDTP, GGSSTP and GHTP stage-I (Unit I&II), has been projected for FY 09-10 on the basis of the data received from various plants and plant availability has been calculated on the basis of R&M Schedule provided herein the attached formats and taking into account of the average forced outage over the last 3 years from (FY05-06, FY06-07 & FY07-08).
- 7.6.3 The Gross generation of GHTP Stage-II (Unit III&IV) for FY 09-10 has been projected based on the respective units' commissioning schedule (Oct'08 & Jan'09) as per CERC norms.

7.7 Auxiliary Consumption

- 7.7.1 Auxiliary Consumption of GNDTP, GGSSTP and GHTP Stage-I (Unit-I&II) for FY08-09 are re-estimated at 11.66%, 8.56% and 9.21 % on the basis of the actual generation data available from the respective stations till Sept'08 for GNDTP, GGSSTP and GHTP Stage-I.
- 7.7.2 Auxiliary consumption projected for FY 09-10 for GNDTP, GGSSTP, GHTP Stage-I and GHTP Stage-II has been estimated at 11.50%, 8.6%, 9.0% and 9.0% respectively.
- 7.7.3 For GHTP Stage-II (Unit III&IV) auxiliary consumption has been projected at 9.0% for FY08-09 & FY 09-10, in accordance with the CERC norms for auxiliary consumption of thermal plants with cooling towers.
- 7.7.4 PSEB submits to the Commission to consider the fact that even though the Auxiliary Consumption of PSEB stations are almost same as the CERC norms,
- a. Auxiliary consumption at GNDTP is lower than the CERC norms (Third Amendment, No.L-7/25(5)/2003-CERC) for similarly aged Tanda station.

- b. For GGSSTP Ropar, the auxiliary consumption is slightly higher than CERC norms. The reason for this is that as per design parameters for 210MW units, 4 coal mills are required to run the plant at full load capacity. But in case of Ropar, due to higher ash content i.e. at more than 40%, 5 mills are required to be run. Thus the total auxiliary consumption increases.
- c. Since auxiliary consumption is specific to a particular plant depending on the kind of the auxiliary equipments installed at the plant and the percentage of auxiliary consumption varies depending on the total generation and quality of coal received. Nothing much can be done to reduce the auxiliary consumption without major Renovation & Modernization.

7.7.5 Considering the above aspects, PSEB submits to the Commission not to disallow any part of the Auxiliary Consumption levels estimated by PSEB for all the thermal generating stations.

7.7.6 Auxiliary power consumption figures as attained by the generating stations for FY07-08 have also been provided

7.8 Details of Generation

7.8.1 The Tables below summarize the performance on various parameters of the three Thermal Power Plants in FY07-08 (Actual), FY08-09 (Revised Estimate) and the Projections for FY 09-10.

Table 7-1 : Thermal Generation: GNDTP – Bhatinda

Generation of Power	FY 07-08	FY 08-09	FY 09-10
GNDTP Bhatinda	Actuals	R E	Projected
Installed Capacity (MW)	440	440	450
Generation (MU)	3,008	2,748	2,330
PLF (%)	77.83%	71.30%	60.45%
Plant Availability (%)	87.53%	87.85%	74.57%
Auxiliary Consumption			
MU	345	320	268
%	11.41%	11.66%	11.50%
Net Generation (MU)	2,663	2,428	2,062

Table 7-2 : Thermal Generation: GGSSTP – Ropar

Generation of Power	FY 07-08	FY 08-09	FY 09-10
GGSSTP Ropar	Actuals	R E	Projected
Installed Capacity (MW)	1,260	1,260	1,260
Generation (MU)	9,806	9,224	9,200
PLF (%)	88.60%	83.57%	83.35%
Plant Availability (%)	91.64%	89.61%	91.20%
Auxiliary Consumption			
MU	828	790	791
%	8.44%	8.56%	8.60%
Net Generation (MU)	8,979	8,434	8,409

Table 7-3 : Thermal Generation: GHTP – Lehra Mohabbat Stage-I (Unit I&II)

Generation of Power	FY 07-08	FY 08-09	FY 09-10
GHTP Lehramohabbat - Stage I	Actuals	R E	Projected
Installed Capacity (MW)	420	420	420
Generation (MU)	3,508	3,391	3,220
PLF (%)	95.10%	92.15%	87.52%
Plant Availability (%)	94.81%	96.17%	92.50%
Auxiliary Consumption			
MU	311	312	290
%	8.87%	9.21%	9.00%
Net Generation (MU)	3,197	3,078	2,930

Table 7-4 : Thermal Generation: GHTP – Lehra Mohabbat Stage-II (Unit III&IV)

Generation of Power	FY 07-08	FY 08-09	FY 09-10
GHTP Lehramohabbat - Stage II	Actuals	R E	Projected
Installed Capacity (MW)	-	500	500
Generation (MU)	-	1,160	3,504
PLF (%)	-	75.82%	80.00%
Plant Availability (%)	-	44.88%	90.00%
Auxiliary Consumption			
MU	-	104	315
%	-	9.00%	9.00%
Net Generation (MU)	-	1,056	3,189

Table 7-5 : Thermal Generation: GHTP – Lehra Mohabbat Stage-II (Trials Runs)

GHTP Lehramohabbat - Stage II	FY 07-08	FY 08-09	FY 09-10
During Trial Runs	Actuals	R E	Proj.
Gross Generation	135	748	-
Auxiliary Consumption	15	74	-
Net Generation	120	674	-

Table 7-6 : Total Thermal Generation

Generation of Power	FY 07-08	FY 08-09	FY 09-10
Total	Actuals	R E	Projected
Installed Capacity (MW)	2,120	2,620	2,630
Generation (MU)	16,322	16,522	18,254
Auxiliary Consumption (MU)	1,483	1,527	1,664
Net Generation (MU)	14,839	14,996	16,590

#Note: The Total & Net Generation does not include Generation during Trial Run of GHTP-Stage-II

7.9 State Generating Stations- Hydel Generation

- 7.9.1 The revised Net Hydel Generation figures for FY08-09 and the projections for FY09-10 excludes 53MUs from the yearly generation of Shanan HEP on account of Royalty payable to the State of H.P. and it also excludes the unit share of H.P. @ 4.6% from the yearly generation of RSPP.
- 7.9.2 The Actual Generation from Anandpur Sahib Hydel Project during the year FY07-08 is 768.60 MUs due to diversion of water from NHC to AHC as a result of which 59.98 MUs were diverted from BBMB. Hence Net Generation for ASHP for FY07-08 stands at 709.62 MU. Similarly for FY08-09, 43.74 MU were diverted to BBMB Net Generation as a result of diversion of water from NHC to AHC upto Sept'08 and hence Net Generation for ASHP for FY08-09 stands at 726 MU.
- 7.9.3 The Net Hydel availability for FY08-09 has been revised to 3840 MU, on the basis of the actual generation figures available till Sept '08 and the revised monthly generation target figures set for the respective Hydel Plants for the period Oct'08 till Mar'09. The Generation from Mukerian Hydel Plant has been revised to 797 MUs as result of low reservoir level (on account of less release of water by Irrigation Authorities) and Capital Maintenance of Machine no. 10. Also, the Generation from UBDC Hydel plant has been revised to 311 MUs due to closure of the hydel channel by Irrigation Authorities for 20 days and also due to less release of water by Irrigation Authorities.
- 7.9.4 The Net Hydel availability for FY 09-10 has been projected at 4604 MU, based on the past three year's average of gross generation for FY05-06, FY06-07 & FY07-08.
- 7.9.5 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. For FY 09-10, auxiliary consumption & transformation losses for the Hydel Plants have been projected at 61 MU and for FY08-09(RE) these losses are projected at 47MU.
- 7.9.6 **Generation Transformer losses:** In case of UBDC Hydel project, GT losses are higher since GT transformers are very old and tender enquiry has already been floated for replacement of existing GT transformer. The Tender is currently under consideration of PPC/ H for opening of the Financial Bids received by PSEB.
- 7.9.7 For Mukerian Hydel Project, GT losses are higher due to old GT transformers (1983), and the proposal will be made for replacement of existing transformers. GT losses for Shanan HEP are higher as the GT transformers are old and it is already proposed to be replaced with new GT Transformers as per R&M scheme approved for the replacement of the existing Transformers for which the tender enquiry has been floated and financial bids of the same are yet to be opened.
- 7.9.8 In view of above the auxiliary consumption and GT losses as projected by the Board may kindly be approved by the Hon'ble Commission.
- 7.9.9 For FY 2007-08 actual Hydel generation figures have also been provided.

Table 7-7 : Hydel Availability from Own Stations

Hydro Generation (Own Stations)	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
Capacity				
Shanan HEP	MW	110	110	110
UBDC Hydel Project	MW	91	91	91
Mukerian Hydel Project	MW	207	207	207
Anandpur Sahib Hydel Project	MW	134	134	134
Ranjit Sagar Project	MW	600	600	600
Micro Hydel Projects	MW	4	4	4
TOTAL	MW	1,146	1,146	1,146
Gross Generation (MU)				
Shanan HEP	MU	540	507	515
UBDC Hydel Project	MU	428	311	448
Mukerian Hydel Project	MU	1,362	797	1,257
Anandpur Sahib Hydel Project	MU	710	726	695
Ranjit Sagar Project	MU	1,538	1,539	1,744
Micro Hydel Projects	MU	7	8	7
TOTAL		4,586	3,888	4,665
Aux Consumption (MU)	MU	8	8	61
Transformation Losses (MU)	MU	50	39	
Net Hydel Generation (MU)	MU	4,527	3,840	4,604
Diversion to BBMB from ASHP	MU	59	44	
Royalty from Shanan to HP (MU)	MU	53	53	53
Share from RSD to HP (MU)	MU	70	71	80

7.10 Hydel Availability- BBMB share

- 7.10.1 The Net Hydel availability from BBMB and Common Pool Share for the current year (FY08-09) has been revised at 4,390 MU (including Common pool), which has been computed by taking into consideration the actual till Sept'08. The external Losses for the BBMB energy excluding common pool share have been considered at 3.95 %.

Table 7-8: Net Hydel Availability from BBMB Share

BBMB Share & Common Pool	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
BBMB				
PSEB Share	MU	4,327	4,256	4,323
Common Pool Share	MU	302	303	302
Gross Availability	MU	4,629	4,558	4,625
External Losses on BBMB	%	3.95%	3.95%	3.95%
Net Availability	MU	4,458	4,390	4,454

7.10.2 The Net Hydel availability from BBMB and Common Pool Share for FY 09-10 has been projected at 4454 MU, on the basis of 3 year’s average of gross PSEB share for FY05-06, FY06-07 & FY07-08. The External Losses applicable for BBMB energy excluding Common Pool Share have been considered as per FY’08 figures of 3.95%.

7.11 Total Hydel Availability

7.11.1 The following table details the net hydel availability for the state including Generation for Own Hydel Plants, BBMB Share and Common Pool Share.

Table 7–9 : Net Hydel Availability for PSEB

Total Hydel Availability	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
Net Generation (Own Stations)	MU	4,527	3,840	4,604
BBMB Share	MU	4,156	4,088	4,152
Common Pool Share	MU	302	303	302
NET HYDEL AVAILABILITY	MU	8,986	8,231	9,058

8 ENERGY BALANCE

- 8.1.1 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 11.56 % from FY08-09 to FY09-10.
- 8.1.2 On the availability side, own generation from thermal plants is expected to go up by 5.87% in FY09-10 with the Commissioning of Thermal Plant, GHTP Lehra Mohabbaat - Stage II. The Unit III of GHTP Lehra Mohabbaat started Commercial Operation from 16th Oct '08 and Unit IV will start Commercial Operation from 1st Jan '09.
- 8.1.3 The Hydel availability to PSEB from own generation stations and BBMB is estimated to increase by 10.05% in FY09-10.

Table 8-1 : Energy Balance (MUs)

Energy Balance (MU)	Units	FY 07-08 Actuals	FY 08-09 R E	FY 09-10 Proj.	Growth %
ENERGY REQUIREMENT					
Energy Sales					
Metered Consumers	MU	20,214	20,898	22,511	7.72%
AP Consumers	MU	10,030	9,766	11,699	19.79%
Total Energy Sales (Within State)	MU	30,244	30,665	34,210	11.56%
T&D Losses %					
T&D Losses	%	22.53%	21.00%	19.50%	
Energy Sales					
Common Pool	MU	302	303	302	
Outside State	MU	1,576	1,541	1,307	
Total Energy Requirement		40,918	40,660	44,106	8.47%
ENERGY AVAILABILITY					
Net Thermal Generation	MU	14,959	15,670	16,590	5.87%
Net Hydel Generation (Own+Shared)	MU	8,986	8,231	9,058	10.05%
Net Power Purchase	MU	16,974	16,759	18,458	10.14%
Total Energy Availability	MU	40,918	40,660	44,106	8.47%

9 FUEL COST

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

- a. Generation (as determined in Chapter 7)
- b. Specific Oil Consumption and Oil Prices
- c. Station Heat Rate
- d. Coal Transit Loss
- e. Price and Calorific Value of Coal

9.1.2 The projected figure of the fuel cost parameters for FY 09-10, the Revised Estimates for FY08-09 and the actuals for FY07-08 is discussed in detail as under.

9.2 Specific Oil Consumption and Oil Prices

9.2.1 The Specific Oil Consumption of GGSSTP, GHTP Stage-I plants are taken on the basis of actual Oil Consumption for the current year till Sept'08 and in accordance with CERC Norms for the second half of FY08-09 and the ensuing year FY 09-10.

9.2.2 The Specific Oil Consumption of GNDTP has been estimated on the basis of actual Oil Consumption for the current year till Sept'08 and also projected on the basis of actuals for the second half of FY08-09 and the ensuing year FY 09-10

9.2.3 The Specific Oil Consumption for GNDTP for FY08-09 (first six months) is on higher side due to A.O.H (Annual Overhauling) of Unit I & II during Apr'08 & May'08 and running of units on less load (with oil support) due to receipt of poor/wet coal being supplied to the plant because of heavy rains in the coal mine areas & enroute during June'08, July'08 and Aug'08.

9.2.4 For GNDTP, GGSSTP and GHTP Stage-I (Unit-I&II) specific oil consumption is estimated at 2.93 ml/Kwh, 1.55ml/Kwh and 1.73 ml/Kwh for FY08-09(Revised Estimate).

9.2.5 For GHTP Stage-II (Unit-III&IV), specific oil consumption is estimated in accordance with the CERC norm for the consumption of secondary oil for thermal plants as 2.0ml/Kwh for FY08-09(Revised Estimate) and FY 09-10. PSEB submits to the Hon'ble Commission that fuel cost of GHTP Stage II (Unit 3 & 4) has been booked under capital cost of the plants and hence the cost of generation of units of GHTP Stage II (Unit 3 & 4) has not been considered as operational (fuel) costs.

9.2.6 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.

9.2.7 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.

9.2.8 The prices of oil for FY08-09 and FY 09-10 have been projected based on the actual average price for the respective Generating stations (six month FY08-09 figures till Sept'08 for GNDTP, GGSSTP & GHTP Stage-I) in line with the Commission's view that any change in the fuel prices (uncontrollable element in ARR) is recoverable as Fuel Cost Adjustment.

9.2.9 For GHTP Stage-II, average oil prices as determined for GHTP Stage-I have been considered for FY08-09 & FY09-10.

9.3 Station Heat Rate

9.3.1 The Station Heat Rate for GHTP Stage-I (Unit-I&II) and GNDTP has been taken on the basis of the actual data available from the respective stations till Sept'08 and CERC Norms for the second half of FY08-09. The Station Heat Rate for GHTP Stage-I (Unit-I&II) and GNDTP has been taken as 2499 Kcal/Kwh and 3037 Kcal/Kwh for FY08-09.

9.3.2 The Board submits to the Hon'ble Commission that GNDTP's SHR at 3037 KCal/kWh and 3047 KCal/kWh for FY 08-09 and FY 07-08 need to be seen in the light of the fact that the station is over 25 years old and are fully depreciated.

9.3.3 For similar type of units (Units I-IV of 110MW each) at Panipat Thermal Plant, the Haryana Electricity Regulatory Commission (HERC) has fixed the targets for SHR as 3200Kcal/Kwh. And for Units V&VI (210MW each), HERC has allowed SHR of 2600Kcal/Kwh which is above the CERC norms considering the vintage of the Units. Based on above, PSEB submits to the Hon'ble Commission not to disallow any part of the SHR levels estimated by PSEB citing the vintage nature of GNDTP units. The abstract of the HERC's Order on Generation Tariff for Haryana Power Generation Corporation Limited dated 8th May 2007 is attached with this Petition in Volume II.

9.3.4 The Board further submits that the Board has already submitted a Review Petition against the Tariff Order FY 08-09 issued by the Hon'ble Commission seeking review and modifications for Station Heat Rate and Auxiliary Consumption as allowed for GNDTP, Bhatinda Power Plant. The same has been discussed in detail in the Review Petition (Petition No. 14 of 2008) as Section 5.3 to 5.9.

9.3.5 The Station Heat Rate for GHTP Stage-I (Unit-I&II) and GNDTP has been taken as 2500 Kcal/Kwh and 3000 Kcal/Kwh respectively for the ensuing year FY 09-10 in accordance with CERC Norms.

9.3.6 The Station Heat Rate for GGSSTP has been taken on the basis of the actual data available till Sept'08. The Station Heat Rate for GGSSTP has been taken as 2692 Kcal/Kwh FY08-09 after considering the fact that two of the six units at GGSSTP are more than 22 years old.

9.3.7 It is submitted to the Hon'ble Commission that in the matter of Approval of Tariff in respect of Badarpur Thermal Power Station, for the period from 1.4.2004 to 31.3.2009, CERC (order

dated 14/09/2005) has allowed SHR of 2885 Kcal/Kwh as per actuals. In the case of Badarpur Thermal Power Station, the units of 95 MW have already outlived their rated life and the units of 210 MW are nearing completion of their rated life and as such CERC has deemed that it would not be reasonable to apply station heat rate norms applicable to the rated life of the generating station.

- 9.3.8 The Station Heat Rate for GGSSTP has been projected for FY 09-10 on the basis of the previous year's data and has been taken as 2702 Kcal/Kwh which is lower than Badarpur Thermal Station's SHR as allowed by CERC.
- 9.3.9 Station heat rate of GHTP Stage-II (Unit-III&IV) for FY08-09 and FY 09-10 has been considered as 2500 Kcal/Kwh in accordance with CERC norms.
- 9.3.10 The Board submits to the Hon'ble Commission to approve the Station Heat Rate at the levels submitted herein by PSEB, without any disallowance. Further the Board requests the Commission to appreciate that the SHR for any generating station deteriorates with the passage of time and considering the same SHR for all plants irrespective of their age profile would result in the under recovery of the fuel cost.
- 9.3.11 For FY07-08 Station Heat Rate figures attained by the three thermal generating stations have also been provided.
- 9.3.12 The Board further submits that the Board has already submitted a Petition for Amendment/Modification/Substitution of the provisions of the Terms & Conditions for Determination of Tariff regulations 2005 which has been admitted as Petition No. 15 of 2008 by the Hon'ble Commission
- 9.3.13 As detailed in the Petition submitted by the Board, the Board requests the Hon'ble Commission to consider the Fuel Cost (SHR and Other Norms) as per CERC norms. PSEB submits that norms for determining Station Heat Rate should be In accordance with the methodology as adopted by CERC. PSEB submits to the Hon'ble Commission that the Hon'ble Commission revise the Station Heat Rate from NCV (Net Calorific Value) to GCV (Gross Calorific Value (as fired)).

9.4 Coal Transit Loss

- 9.4.1 Coal Transit loss for GNDTP and GHTP Stage-I & II have been taken on the basis of the actual data available from the respective stations till Sept'08 and CERC Norms for the second half of FY08-09
- 9.4.2 Coal Transit loss for GNDTP and GHTP Stage-I & II has been assumed to be 2% for the year FY 09-10, as per the values approved by the Commission in the Tariff Order for FY 08-09.
- 9.4.3 For GGSSTP, the Coal Transit loss for FY08-09 has been taken on the basis of the actual data available and projection for the second half of FY08-09. The Coal Transit loss for GGSSTP for FY 09-10 has been done on the basis of projections for the second half of FY 08-09 and taken as 2.0%.

- 9.4.4 The Board 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. The Board should not in any manner be penalized for the impact of such external factors.
- 9.4.5 The Coal Transit Loss mainly arises on account of:
- Natural phenomena during transportation of coal;
 - Loss of coal in transit due to theft, pilferage, etc
- 9.4.6 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 being susceptible to the higher losses.
- 9.4.7 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.
- 9.4.8 PSEB submits that the norms specified by the Central Electricity Regulatory Commission are based on actual transit and handling losses for the NTPC coal based stations. CERC in its letter no. 20/5(102)/2003-CERC dated 22nd July 2005 has clarified that section 61(a) of the Electricity Act 2003 provides that the appropriate Commission shall be guided by the principle and methodology specified by the Central Commission for determination of tariff applicable to generating companies and transmission licensees. The State Electricity Regulatory Commissions are not barred from adopting their own norms after going into the merits of the specific cases and relevant factors specific to the State Generating Station. The Board submits to the Hon'ble Commission to approve the coal transit loss for the generating stations without any disallowance based on the actual figures.
- 9.4.9 Actual Coal Transit Loss figures for the three stations have been provided for FY07-08.

9.5 Price and Calorific Value of Coal

- 9.5.1 The price of coal for FY 09-10 and FY08-09 (Revised Estimate) has been projected on the basis of the actual average coal prices for the respective stations -GNDTP, GGSSTP, GHTP Stage-I (Unit-I&II) till Sept'08. Since the 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 Hon'ble Commission's stand in the Tariff Order for 2008-09.
- 9.5.2 The prices of coal including transit loss for GNDTP, GGSSTP and GHTP Stage-I & Stage-II, has been projected as Rs 2458/Tonne, Rs 2485/Tonne and Rs 2490/Tonne respectively for the year FY08-09 (second half) and FY 09-10.
- 9.5.3 For GHTP Stage-II (Unit-III&IV), average coal price for GHTP Stage-I have been considered for FY08-09 & FY 09-10. Any change in the coal prices projected will be recoverable through the Fuel Cost Adjustment.

- 9.5.4 The calorific value of coal for the year FY 09-10 and FY08-09 (Revised Estimate) has been projected as per the actual average calorific value figures for the different generating stations - GNDTP, GGSSTP and GHTP Stage-I (Unit-I&II) till Sept'08. Any changes in the actual calorific value achieved by the different Stations will be shown in the Fuel Cost Adjustment filing by PSEB.
- 9.5.5 The calorific value of coal for GNDTP, GGSSTP and GHTP Stage-I has been taken as 4100 Kcal/Kg, 4015 Kcal/Kg, and 4050 Kcal/Kg respectively for FY 09-10
- 9.5.6 For GHTP Stage-II (Unit-III&IV), calorific value coal of GHTP Stage-I (Unit-I&II) has been considered for FY08-09 and FY 09-10, viz., 4050kcal/ kg. Any change in the actual calorific value achieved will be reflected in the Fuel Cost Adjustment.
- 9.5.7 For FY07-08 actual figures of coal prices and the calorific value for the three Thermal generating stations have been provided.

Table 9-1 : Price of Coal (including & excluding Transit losses)

Particulars	Units	FY 07-08	FY 08-09	FY 09-10
GNDTP Bhatinda		Actuals	R E	Proj.
Coal Transit Loss	%	2.04%	1.04%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,313	2,341	2,341
Price of Coal (excl Transit Loss)	Rs/Tonne	2,267	2,317	2,295
GGSSTP Ropar				
Coal Transit Loss	%	2.50%	1.85%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,397	2,485	2,485
Price of Coal (excl Transit Loss)	Rs/Tonne	2,338	2,440	2,436
GHTP Lehramohabbat - Stage I				
Coal Transit Loss	%	1.49%	1.03%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,354	2,370	2,370
Price of Coal (excl Transit Loss)	Rs/Tonne	2,319	2,346	2,324
GHTP Lehramohabbat - Stage II				
Coal Transit Loss	%	-	2.00%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	-	2,490	2,490
Price of Coal (excl Transit Loss)	Rs/Tonne	-	2,441	2,441

9.6 Summary of Fuel Cost of Thermal Stations

9.6.1 The Tables below summarizes the performance on various parameters of the three Thermal plants in FY07-08 (Actuals), FY08-09 (Revised Estimate) and the Projection for FY 09-10.

Table 9–2 : Thermal Generation Cost: GNDTP – Bhatinda

GNDTP Bhatinda	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
.				
Capacity	MW	440	440	450
Availability Factor	%	87.53%	87.85%	74.57%
Plant Load Factor	%	77.83%	71.30%	60.45%
Auxiliary Consumption	%	11.41%	11.66%	11.50%
Station Heat Rate	Kcal/kWh	3,047	3,037	3,000
Sp. Oil Consumption	ml/kWh	1.39	2.93	3.50
Calorific Value of Indian Coal	Kcal/kg	4,181	4,156	4,100
Calorific Value of Oil	Kcal/L	10,056	10,100	10,100
Coal Transit Loss	%	2.04%	1.04%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,313	2,341	2,341
Price of Oil	Rs/KL	23,383	28,195	28,195
Specific Coal Consumption - Indian Coal	kg/kWh	0.73	0.73	0.72
.				
Gross Generation	MU	3,008	2,748	2,330
Auxiliary Consumption	MU	345	320	268
Net Generation	MU	2,663	2,428	2,062
Coal Consumption (excl Transit Loss)	Tonnes	21,84,720	19,99,526	16,84,789
Oil Consumption	KL	4,181	8,059	8,155
Coal Cost	Rs Cr	505	468	394
Oil Cost	Rs Cr	9.78	22.72	22.99
Total Fuel Cost	Rs Cr	515	491	417
Fuel Cost/Unit Gross	Rs/U	1.71	1.79	1.79
Fuel Cost/Unit Net	Rs/U	1.93	2.02	2.02

Table 9-3 : Thermal Generation Cost: GGSSTP – Ropar

GGSSTP Ropar	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
.				
Capacity	MW	1,260	1,260	1,260
Availability Factor	%	91.64%	89.61%	91.20%
Plant Load Factor	%	88.60%	83.57%	83.35%
Auxiliary Consumption	%	8.44%	8.56%	8.60%
Station Heat Rate	Kcal/kWh	2,709	2,692	2,702
Sp. Oil Consumption	ml/kWh	1.16	1.55	2.00
Calorific Value of Indian Coal	Kcal/kg	3,972	4,043	4,015
Calorific Value of Oil	Kcal/L	10,000	10,000	10,000
Coal Transit Loss	%	2.50%	1.85%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,397	2,485	2,485
Price of Oil	Rs/KL	23,254	32,238	32,238
Specific Coal Consumption - Indian Coal	kg/kWh	0.68	0.66	0.67
.				
Gross Generation	MU	9,806	9,224	9,200
Auxiliary Consumption	MU	828	790	791
Net Generation	MU	8,979	8,434	8,409
Coal Consumption (excl Transit Loss)	Tonnes	66,59,874	61,05,511	61,45,600
Oil Consumption	KL	11,366	14,291	18,400
Coal Cost	Rs Cr	1,596	1,517	1,527
Oil Cost	Rs Cr	26.43	46.07	59.32
Total Fuel Cost	Rs Cr	1,623	1,563	1,587
Fuel Cost/Unit Gross	Rs/U	1.65	1.69	1.72
Fuel Cost/Unit Net	Rs/U	1.81	1.85	1.89

Table 9-4 : Thermal Generation Cost: GHTP – Lehra Mohabbat Stage-I (Unit I&II)

GHTP Lehramohabbat - Stage I	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
.				
Capacity	MW	420	420	420
Availability Factor	%	94.81%	96.17%	92.50%
Plant Load Factor	%	95.10%	92.15%	87.52%
Auxiliary Consumption	%	8.87%	9.21%	9.00%
Station Heat Rate	Kcal/kWh	2,446	2,499	2,500
Sp. Oil Consumption	ml/kWh	0.23	1.73	2.00
Calorific Value of Indian Coal	Kcal/kg	4,153	4,047	4,050
Calorific Value of Oil	Kcal/L	9,400	9,400	9,400
Coal Transit Loss	%	1.49%	1.03%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,354	2,370	2,370
Price of Oil	Rs/KL	19,250	30,137	30,137
Specific Coal Consumption - Indian Coal	kg/kWh	0.59	0.61	0.61
.				
Gross Generation	MU	3,508	3,391	3,220
Auxiliary Consumption	MU	311	312	290
Net Generation	MU	3,197	3,078	2,930
Coal Consumption (excl Transit Loss)	Tonnes	20,64,811	20,79,987	19,72,707
Oil Consumption	KL	800	5,882	6,440
Coal Cost	Rs Cr	486	493	468
Oil Cost	Rs Cr	1.54	17.73	19.41
Total Fuel Cost	Rs Cr	488	511	487
Fuel Cost/Unit Gross	Rs/U	1.39	1.51	1.51
Fuel Cost/Unit Net	Rs/U	1.53	1.66	1.66

Table 9-5 : Thermal Generation Cost: GHTP – Lehra Mohabbat Stage-II (Unit III&IV)

GHTP Lehramohabbat - Stage II	Units	FY 08-09	FY 08-09	FY 09-10
		Oct - Mar(P)	R E	Proj.
.				
Capacity	MW	500	500	500
Availability Factor	%	90.00%	44.88%	90.00%
Plant Load Factor	%	75.82%	75.82%	80.00%
Auxiliary Consumption	%	9.00%	9.00%	9.00%
Station Heat Rate	Kcal/kWh	2,500	2,500	2,500
Sp. Oil Consumption	ml/kWh	2.00	2.00	2.00
Calorific Value of Indian Coal	Kcal/kg	4,050	4,050	4,050
Calorific Value of Oil	Kcal/L	9,400	9,400	9,400
Coal Transit Loss	%	2.00%	2.00%	2.00%
Price of Coal (incl Transit Loss)	Rs/Tonne	2,490	2,490	2,490
Price of Oil	Rs/KL	30,137	30,137	30,137
Specific Coal Consumption - Indian Coal	kg/kWh	0.61	0.61	0.61
.				
Gross Generation	MU	1,160	1,160	3,504
Auxiliary Consumption	MU	104	104	315
Net Generation	MU	1,056	1,056	3,189
Coal Consumption (excl Transit Loss)	Tonnes	7,10,665	7,10,665	21,46,697
Oil Consumption	KL	2,320	2,320	7,008
Coal Cost	Rs Cr	177	177	535
Oil Cost	Rs Cr	6.99	6.99	21.12
Total Fuel Cost	Rs Cr	184	184	556
Fuel Cost/Unit Gross	Rs/U	1.59	1.59	1.59
Fuel Cost/Unit Net	Rs/U	1.74	1.74	1.74

Table 9-6 : Thermal Generation for GHTP - Stage II during Trial Runs (FY07-08 & FY08-09)

GHTP Lehramohabbat - Stage II	Units	FY 07-08	FY 08-09
During Trial Runs		Actuals	R E
Gross Generation	MU	135	748
Auxiliary Consumption	MU	15	74
Net Generation	MU	120	674

Note: Fuel cost of GHTP Stage II (Unit 3 & 4) during Trial Run has been booked under capital cost of the plants.

Table 9-7 : Total Thermal Generation Cost

TOTAL THERMAL GENERATION	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
Gross Generation	MU	16,457	17,271	18,254
Auxiliary Consumption	MU	1,498	1,601	1,664
Net Generation	MU	14,959	15,670	16,590
Coal Consumption	Tonnes	1,09,09,405	1,08,95,689	1,19,49,794
Oil Consumption	KL	16,347	30,551	40,003
Coal Cost	Rs Cr	2,588	2,655	2,924
Oil Cost	Rs Cr	38	94	123
Total Fuel Cost	Rs Cr	2,625	2,749	3,047
Fuel Cost/Unit Gross	Rs/U	1.60	1.59	1.67
Fuel Cost/Unit Net	Rs/U	1.76	1.75	1.84

10 POWER PURCHASE

- 10.1.1 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.
- 10.1.2 The major sources from which PSEB procures Power are:
- a. NTPC
 - b. NHPC
 - c. NPC
 - d. Co-Generation
 - e. Banking Arrangements
- 10.1.3 The power purchase details for Sep'08, power purchase bills have been attached in Volume IV for the kind reference of the Commission.
- 10.1.4 The total allocated share available for the Northern region from each of the stations is 85%. The state of Punjab receives fixed allocated share from each of the external sources to meet its energy requirements. Moreover, Punjab also receives a quantum of electricity from the unallocated share of 15% at different intervals during a year.
- 10.1.5 The percentage share of power received for FY08-09 and FY 09-10 from the respective central generating stations has been kept at the levels approved by the Hon'ble Commission in TO for FY 08-09. 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 to estimate the 3 Year average, the actual share allocation for FY 08-09 (Apr '08 to Sep '08) has been taken.

Table 10–1 : CGS: Percentage Firm Allocation and Total Percentage Share for Punjab

STATIONS	Firm Allocation (% Share)	FY 08-09 & FY 09-10 (% Share)
NTPC		
Anta	11.69	12.82
Auraiya	12.52	13.25
Dadri Gas	15.90	16.45
Farakha(ER)*	4.18	17.92
Kahalgaon-I (ER)*	12.27	18.98
Kahalgaon-II (ER)*	3.53	14.62
Rihand-I	11.00	12.10
Rihand-II*	10.20	12.38
Singrauli	10.00	11.07
Unchahar-I	8.57	9.19
Unchahar-II	14.28	16.48
Unchahar-III*	8.10	10.21
NHPC		

STATIONS	Firm Allocation (% Share)	FY 08-09 & FY 09-10 (% Share)
Bairasuil	46.50	46.48
Salal	26.60	26.61
Tanakpur	17.93	15.75
Uri	13.75	13.75
Chamera-I	10.20	10.14
Chamera-II	10.00	17.69
D.Ganga*	10.00	12.31
Dulhasti*	8.28	10.56
NPC		
NAPP	11.59	12.75
RAPP-3	22.73	21.37
RAPP-4	22.73	21.12
RAPP-5*		10.40
RAPP-6*		11.22
Other Sources		
NJPC	10.13	10.13
Tehri	7.70	7.70

*Note: Actual share allocation for FY 08-09 (Apr '08 to Sep '08) taken for Plants where past data is not available to estimate the 3 Year average

10.2 Assessment of Availability

- 10.2.1 Though the availability from own generation (Thermal and Hydel (Own stations +BBMB)) in FY 09-10 is expected to be higher than FY 08-09, PSEB still has to procure high cost 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 FY 09-10 over FY 08-09
- 10.2.2 In FY 08-09, Total Sale (MUs) within the state is expected to increase by 1.39% over the sales figures of FY07-08. The net Hydel generation is expected to decrease by 8.40% over the figures of FY07-08. The net thermal generation is expected to increase by 4.75% as compared to FY07-08. As the Energy Requirement (MUs) is not increasing by a substantial amount in FY 08-09, the net power purchase for FY 08-09 is expected to decrease by a nominal value of 1.26% i.e. from 16974 MUs in FY07-08 to 16759 MUs in FY08-09.
- 10.2.3 For FY09-10, the total Energy requirement within the state is expected to increase approximately by 11.56%, where as the net thermal availability is expected to go up by 5.87%.The net Hydel availability (Own stations +BBMB) is expected to increase by 10.05% during the year FY09-10 as compared to FY08-09.Considering all these factors, the net energy requirement is expected to increase by 8.47% i.e. from 40660MUs in FY08-09 to 44106 MUs in FY09-10. The Net Power Purchase is expected to increase from 16759 MUs in FY08-09 to 18458 MUs in FY09-10.
- 10.2.4 External Transmission losses are actual figures for the year FY 08-09 upto September. Losses for Power received from Western Region & Eastern Region has been taken as 8.79% & 7.15%

respectively .Projected losses for the second half of the year FY08-09 received from Northern Region has been taken as the average of NR losses during the second half of FY07-08.

- 10.2.5 Availability projections from various stations for the year FY09-10 has been based upon the average of energy received for the last 3 years 2005-06 to 2007-08. Projections for the second half of the year FY08-09 are based upon the LGBR (Load Generation Balance Report) for the same period circulated by NRPC.
- 10.2.6 For Unchahar-III and Dulhasti stations, energy has been projected based on average energy figures of FY07-08 & FY08-09. In the case of Dhauliganga & Rihand –II average energy of last 2 years has been considered (FY06-07 & FY07-08).For Tala & Tehri average energy figures of FY07-08 & FY08-09 (where available) or energy figures of FY06-07 have been considered wherever they are not available for year FY07-08
- 10.2.7 The commercial operation of Kahalgaon Stage II has been considered as follows: Unit#2 has been considered operational from Dec '08 onwards and Unit#3 from Apr '09 respectively. Energy received from Mejia TPS has been considered to be received w.e.f. Nov 08
- 10.2.8 Projection of power received from RAPS-5 and RAPS-6 has been calculated based on the assumption that RAPS-5 is to be commercially operational w.e.f. Jan '09 and RAPS-6 is to be commercially operational from May '09. Power drawn has accordingly been reflected corresponding to PSEB share of 45MW. Similarly, projection of power received from GHTP –II, Unit IV has been considered to be commercially operative w.e.f. 1st Jan '09.
- 10.2.9 The following new power stations have been considered commercially operational as per the dates mentioned against each:
- Malana –II, Unit 1 w.e.f Jul '09 and Unit 2 w.e.f Aug '09 of which PSEB share is 100 MW.
 - Sewa –II , Unit 1 w.e.f May '09 ,Unit 2 w.e.f Jun '09, unit 3 w.e.f Jul '09 of which PSEB share is 16.5 MW
 - Koldam , Unit 1 w.e.f Dec '09 ,Unit 2 w.e.f Feb '10, unit 3 w.e.f. Mar '10 of which PSEB share is 111 MW

Table 10–2 : Power Purchase (MU)

POWER PURCHASE (MU)	Units	FY 07-08	FY 08-09	FY 09-10
Sources		Actuals	R E	Proj.
NTPC				
Anta (G/F)	MU	278.41	285.52	290.07
Anta (R/F)	MU	30.81	6.70	30.77
Anta (L/F)	MU	42.03	27.32	34.93
Auraiya (G/F)	MU	423.23	433.93	441.95
Auraiya (R/F)	MU	50.28	7.23	50.25
Auraiya (L/F)	MU	50.90	60.66	58.34

POWER PURCHASE (MU)	Units	FY 07-08	FY 08-09	FY 09-10
Sources		Actuals	R E	Proj.
Dadri Gas (G/F)	MU	581.64	710.47	653.87
Dadri Gas (R/F)	MU	56.57	1.26	56.57
Dadri Gas (L/F)	MU	189.97	160.18	132.46
Singrauli	MU	1,693.32	1,635.53	1,565.70
Rihand-I	MU	961.15	888.04	862.29
Rihand-II	MU	893.36	878.83	876.96
Unchahar-I	MU	284.60	264.03	286.12
Unchahar-II	MU	520.77	489.30	485.79
Unchahar-III	MU	161.13	149.52	157.61
Farakha (ER)	MU	293.49	305.82	201.14
Kahalgaon-I (ER)	MU	634.59	567.93	349.96
Kahalgaon-II (ER)	MU		292.90	886.07
Kawas(WR)	MU	30.53	31.48	31.48
Jhanor Gandhar(WR)	MU	0.07	1.29	1.29
Koldam	MU			22.18
NHPC				
Bairasuil	MU	276.03	325.53	317.57
Salal	MU	852.31	778.27	893.28
Tanakpur	MU	65.74	68.79	69.07
Chamera-I	MU	212.33	215.93	227.87
Chamera-II	MU	170.41	233.20	366.09
Uri	MU	351.03	288.42	169.48
Dhaulti Ganga	MU	141.40	131.77	131.61
Dulhasti	MU	270.09	207.36	241.61
Sewa II	MU			60.11
NPC				
NAPP	MU	72.67	103.26	139.53
RAPP-3	MU	238.09	215.01	256.72
RAPP-4	MU	225.75	238.01	263.47
RAPP 5 & 6	MU		29.16	226.80
OTHER SOURCES				
Co-Gen. including Jalkheri	MU	234.00	208.79	230.88
Short Term Purchase within Punjab	MU	118.68	99.43	88.41
BANKING				
HPSEB	MU	180.28	293.74	276.72
Rajasthan	MU	89.09	106.38	106.38
UPCL	MU	145.87	185.63	161.93
J&K	MU	320.57	248.31	227.08
NJPC	MU	725.03	726.86	696.93
Tehri	MU	226.54	284.49	244.20
Mejia(DVC)	MU		92.41	223.38
Baglihar	MU			598.07
Malana-II	MU			250.85
TRADERS	MU	2,634.90	4,307.49	4,992.32

POWER PURCHASE (MU)	Units	FY 07-08	FY 08-09	FY 09-10
Sources		Actuals	R E	Proj.
Tala(Through PTC) included in Traders	MU			
UI	MU	1,952.43	343.12	
UI (State)	MU		-3.95	
Reactive Charges	MU			
Banking Through Traders	MU	1,132.49	821.28	622.17
OTHER CHARGES				
PGCIL	MU			
NRLDC	MU			
Open Access Charges	MU			
Gross Power Purchase Total I	MU	17,812.59	17,746.65	19,558.33
Net Power Purchase Total	MU	16,973.77	16,759.32	18,458.21

10.3 Power Purchase Cost

- 10.3.1 The power purchase cost for each station is estimated as per the capacity charges and the variable charges for each station.
- 10.3.2 The capacity charges for the NTPC stations have been considered as per the CERC orders issued for the respective stations. Where CERC has not issued any orders, the actual bills have been considered for estimating the capacity charges. The Sep '08 bills of NTPC stations are attached with Volume IV for reference.
- 10.3.3 The variable charges for respective stations for FY 08-09 have been taken as per actual variable charges of Sep '08. For FY09-10 the variable charges have been taken as 5% above FY 08-09 levels and should be trued up to the actuals in future.
- 10.3.4 For FY 09-10, the variable rate (VR) for Traders has been assumed the same as that of FY 08-09. The variable rates (VR) for RAPP-6 has been assumed the same as that of RAPP-4 for FY09-10
- 10.3.5 Per unit fixed cost (FC) and Others Cost projections for Oct '08 –Mar '08-09 & FY09-10 have been taken in the same ratio as that for Apr '08-Sep '08.
- 10.3.6 While making Projection for AFC; its values for the year FY09-10 has been assumed the same as that of year FY08-09 due to lack of any notification on AFC by CERC for year FY09-10.
- 10.3.7 The Table below shows the total power purchase in absolute amounts for previous year, current year and the next year

Table 10-3 : Gross Power Purchase Cost for FY06-07, FY07-08(RE), FY08-09(Proj) (Rs. Cr)

Power Purchase	FY 07-08	FY 08-09	FY 09-10	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.	Actuals	R E	Proj.
	MU	MU	MU	Rs. Cr.	Rs. Cr.	Rs. Cr.
NTPC						
Anta (G/F)	278.41	285.52	290.07	44.19	43.77	47.37
Anta (R/F)	30.81	6.70	30.77	13.22	6.12	30.73
Anta (L/F)	42.03	27.32	34.93	37.55	31.52	41.37
Auraiya (G/F)	423.23	433.93	441.95	74.65	77.06	82.71
Auraiya (R/F)	50.28	7.23	50.25	22.65	8.08	61.30
Auraiya (L/F)	50.90	60.66	58.34	46.95	83.28	79.73
Dadri Gas (G/F)	581.64	710.47	653.87	122.19	130.69	125.11
Dadri Gas (R/F)	56.57	1.26	56.57	24.05	0.97	45.84
Dadri Gas (L/F)	189.97	160.18	132.46	136.77	122.05	108.59
Singrauli	1,693.32	1,635.53	1,565.70	205.67	218.23	219.35
Rihand-I	961.15	888.04	862.29	164.89	161.04	165.80
Rihand-II	893.36	878.83	876.96	153.43	159.04	167.45
Unchahar-I	284.60	264.03	286.12	58.19	58.93	67.11
Unchahar-II	520.77	489.30	485.79	98.10	100.78	105.58
Unchahar-III	161.13	149.52	157.61	33.96	35.80	39.66
Farakha (ER)	293.49	305.82	201.14	54.14	56.13	37.84
Kahalgaon-I (ER)	634.59	567.93	349.96	120.86	104.85	62.61
Kahalgaon-II (ER)		292.90	886.07		52.31	162.38
Kawas(WR)	30.53	31.48	31.48	27.82	23.12	24.23
Jhanor Gandhar(WR)	0.07	1.29	1.29	0.03	0.84	0.88
Koldam			22.18			7.39
NHPC						
Bairasuil	276.03	325.53	317.57	29.58	30.01	30.51
Salal	852.31	778.27	893.28	63.71	57.47	68.90
Tanakpur	65.74	68.79	69.07	8.35	8.97	9.31
Chamera-I	212.33	215.93	227.87	31.30	29.98	32.64
Chamera-II	170.41	233.20	366.09	51.00	67.82	108.08
Uri	351.03	288.42	169.48	58.62	40.80	24.72
Dhaulti Ganga	141.40	131.77	131.61	26.23	26.02	26.56
Dulhasti	270.09	207.36	241.61	74.33	65.78	77.71
Sewa II			60.11			20.02
NPC						
NAPP	72.67	103.26	139.53	14.28	19.66	27.89
RAPP-3	238.09	215.01	256.72	65.03	59.28	74.44
RAPP-4	225.75	238.01	263.47	63.83	65.63	76.39
RAPP 5 & 6		29.16	226.80		8.05	65.76
OTHER SOURCES						
Co-Gen. including Jalkheri	234.00	208.79	230.88	87.41	78.68	91.77
Short Term Purchase within Punjab	118.68	99.43	88.41	42.60	36.61	34.26
BANKING						

Power Purchase	FY 07-08	FY 08-09	FY 09-10	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.	Actuals	R E	Proj.
	MU	MU	MU	Rs. Cr.	Rs. Cr.	Rs. Cr.
HPSEB	180.28	293.74	276.72	42.16	88.16	87.20
Rajasthan	89.09	106.38	106.38	37.55	74.79	78.53
UPCL	145.87	185.63	161.93	47.84	61.18	56.04
J&K	320.57	248.31	227.08	143.66	124.16	119.22
NJPC	725.03	726.86	696.93	186.95	179.60	175.28
Tehri	226.54	284.49	244.20	102.55	113.18	100.20
Mejia(DVC)		92.41	223.38		21.79	55.30
Baglihar			598.07			199.20
Malana-II			250.85			83.55
TRADERS	2,634.90	4,307.49	4,992.32	1,537.94	2,722.55	3,155.38
Tala(Through PTC) included in Traders						
UI	1,952.43	343.12		873.18	230.98	
UI (State)		-3.95			-2.52	
Reactive Charges				4.13	1.74	
Banking Through Traders	1,132.49	821.28	622.17	748.04	574.97	457.35
OTHER CHARGES						
PGCIL				215.29	236.00	236.00
NRLDC				0.05	0.07	0.07
Open Access Charges				25.47	11.03	9.29
Total	17,812.59	17,746.65	19,558.33	6,020.42	6,507.04	7,264.61

10.4 Average Cost of Power

10.4.1 On the basis of station-wise estimated Power purchase cost and Gross Power Purchase units (MUs), the table below shows the average power purchase cost for FY 07-08 actuals, and projected figures for FY 08-09 and FY 09-10.

Table 10-4 : Average Cost of Power

Average Cost of Power (Rs. / Unit)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Average Cost of Power	3.38	3.67	3.71

11 EMPLOYEE COSTS

11.1.1 The employees cost constitutes the major part of the O & M Expenses and thus an important constituent of the ARR and includes the cost incurred on working employees as well as on the retirees. The cost of working employees includes Basic salary, Overtime, Dearness Allowance payable to them and other allowances such as HRA, LTC, and Medical Reimbursement etc. In the case of retired employees and those retiring during the year, the Board has to discharge liabilities towards the pension, gratuity and leave encashment benefits etc, as applicable.

Table 11-1 : Employee Cost Details

EMPLOYEE COSTS (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Salaries & Allowances			
Basic Pay	904.72	913.00	918.00
Overtime	7.76	8.15	8.60
Dearness Allowance	368.94	491.00	606.00
Fixed medical Allowance	29.02	30.50	32.00
Other Allowances	127.70	135.00	142.00
Bonus/ Generation Incentive	50.35	53.00	55.50
Medical Expenses Reimbursement	9.53	10.35	11.00
Other expenses	55.71	58.10	66.92
Workman's compensation	0.32	0.35	0.37
Total	1,554.05	1,699.45	1,840.39
Less: Capitalisation	117.81	130.00	140.00
Net Expenses	1,436.24	1,569.45	1,700.39
Salaries & Allowances - Total	1,436.24	1,569.45	1,700.39
Terminal Benefits			
Basic Pension (Incl Commutation of Pension)	366.70	419.00	471.00
Gratuity	91.34	96.00	100.80
Earned Leave Encashment	58.71	62.00	65.10
Fixed medical Allowance	12.14	15.10	16.15
Medical Reimbursement	4.05	6.16	6.59
L.T.C.to retirees	2.03	2.61	2.79
P.F. share of workcharged staff	11.02	8.28	8.86
Terminal Benefits- Total	545.99	609.15	671.30
BBMB Share	53.18	65.00	75.00
Gross Employee Costs*	2,035.41	2,243.60	2,446.69

*Note: The above projections do not include the Pay Revision Arrears for the Fifth Pay Commission of Govt. of Punjab. These arrears may be allowed as per actuals by the Hon'ble Commission, as and when the disbursements are made, on account of the Pay Revision.

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

11.2 Basis for Employee Cost Projections

- 11.2.1 For FY08-09 (Revised Estimate) figures have been arrived at on the basis of six month actual employee cost incurred by the Board for FY08-09 till Sept '08. Hike in DA for FY08-09, @ 7% w.e.f. from 1st July'08 and additional hike @ 6% w.e.f. 1st Jan '09 has been considered in the revised estimate. For FY 09-10 projections, Basic Salary has been increased by 3% over FY08-09(RE) figures as per PSEB Master Scale. Projection of DA for FY09-10 has been done by considering six-monthly increase @ 6% in Dearness Allowance.
- 11.2.2 **DA Increments:** The State Government has to allow two installments of DA increase effective in July and January every financial year. Over the past few years increases in the DA/allowances of PSEB employees have been at par with the State Government pay and allowances. This is in line with the assurance given by PSEB to the employees at the time of their transfer from PWD Electricity Branch of Government of Punjab to PSEB in 1962-63. Later in 1972, while framing the PSEB Main Service Regulations it was ensured that the service conditions of permanent employees of the erstwhile PWD Electricity Branch transferred to PSEB would not in any way be disadvantageous to these employees.
- 11.2.3 **Pay Parity:** PSEB submits to the Commission to recognize the fact that PSEB has to maintain this pay parity in order to honor the commitment made to the employees. This parity is also required to avoid development of complacency amongst the employees and for the smooth operation of its business without any labor unrest.
- 11.2.4 It is of utmost importance to recognize that the employee's salaries and wages paid by the Board particularly of the Engineers and skilled personnel are significantly lower than what they are being offered in the private sector and if the employee's salaries and wages are not maintained there will be large scale efflux of personnel. The employee's salaries and wages disallowed by the Hon'ble Commission in the past also need to be revisited.

11.3 Terminal Benefits

- 11.3.1 The Terminal Benefits inclusive of Basic Pension, Gratuity, Fixed Medical Allowance, and Earned leave encashment (due only at the time of retirement) etc for FY 08-09(Revised Estimate) is estimated at Rs. 609.15 Cr based on the figures available till Sept'08. For FY 09-10, Terminal Benefits have been projected at Rs.671.30 Cr.
- 11.3.2 The Hon'ble Commission may note that PSEB is required to pay the terminal benefits as per actuals. PSEB has been making such payments to the employees and PSEB will continue to pay the cost on year-on-year basis without any change and PSEB cannot legally deny the employees of the contribution to the terminal benefits.
- 11.3.3 Thus, PSEB requests the Hon'ble Commission that Terminal Benefits may be allowed as per actuals as it entails expenses that are not under control of PSEB and are not linked with WPI in any manner whatsoever.

11.4 BBMB Share

11.4.1 PSEB submits to the Hon'ble Commission that for FY08-09 (Revised Estimate) of PSEB's share of BBMB employee costs is projected at Rs. 65 Cr on the basis of actual employee cost incurred till Sept'08. For FY09-10 PSEB's share of BBMB employee costs is projected at Rs. 75 Cr.

11.4.2 The Hon'ble Commission may note that PSEB has no control over the expenses of BBMB employees and these are paid by PSEB as per actual expenses incurred by BBMB. PSEB submits to the Hon'ble Commission, that it will continue to incur the BBMB employees cost. Thus, in wake of these reasons, PSEB requests the Hon'ble Commission to allow the expenses incurred by PSEB for BBMB employees as per actuals and delink these costs from the employee costs incurred by PSEB.

Table 11-2 : Terminal Benefits

Terminal Benefits (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Basic Pension (Incl Commutation)	366.70	419.00	471.00
Gratuity	91.34	96.00	100.80
Earned Leave Encashment	58.71	62.00	65.10
Fixed medical Allowance	12.14	15.10	16.15
Medical Reimbursement	4.05	6.16	6.59
L.T.C.to retirees	2.03	2.61	2.79
P.F. share of workcharged staff	11.02	8.28	8.86
Terminal Benefits	545.99	609.15	671.30

Table 11-3 : BBMB Share

BBMB Share (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
BBMB Share	53.18	65.00	75.00

11.5 Other Staff Expenses

11.5.1 **Solatium Benefits:** The Revised Estimate figures of Solatium Benefits for FY08-09 have been projected at Rs. 22.78 Cr on the basis of actual expenses till Sept '08 and projections for the period Oct '08 to Mar '09. For FY09-10, Solatium Benefits have been projected at Rs 26.24 Cr.

11.5.2 **Electricity Concession:** The Revised Estimate figures of Electricity Concession for FY08-09 have been projected at Rs. 23.14 Cr on the basis of actual expenses till Sept '08 and projections for the period Oct '08 to Mar '09. For FY09-10, Electricity Concession have been projected at Rs 26.66 Cr

Table 11-4 : Other Staff Expenses

Other Staff Expenses (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Solatum Benefits	23.50	22.78	26.24
Electricity Concession	23.03	23.14	26.66
Staff Welfare Expenses	9.18	12.18	14.02
Total	55.71	58.10	66.92

11.5.3 **Staff Welfare Expenses:** Staff Welfare expenses which is a part of 'Other Staff Expenses' consists of various expenses viz., Uniform Allowance, Scholarships, Stipends, Gifts, Mementos etc. The Revised Estimate figures of Staff Welfare Expenses for FY08-09 have been projected at Rs. 12.18 Cr on the basis of actual expenses till Sept '08 and projections for the period Oct '08 to Mar '09. For FY 09-10 Staff Welfare Expenses have been projected at Rs 14.02 Cr.

11.5.4 The Hon'ble Commission may note that Other Staff Costs components like Solatum Benefits, Electricity Concession, Staff Welfare Expenses, etc. are beyond the control of the Board and the Board is liable to pay such expenses to its employees. Hence the Board submits to the Hon'ble Commission to keep these facts in consideration during the determination of the Board's Aggregated Revenue Requirement and to allow these expenses as per actuals

11.5.5 PSEB would like to request the Hon'ble Commission that it is required to pay the salaries, wages, other allowances and outflows including contribution to the Terminal Benefits, Other Staff Expenses & BBMB costs as per the actual. PSEB has been making such payments to the employees for employee related matters and PSEB will continue to pay the employees cost on year-on-year basis without any change as PSEB cannot legally deny the employees of their salaries, wages, allowances etc or the contribution to the terminal benefits

11.6 Fifth Pay Commission of Govt. of Punjab: Revision of Pay

11.6.1 The Govt of Punjab in recent times has taken up the Central Pay Commission Report for pay revision for the officials working in Punjab. The Sixth Central Pay Commission submitted its report on the 24th March 2008 and the Govt. of Punjab will be releasing its Fifth Pay Revision Report in a short while.

11.6.2 The Sixth Central Pay Commission has proposed on average 40%-60% hike in salaries. Also, the Commission has recommended that quantum of pension available to the old pensioners should be increased as they require better deal because their needs, especially those relating to health, increase with age. It has proposed an increase in additional quantum of pension on attaining a certain age as follows:

Table 11-5 : Pension Increment Details

AGE	Quantum of Increment
80 years	20% of basic pension
85 years	30% of basic pension
90 years	40% of basic pension
95 years	50% of basic pension
100 years	100% of basic pension

- 11.6.3 The Sixth Pay Commission has also recommended that the maximum pecuniary limit of Rs.3.5 lakh on Payment of gratuity should be raised to Rs.10 lakh. Government came up with its decision on recommendations through a Gazette dated 29th Aug '08 as available on <http://india.gov.in/govt/paycommission.php>
- 11.6.4 The Commission's Recommendations and Government decisions thereon with regard to revised scale of pay and dearness allowance for civilian employees of the Central Government and personnel of All India Service will be made effective from 1st day of January 2006. The revised allowance, other than Dearness Allowance, will be effective from 1st Day of September 2008.
- 11.6.5 The Commission's Recommendations regarding payment of Arrears has been modified to the extent that the arrears will be paid in cash in two installments-first installment of 40% during current Financial Year (FY08-09) and remaining installment in next Financial Year (FY09-10)
- 11.6.6 The Boards submits to the Hon'ble Commission that the recommendations made by 6th Central Pay Commission shall be adopted by the Punjab Government in its entirety. The Board has not projected the payouts on account of the Fifth Pay Commission of Govt. Punjab. These arrears may be allowed as per actuals by the Hon'ble Commission as and when the disbursements on account of the Pay Revision are made.

11.7 PSEB Initiatives to Control Employee Costs

- 11.7.1 In the past the Commission had not allowed the entire employees cost on the purported ground that PSEB has not taken to curb the employee expenses. It is submitted that PSEB has taken various steps to control the employee cost and the same are highlighted subsequently.
- PSEB has frozen fresh recruitments against retirement/death cases since 1999. It was only in the FY 2007-08 that PSEB had recruited additional 250 engineers, in order to meet the shortfall in the Technical Cadre taking into consideration the requirement of technical personnel for the Lehra Mohabbat Stage-II, Units –III&IV and also to ensure that PSEB's plant and system performance is not affected on account of lack of adequately trained personnel succeeding the retired employees.
 - The Hon'ble Commission had stated that retirement of employees is a matter of natural attrition and the Board has no contribution to the savings on this account. The Board would like to submit that, although retirement does not directly contribute to savings, since PSEB has frozen all fresh recruitments, the workload gets adjusted within the available strength of the Board thus increasing the productivity levels of the employees and thus contributing to deemed savings.
 - 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.
 - Complete ban on creation of new posts/charges.

- e. Security personnel posted at various locations have been replaced by PESCO/ Pvt. Agencies.
- f. Reduction in “Generation Incentive Allowance” by 10% was implemented by PSEB w.e.f. March, 2003. This has resulted in savings for the Board. For GNDTP, Bhatinda alone, savings to the tune of Rs. 96.34 Lakhs till Oct '08 and for previous years (FY 03-04 to FY 07-08.), deemed savings of Rs. 7.17 Cr has been appropriated from reduction in the incentives. Similar savings have been envisaged in other generation plants.
- g. 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.
- h. Special Schemes have been introduced for employees to avail five years leave for self employment
- i. Computerization of cash collection centers has resulted in
 - i. Overcoming the shortage of Cashiers
 - ii. Improvement in customer services
 - iii. Improvement in employee productivity
 - iv. Better Data Management

11.7.2 Apart from above, PSEB submits that it has already taken several steps for manpower rationalization and a contract for studying the various methodologies for effecting manpower rationalization has already been awarded to M/s PriceWaterhouse Coopers Private Limited. The study is being carried out and the final report will be placed before the Hon'ble Commission by PSEB.

11.7.3 PSEB has taken every measure to control the employee cost while taking steps to improve the employee productivity. The table given below summarizes the increase in employee productivity in the past few years. Some of the productivity improvement results are -

- a. Employee productivity is estimated to significantly increase over these years in spite of expected reduction in employees from 68067 in FY08-09 (ending) to 65387 in FY09-10 (ending). Hence lesser numbers of employees are managing the energy sale which is projected to increase from 32,122MUs in FY07-08 to 35,819MUs in FY09-10.
- b. Number of consumers is estimated to increase from 6373890 in FY07-08 to 6934963 in FY09-10.
- c. Employee productivity computed on various parameters is projected to increase significantly as shown in the table below.

Table 11-6 : Employee Productivity parameters for FY 07-08 to FY 09-10

Employee Productivity	Units	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
Details				
Consumers	No.	63,73,890	66,65,423	69,34,963
Sanctioned Load	KW	2,24,08,721	2,38,05,869	2,51,13,362
Energy Sales	MU	32,122	32,509	35,819
Energy Handled	MU	39,040	38,816	42,497
Revenues@ Existing Tariff	Rs. Crs	7,785	9,131	9,634
Employees on Roll	No.	70,767	68,067	65,387
Productivity Parameters				
Consumer/ Emp		90	98	106
Sanctioned Load/ Emp	KW/ Emp	317	350	384
Energy Sold/ Emp	MU/ Emp	0.45	0.48	0.55
Energy Handled/ Emp	MU/ Emp	0.55	0.57	0.65
Revenues/ Emp	Rs./ Emp	11,00,027	13,41,497	14,73,407

** Revenues does not include sale to AP and SC DS and Non SC BPL Consumers*

- 11.7.4 In the facts and circumstances mentioned above, it is of utmost importance that the Commission considers the norms for the employees cost afresh. It is further submitted that Appellate Tribunal in its order no 251 dated 04.04.2007 (REL vs MERC) has stated that in the absence of prudent industry norms employee expenses should be allowed on actual.
- 11.7.5 The Hon'ble Commission has restricted the employees cost from the year 2002-03. It may be noted that the Commission had not allowed any increase in employee cost in the years 2003-04 and 2004-05. In the final true up exercise for FY05-06 in the tariff order for FY07-08, the Hon'ble Commission allowed an increase of 14.02%, a compounded increase in WPI from 2003-04 to 2005-06 over the actual employee cost for 2002-03.
- 11.7.6 The Terms and Conditions for Determination of Tariff Regulations, 2005 state that the approved Employee cost for the year FY05-06 will form the base for determination of Employee cost for future years. Accordingly, the employees cost for the year 2005-06 approved by the Commission which is now being considered as a base for the purpose of calculating Employee is actually based on 2002-03 figures. As a result of which the actual payment made by PSEB to its employees have not been considered and the Commission has considered only a part of the actual expenditure.
- 11.7.7 The data given in the table below shows the disallowance for the employee cost for the year FY06-07, FY07-08 & FY08-09 as given in the Tariff Order for FY08-09. The huge amount of disallowance in employee cost clearly indicates that the basis formed by the Commission for allowing employee cost is grossly inadequate as compared to the actual employees cost incurred by PSEB.

Table 11-7 : Employee Cost Approved by PSERC in Tariff Order FY08-09

Employee Cost (Net) (TO- FY08-09)	Proposed by PSEB (Rs. Cr.)	Approved by PSERC (Rs. Cr.)	Variation (Rs. Cr.)
2006-07 (Actual)	1751.48	1558.40	-193.08
2007-08 (RE)	2061.95	1662.50	-399.45
2008-09	2225.01	1773.55	-451.46

(Net- Excluding Fringe Benefit Tax, Prior Period Expenses & Expenses Capitalized)

11.7.8 PSEB submits that expenses in the nature of Employees costs are stranded or fixed expenses incurred by any utility and are not (especially the uncontrollable costs) directly linked to Wholesale Price Index in any manner whatsoever.

11.7.9 Furthermore, the escalation on many aspects of the employees cost including and in particular, the Terminal Benefits, Medical Reimbursement, LTA and Earned Leave Encashment is not restricted to the escalation as per WPI. The following table details the Other Expenses

Table 11-8 : Other Expenses (Rs. Cr)

Other Expenses (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Terminal Benefits	545.99	609.15	671.30
Medical Expenses Reimbursement	9.53	10.35	11.00
BBMB Share	53.18	65.00	75.00
TOTAL	608.70	684.50	757.30

11.7.10 In wake of the above there is a strong requirement to delink the terminal benefits, medical reimbursements, LTA, Earned Leave encashment, and BBMB Share from the 'Salaries and Allowances' and be allowed on actuals.

11.7.11 The Board submits that it has already submitted a Petition for Amendment/ Modification/ Substitution of the provisions of the Terms & Conditions for Determination of Tariff regulations 2005 which has been admitted as Petition No. 15 of 2008 by the Hon'ble Commission As regards R&M Expenses, Regulation 28 of the Tariff Regulation, 2005 provides for O&M Expenses as approved by the Commission for the year FY 05-06 and the base O&M expenses shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year.

11.7.12 The Commission may review the actual salaries, wages etc and other out flows on account of the employees cost incurred by PSEB for the year FY 07-08 and subject to verification of the amount, such actual amount be taken as a base for the purpose of determination of the employees cost to be allowed as a part of O & M Expenses. The Regulations in regard to the employees cost forming part of the O & M Expenses to be amended to recognize the actual Employee Expenses incurred during the tariff period FY07-08 must become the base figure for determination of tariff.

11.7.13 PSEB also submits that the cost incurred as Employee Costs of BBMB plants be allowed as per

actual as these costs are not under the control of PSEB and are not directly linked to Wholesale Price Index in any manner whatsoever. Hence PSEB requests the Hon'ble Commission to allow the Employee Costs incurred by PSEB for BBMB plants may be allowed as per actuals.

11.7.14 As regards escalation in the employees cost from the base year onwards, PSEB submits as under:

- a. PSEB be allowed the portion of employees cost on account of uncontrollable factors such as increase in salaries, wages, dearness allowance etc on account of the decision that may be taken by the Government of Punjab from time to time, in regard to the State Government employees and consequently same is adopted for the employees of PSEB on actual basis;
- b. The terminal benefits, out flows to the retired employees and contribution to the terminal benefit for the existing employees be allowed on actual basis;
- c. The BBMB Employee expenses, out flows on account of payments to employees of BBMB Plant may be allowed on actuals basis;
- d. Subject to the above the other escalations relating to the employees cost namely the basic salaries may be continued to be related to the Wholesale Price Index.

11.7.15 The Board further submits that the Board has already submitted a Review Petition against the Tariff Order FY 08-09 issued by the Hon'ble Commission seeking review and modifications for Employee Costs for Assets added during the year FY06-07 & FY07-08. The same is discussed in detail in the Review Petition (Petition No. 14 of 2008) as Section 2.1 to 2.5. In addition, 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 FY08-09 and FY09-10.

12 REPAIRS & MAINTENANCE COSTS

12.1.1 Net R&M Costs is estimated to increase at around 14.84% p.a. between FY08-09 and FY09-10. The R&M Costs is necessitated by the fact that any system requires upkeep for smooth operation. The major reasons for increase in the R&M Costs are underlined below.

- a. PSEB has vintage thermal power stations and T&D network which needs to be maintained properly to ensure reasonable availability, reliability and quality of supply & consumer service
- b. PSEB has to reduce technical losses of the system (T&D loss reduction target of 3.03% (22.53% in FY07-08 to 19.5% in FY09-10) during these years), which requires significant maintenance efforts and costs.
- c. In the past few years, demand has increased significantly and thus created tremendous pressure on the power system. The System needs to be well maintained to meet the demand growth in addition to the Capital Investments made into the system

12.2 R&M for Additional Assets added during the Year

12.2.1 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 FY08-09 and FY09-10 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 12-1 : GFA & Assets Added during the Year

Gross Fixed Assets (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
GFA - Opening Balance			
Thermal	2,915.31	3,020.44	5,505.32
Hydro	5,774.79	5,847.98	5,860.70
Internal Combustion	2.68	2.68	2.68
Transmission	1,898.62	1,965.69	2,560.84
Distribution	4,685.45	5,447.20	6,808.52
Others	136.74	136.74	232.15
Total	15,413.59	16,420.73	20,970.21
Net Additions during the Year			
Thermal	105.13	2,484.88	44.22
Hydro	73.19	12.72	8.97
Internal Combustion	-	-	-
Transmission	67.07	595.15	774.00
Distribution	761.75	1,361.32	2,883.35
Others	-	95.41	112.70
Total	1,007.14	4,549.48	3,823.24
GFA - Closing Balance			
Thermal	3,020.44	5,505.32	5,549.54
Hydro	5,847.98	5,860.70	5,869.67
Internal Combustion	2.68	2.68	2.68
Transmission	1,965.69	2,560.84	3,334.84
Distribution	5,447.20	6,808.52	9,691.87
Others	136.74	232.15	344.85
Total	16,420.73	20,970.21	24,793.45
Depreciation for the Year			
Thermal	159.33	165.08	300.88
Hydro	129.57	131.21	131.50
Internal Combustion	-	-	-
Transmission	91.79	95.03	123.81
Distribution	282.63	328.58	410.70
Others	1.83	1.83	3.11
Total	665.15	721.73	969.99

Table 12-2 : Repairs & Maintenance Expenses

R & M Expenses (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Plant & Machinery	131.52	140.31	167.41
Building	11.75	12.53	14.96
Hydraulic works & other Civil Works	6.56	7.00	8.35
Line cable & network	32.00	34.14	40.73
Vehicles	3.20	3.41	4.07
Furniture & Fixtures	0.07	0.07	0.09
Office equipments	0.17	0.18	0.22
Operating expenses	17.56	18.73	22.35
Total R&M Costs	202.83	216.38	258.17
BBMB Share	94.17	100.46	119.86
R&M for Assets added during Year		40.71	32.29
Gross R&M Costs	297.00	357.55	410.33
Less: Capitalisation	3.10	3.31	3.53
Net R&M Expenditure	293.90	354.25	406.80
R&M Costs as % of GFA	1.79%	1.69%	1.64%

- 12.2.2 The Board submits that it has already submitted a Petition for Amendment/ Modification/ Substitution of the provisions of the Terms & Conditions for Determination of Tariff regulations 2005 which has been admitted as Petition No. 15 of 2008 by the Hon'ble Commission As regards R&M Expenses, Regulation 28 of the Tariff Regulation, 2005 provides for O&M Expenses as approved by the Commission for the year FY 05-06 and the base O&M expenses shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year.
- 12.2.3 PSEB submits to the Hon'ble Commission that PSEB has been functioning as an integrated utility and is continuing to do so. 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.
- 12.2.4 In the circumstances mentioned above, R & M Expenses which PSEB incurs should be allowed as 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.
- 12.2.5 Further, as regards generation functions and transmission functions, PSEB cannot be compared to the Central Public Sector Utilities whose R & M Expenses have been determined by the Central Electricity Regulatory Commission. For historical reasons the employees cost and R & M cost in the case of State utilities have always been significantly higher than such cost in the Central Public Sector Units such as NTPC or Power Grid Corporation. It will, therefore, not be appropriate to restrict the R & M relating to generation and transmission

functions to the level allowed by the Central Commission in its Tariff Regulations.

- 12.2.6 PSEB, therefore, submits that in the facts and circumstances mentioned above, there is a good ground for R & M Expenses to be allowed on a more rational basis close to the actual expenses incurred by PSEB.
- 12.2.7 R & M expenses will constitute a major part of PSEB’s expenses in order to meet the Standards of performance set by the Hon’ble Commission. Therefore, R & M expenses must be allowed to PSEB on actual basis for the existing assets for the next 5 years at least (FY06-07 to FY10-11) subject to prudence check by the Commission during truing up, so as to enable the Board to adequately improve the system
- 12.2.8 The data given in the table below shows the disallowance for the R&M cost for the year FY06-07, FY07-08 & FY08-09 as given in the Tariff Order for FY08-09. The huge amount of disallowance in R&M cost clearly indicates that the basis formed by the Commission for allowing R&M cost is grossly inadequate as compared to the actual R&M cost incurred by PSEB.

Table 12–3 : Repairs & Maintenance Expenses Approved by PSERC in Tariff Order FY08-09

R&M Expenses (TO- FY08-09)	Proposed by PSEB (Rs. Cr.)	Approved by PSERC (Rs. Cr.)	Variation (Rs. Cr.)
2006-07 (Actual)	284.49	259.99	-24.5
2007-08 (RE)	339.99	302.95	-37.04
2008-09	398.3	323.19	-75.11

- 12.2.9 Thereafter, the escalation in R & M Expenses be allowed based on the WPI basis with a proviso that the Hon’ble Commission may consider from year to year the need for incurring additional R & M Expenses based on the condition prevalent and also to enable PSEB to improve the maintenance of electricity supply in the State.
- 12.2.10 PSEB submits that in addition to the inflationary increase there is a need to factor in the business growth as well in the allowed O&M expenses which is an important cost driver. As a result of growth in the business there is an increase in overall O&M expenses because of increased requirement of resources. In this regards the Commission needs to analyze the growth in number of consumers and load over a certain period of time and accordingly ascertain the right figure for business growth to be taken in consideration along with the inflationary growth. This practice has been followed by Karnataka Electricity Regulatory Commission in its Tariff Order FY 08-FY 10 under MYT Framework.
- 12.2.11 The Hon’ble Commission may appreciate that PSEB’s R&M Costs as % of Gross Fixed Assets of PSEB is quite low at 1.64% in FY09-10 (inspite of vintage stations and systems of PSEB).
- 12.2.12 PSEB submits that the cost incurred for the R&M works of BBMB plants be allowed as per actual as these costs are not under the control of PSEB and are not directly linked to Wholesale Price Index in any manner whatsoever. Hence PSEB requests the Hon’ble Commission to allow the R&M Expenses incurred by PSEB for BBMB plants may be allowed as per actuals.

12.2.13 As regards escalation in the R&M cost from the base year onwards, PSEB submits as under:

- a. PSEB be allowed BMMB Share on actuals as these are not under the direct control of PSEB.
- b. R&M Expenses be delinked from the Wholesale Price Index and be allowed as per actuals.

13 ADMINISTRATION & GENERAL EXPENSES

13.1.1 Gross A & G Costs are estimated to increase by around 3.62% between FY07-08 and FY 08-09, while in FY09-10 the Gross A&G costs are expected to grow by 5.0% over FY08-09.

13.1.2 The table given below summarizes the A&G Costs for FY07-08, FY08-09 & FY09-10.

Table 13–1 : Administration & General Expenses (Rs. Cr)

Administration & General Costs (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Rent, Rates & Taxes	4.04	4.20	4.41
Insurance	0.93	0.95	1.00
Telephone Postage & Telegrams	6.66	6.90	7.25
Consultancy Fees	3.74	3.75	3.94
Technical Fees	0.01	0.01	0.01
Other Professional Charges	0.03	0.05	0.05
Conveyance & Travelling	17.25	18.00	18.90
Electricity & Water Charges	13.11	13.50	14.18
Other Expenses	33.17	35.00	36.75
Freight	1.77	1.00	1.05
Other Material Related Expenses	8.54	9.00	9.45
Total Expenses	89.25	92.36	96.98
B.B.M.B.Share	2.78	3.00	3.15
Total Expenses	92.03	95.36	100.13
Less: Capitalisation	22.33	23.43	24.13
Net A&G Expenditure	69.70	71.93	76.00

13.1.3 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 3.20% (from FY07-08 to FY08-09) & 5.66% (from FY08-09 to FY 09-10). This is despite an inflation touching peaks of over 13%.

13.1.4 The Board submits that it has already filed a Petition for Amendment/ Modification/ Substitution of the provisions of the Terms & Conditions for Determination of Tariff regulations 2005 which has been admitted as Petition No. 15 of 2008 by the Hon'ble Commission. As regards A&G Expenses, Regulation 28 of the Tariff Regulation, 2005 provides for O&M Expenses as approved by the Commission for the year FY 05-06 and the base O&M expenses shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year.

- 13.1.5 PSEB submits that in addition to the inflationary increase there is also a need to factor in the business growth as well in the allowed A&G expenses. As a result of growth in the business there is an increase in overall O&M expenses because of increased requirement of resources.
- 13.1.6 As regards escalation in the A&G cost from the base year onwards, PSEB would like to submit that it should be allowed BMMB Share on actuals as these costs are not under the direct control of PSEB
- 13.1.7 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.

14 INTEREST & FINANCE CHARGES

- 14.1.1 The Board submits to the Commission that it had taken up significant capital expenditure towards various schemes and has raised loans from financial institutions such as REC and PFC to meet the outlay of the investment plan.
- 14.1.2 The interest expenses for all commercial loans for the first half of FY08-09 are given as per the actual figures; for the second half and for FY 09-10, 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 FY07-08, FY08-09 and FY09-10 have been given in the formats attached at the end of the ARR petition.
- 14.1.3 On account of the factors outlined above the Interest Costs on Commercial Loans are estimated to increase substantially from Rs. 987.11 Cr in FY07-08 to Rs. 1,300.68 Cr in FY08-09 and Rs. 1,714.43 Cr in FY 09-10, as shown in the Table 14-2.

14.2 Interest on Short Term Borrowings

- 14.2.1 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 short term borrowings for FY08-09 is estimated at Rs. 369.98 Cr; while for FY09-10 it is projected at Rs. 556.44 Cr.
- 14.2.2 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.
- 14.2.3 PSEB submits to the Hon'ble Commission 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.
- 14.2.4 The Hon'ble Commission may appreciate that the Board has tried to convert this short term borrowing into long term loans. The Board had called for tenders inviting loans for terms over 10 years. However, with the current market scenario the response was not upto the mark and long term loans could not be availed.
- 14.2.5 The Board also submits that Govt. of Punjab has not refunded the excess refund paid to the Govt. for the years FY 06-07 and FY 07-08. The excess interest refunded is to the tune of Rs. 501 Cr. This non-payment of refund of excess interest by the Govt. of Punjab has resulted in PSEB taking short term loans to cover its expenses.
- 14.2.6 The Hon'ble Commission may note that the interest on capital requirement due to the recall of loan and due to non-payment of refund of excess interest has been taken up separately from the other Working Capital requirements. The Board submits that the Board has no control over the recalled loan and the non-payment of refund.
- 14.2.7 Thus, the Board requests the Hon'ble Commission to allow the interest on capital requirement

of Rs. 1362 Cr and Rs. 501 Cr on actuals and segregate the same from normal Working Capital requirements in light of the above statements.

14.2.8 Justifications for the increased expenses against interest on short term borrowings:

a. On account of Interest on Normative Working Capital

- i. The total Interest on borrowings for Working Capital given above includes the interest charges allowed on a normative basis by the Commission.
- ii. Working Capital has been computed for FY08-09 and FY09-10 on the basis of Clause no 30 (3) of the Regulation issued by the Commission vide its notification no PSERC/Secy/Regu-24 dated 21st November 2005. The relevant extract is as given below:

“The working capital for integrated utility shall be the sum of one month requirement for meeting:

- *Fuel cost*
- *Power purchase cost*
- *Employees cost.*
- *Administration & General Expenses*
- *R&M expenses as already being allowed.”*

- iii. In this context the Board would like to draw the attention of the Commission to the clause 21 (V) Computation of Interest on working capital in CERC Terms and Conditions of Tariff Regulation 2005. The relevant extract is as given below:

“Working capital shall cover:

Coal based/Lignite-fired generating stations

- *Cost of coal or lignite for 1½ months for pit-head generating stations and two months for non-pit-head generating stations, corresponding to the target availability;*
- *Cost of secondary fuel oil for two months corresponding to the target availability;*
- *Operation and Maintenance expenses for one month;*
- *Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and*
- *Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability.”*

- iv. In accordance to the above quoted extract from the CERC Regulations, the Board while computing the working capital for FY07-08 and FY08-09 has included “Fuel Cost (coal and secondary fuel oil)” for 2 months instead of 1 month.
- v. The current SBI PLR rate i.e. 12.25% p.a. (as on 1st Apr ‘08) has been applied on the Working Capital computed based on the CERC and PSERC guidelines. The calculations are as given below:

Table 14-1 : Normative Interest on Working Capital (Rs. Cr)

Sr.	Particulars	FY 08-09	FY 09-10
		R E	Proj.
1	Fuel Cost (CERC norms) (2 Months)	458.13	507.76
2	Maintenance Spares (Escalated @6% pa) (CERC Norms)	164.21	174.06
3	One month power purchase cost	542.25	605.38
4	One month Employees Cost and A&G Expenses	192.96	210.22
5	R&M expenses as already being allowed	29.52	33.90
6	Total	1,387.07	1,531.33
	Interest SBI PLR	12.25%	
	Interest on working Capital	169.92	187.59

b. On account of delayed payment of subsidy

i. The Board submits to the Commission that it had to raise loans from the market for meeting the working capital requirements and also has to bear the interest charges on the same due to the delayed payment of subsidy by the Government. Hence, the Board requests the Commission to approve the interest expenses incurred towards raising these loans. The details of interest charges to be borne by the Board on account of delayed payment is as provided below:

1. The GoP had to pay the Board a subsidy of Rs. 2601.73 Crs, as approved in the Tariff Order FY08-09 in advance quarterly installments. However it has delayed the payment of the same. The Board has so far only received subsidy of Rs. 1640 Crs out of the total subsidy sanctioned by the Government of Punjab. The Board was to receive a total of Rs 1951.30 Cr as subsidy from the GOP as on 1st Oct '08 (subsidy for AP, SC DS, Non –SC BPL consumers including incremental MMC & allowances). However, PSEB had received only Rs 1000 Cr as subsidy from GoP at beginning of the third quarter. The Board submits to the Hon'ble Commission to approve the carrying costs of delayed payments of subsidy by the Govt. of Punjab.
2. As discussed previously, PSEB submits to the Hon'ble commission that the Government had recalled overdue loans of Rs. 1362 Cr after adjusting it against Subsidy, on February 29, 2008 out of the total loan amounting to Rs. 3074.91 Cr bringing down the balance Government loans to Rs. 1712.91 Cr as on March 1, 2008. However, PSEB had to pass on the requisite subsidy to the consumers and thereby has to take short term loan to finance it. PSEB has tried to convert the short term borrowings to long term loans by inviting tenders for long term loans. However, the response was not upto to the mark considering the present market scenario. In light of above, PSEB requests the Hon'ble Commission to allow carrying cost of this loan as per actuals.
3. The Board requests the Hon'ble Commission for additional interest cost on account of non-payment of refund of excess interest of Rs. 501 Cr by the Government as PSEB needs some time to convert it into a long term loan.
4. Apart from the above the Board also has assessed that an additional subsidy of Rs. 85.98 Cr should be received on account of increase in sales to AP consumers based on

the revised estimates of the Board for FY08-09. The Board has projected energy sale to AP consumers as 9766 MUs @ 240 p/ Unit (FY 0809 (RE)) as against 9408 MUs @240 p/Unit as approved the Hon'ble Commission in Tariff Order for FY 08-09

5. After deducting the subsidy received so far from the overall subsidy receivable on account of supply to AP consumers, there would be a huge shortage of funds for FY08-09. For meeting this requirement the Board had to raise funds from the market.
6. Apart from this the Board has to pay the carrying costs for the funds raised against the delayed payment of subsidy approved in FY 07-08 and FY 08-09. The Board would like to bring to the notice of the Commission that the interest expenses incurred to service the short term borrowings raised on account of delayed payment of subsidy should be borne completely by the Government

c. On account of other reasons

- i. Apart from this Board also had to raise short term loans from the market to meet the difference between actual costs incurred by PSEB and Commission approved costs for FY 05-06, FY 06-07 and FY07-08. The Commission over the period has disallowed expenses under various heads such as employee, interest and finance charges etc., however the Board had to bear such expenses as they are based on the actual figures and to meet the same Board had to raise short term loans from the market.
- ii. In the same context the Board would like to draw the attention of the Commission to the Board's plea on the disallowance of interest charges. The Hon'ble Commission had disallowed the interest charges to the extent of Rs. 100 Cr every year since FY 2003-04 on the plea that the Board has been utilizing capital funds for bridging the revenue gap for the period prior to Mar '02. Board would like to reiterate that the key reasons for diversion of capital funds by the Board were:
 1. Hon'ble commission has disallowed various expenses incurred by the Board and not allowed them as per actual expenditure incurred under various heads such as employee, interest and finance charges etc.
 2. Inadequate tariff increase given by the government
 3. Non-payment of AP subsidy by the Govt. in lieu of free supply to AP during the period 1997-2002 amounting to Rs. 1560.11 Cr approx.
- iii. The Board requests the Commission not to make any reduction in the interest charges on account of diversion of funds which was the result of factors beyond the control of the Board and approve the expenses in full without any disallowance, so that the Board could meet the investment plan and the earlier mismatch between the actual cost incurred and approved costs by the Commission.
- iv. Considering the above the Board has included the interest costs being serviced into the interest on working capital expense head.
- v. The Board submits that the Board has already submitted a Review Petition under Section 94 of the Electricity Act 2003 for review of Punjab State Electricity Regulatory Commission – Tariff Order for Financial Year 2008-09 dated 03-07-08 seeking review and modifications

as PSEB has reservations to certain aspects of the Tariff Order 2008-09.

Table 14-2 : Interest & Finance Charges

Interest Costs (Rs Cr)	Interest Rate	FY 07-08	FY 08-09	FY 09-10
		Actuals	R E	Proj.
Open Market Loan				
SLR Bonds	11.5 - 13%	16.89	12.21	10.31
Non SLR Bonds	9.4 - 14%	34.27	28.46	73.54
LIC	11%	53.39	54.30	66.03
REC	8 - 12.5%	271.74	333.36	411.86
Commercial Banks	7.16 - 10.5%	99.79	135.59	196.29
Lease Rental		1.52	0.05	0.03
PFC	8.75 - 13.5%	24.00	18.30	16.83
PFC(TSPL)	8.75 - 13.5%	1.16	16.73	-
REC(NPL)	8.75 - 13.5%	-	11.26	-
PFC/REC(GPL)	8.75 - 13.5%	-	3.09	23.19
CSS	10.5 - 12.5%	10.19	10.73	11.35
Int. on Recalled Loan (Rs. 1362Cr) & Non Refund of Int. (Rs. 501 Cr)	10 - 12%	101.15	191.62	223.56
WCL & OD	9 - 14%	264.63	369.98	556.44
GPF		108.38	115.00	125.00
Interest on Commercial Loans		987.11	1,300.68	1,714.43
State Government loan	12 - 13.5%	85.99	-	-
Total Int. on Commercial Loans		1,073.10	1,300.68	1,714.43
Less: Interest Capitalised		221.77	67.95	119.19
Net Interest Charges		851.33	1,232.73	1,595.24
Add: Finance Charges		12.29	13.52	14.87
Total Interest & Finance Charges		863.62	1,246.25	1,610.11
Less: Interest Recovered from				
TSPL		5.00	18.73	-
NPL		0.72	16.20	-
GPL		-	4.08	24.50
Net Interest & Financing Costs		857.90	1,207.24	1,585.61

vi. It is further submitted that the grants and subsidy towards cost of capital which have been reduced from capital base also includes incentive of Rs. 110.56 Cr (Rs. 45.28 + 65.28 Cr) received from Govt. of India for better performance (reduction in losses in the year FY03-04) during FY06-07& FY07-08. The above mentioned amount being performance incentive, the same should not be considered as contribution towards capital assets for the purpose of determining diversion of funds. The Board requests the Commission to accordingly rework the diversion of funds and provide the relief to the Board by reducing the disallowance. The Hon'ble Commission has been disallowing Rs. 100 Cr each year on account of diversion of capital funds for revenue purposes by the Board.

14.2.9 The interest & finance charges are hereby projected at Rs 1,207.24 Cr for year FY 08-09 & Rs 1,585.61 Cr for FY 09-10. The Board requests the Hon'ble Commission to approve these costs without any disallowance as that would mean increased financial burden on PSEB.

15 DEPRECIATION

- 15.1.1 The Depreciation for the FY08-09 and FY09-10 has been calculated by depreciation rate of last year category wise and the opening balance of gross fixed assets of these two years.
- 15.1.2 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 15–1 : Depreciation (Rs. Crs)

Gross Fixed Assets (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
GFA - Opening Balance			
Thermal	2,915.31	3,020.44	5,505.32
Hydro	5,774.79	5,847.98	5,860.70
Internal Combustion	2.68	2.68	2.68
Transmission	1,898.62	1,965.69	2,560.84
Distribution	4,685.45	5,447.20	6,808.52
Others	136.74	136.74	232.15
Total	15,413.59	16,420.73	20,970.21
Net Additions during the Year			
Thermal	105.13	2,484.88	44.22
Hydro	73.19	12.72	8.97
Internal Combustion	-	-	-
Transmission	67.07	595.15	774.00
Distribution	761.75	1,361.32	2,883.35
Others	-	95.41	112.70
Total	1,007.14	4,549.48	3,823.24
GFA - Closing Balance			
Thermal	3,020.44	5,505.32	5,549.54
Hydro	5,847.98	5,860.70	5,869.67
Internal Combustion	2.68	2.68	2.68
Transmission	1,965.69	2,560.84	3,334.84
Distribution	5,447.20	6,808.52	9,691.87
Others	136.74	232.15	344.85
Total	16,420.73	20,970.21	24,793.45
Depreciation for the Year			
Thermal	159.33	165.08	300.88
Hydro	129.57	131.21	131.50
Internal Combustion	-	-	-
Transmission	91.79	95.03	123.81
Distribution	282.63	328.58	410.70
Others	1.83	1.83	3.11
Total	665.15	721.73	969.99

Table 15–2 : Depreciation Rates (%)

Depreciation Rate (%)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Thermal	5.47%	5.47%	5.47%
Hydro	2.24%	2.24%	2.24%
Internal Combustion	0.00%	0.00%	0.00%
Transmission	4.83%	4.83%	4.83%
Distribution	6.03%	6.03%	6.03%
Others	1.34%	1.34%	1.34%
Total	4.34%	4.40%	4.63%

15.1.3 The PSEB requests the Hon'ble Commission to approve these costs submitted by the Board, without any disallowance.

16 RETURN ON EQUITY

16.1.1 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.

16.1.2 Return on Equity for PSEB is computed as Rs 412.46 Cr, Rs. 412.46 Cr and Rs. 412.46 Cr for FY07-08, FY08-09 & FY 09-10 respectively, as detailed in the Table below. Return on Equity is based on the equity capital of Rs.2946.11 Cr as on 31st March 2008.

16.1.3 The table given below summarizes the Return on Equity for FY07-08, FY08-09 & FY 09-10.

Table 16–1 : Return on Equity

Reasonable Return (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Opening Balances			
Equity Capital from State Govt	2,946.11	2,946.11	2,946.11
Return: 14% ROE	412.46	412.46	412.46

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

17 FRINGE BENEFIT TAX

17.1.1 PSEB has estimated statutory liability on account of FBT to the tune of Rs.5.25 Crs for FY08-09 (RE) and Rs 5.51 Crs for FY09-10. For FY07-08 the actual figure for FBT is Rs 4.98 Crs (excluding BBMB share). The Board requests the Hon'ble Commission to approve the same.

Table 17–1 : Fringe Benefit Tax

Fringe Benefit Tax (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Fringe Benefit Tax	4.85	5.25	5.51

18 NON-TARIFF INCOME

- 18.1.1 Non-Tariff Income, as shown in the table below, is estimated to increase at 4.88 % p.a. from FY08-09 to FY09-10
- 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

Non-Tariff Income (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Meter/ service line rentals	79.19	83.15	87.31
Rev. from surcharge for late payment	76.36	80.18	84.19
Recovery for theft & pilferage	27.98	29.23	30.69
Misc. receipts	224.16	193.00	202.12
Misc. charges	18.54	19.47	20.44
Wheeling charges	2.86	3.00	3.15
Interest on staff loans & advances	1.27	1.33	1.40
Interest on advances to suppliers	0.98	1.03	1.08
Income from trading	10.89	11.43	12.01
Income from staff welfare activities	0.04	0.04	0.04
Excess found on physical verification	-	-	-
Investment, fines & call deposits & bank balances/JPPL	0.60	0.65	-
Add: BBM Share	1.31	1.50	1.60
Total Non-Tariff Income	444.18	424.02	444.03

19 PRIOR PERIOD INCOME/ EXPENSES

19.1.1 The following table details the Prior Period Income and Expenses as per actuals for the year FY 07-08 and the projections for the year FY 08-09.

Table 19–1: Prior Period Income and Expenses (Rs. Crs.)

Prior Period (Rs Cr)	FY 07-08	FY 08-09
	Actuals	R E
Add:		
Fuel	211.73	-
Power Purchase	18.70	15.56
Employee	2.92	0.95
Repairs & Maintenance	0.30	0.12
Admin & General	(0.49)	0.07
Interest & Finance Charges	0.39	-
Depreciation	3.42	-
Less:		
Non Tariff Income	348.09	(2.55)
Total	(111.13)	19.25

20 EXTRA-ORDINARY ITEMS AND OTHER DEBITS

20.1.1 Extra ordinary items are defined as those items which arise from events or transactions outside the ordinary activities of the Board and which are both material & expected not to recur frequently or regularly. They do not include items which though exceptional in terms of amount and occurrence (and which may, therefore, required disclosure), arise from the events or transactions within the ordinary activities of the Board. Similarly, prior period items are not extra ordinary items merely because they relate to a prior year.

20.1.2 Other debits primarily include material cost variance, bad and doubtful debts written off/ provided for, miscellaneous losses and write-offs etc. Extra-ordinary items and other debits for FY07-08 (audited figures) are Rs. 4.81 Crs. The projections of FY08-09 and FY09-10 have been kept at the same level as that of FY07-08.

20.1.3 PSEB submits to the Hon’ble Commission to kindly allow the same.

21 CAPITAL EXPENDITURE

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

Table 21–1: Capital Investment Plan (Scheme-wise) (Rs. Crs.)

Sr. No.	Schemewise Investment Plan Name of Scheme /Project	FY 07-08 Approved	FY 07-08 Actuals	FY 08-09 R E	FY 09-10 Proj.
1	Ranjit Sagar Dam Project	-	-	0.79	1.52
2	Shahpur kandi HEP	1.15	-	5.00	10.00
3	Mukerian Hydro Electric Project	14.47	17.17	45.16	53.00
4	Micro Hydel Power Houses at Ropar	-	3.62	-	29.15
5	R&M of Bhakra Power Houses	2.30	17.72	-	43.74
6	Shanan & Other Board Projects	-	3.77	5.00	46.83
7	GHTP Stage-I	-	-	0.84	8.41
8	GHTP Stage-II &III Lehra Mohabbat	93.21	280.45	360.63	88.15
9	Doraha gas Based Thermal Plant	-	-	-	-
10	R&M works at Thermal Plants (RLA study (unit-I & II))	12.00	9.18	11.05	6.07
11	R&M of GNDTP Bhatinda Phase-II	-	-	-	0.36
12	R&M GNDTP Bhatinda Unit-III&IV based on RLA study	125.65	-	120.00	211.46
13	R&M of GGSSTP Ropar under APDRP scheme	13.80	5.49	-	105.63
14	Transmission & Distribution including APDRP	1,220.92	804.69	2,006.70	3,453.41
15	Revamping of ME Labs. and workshops	-	-	-	7.09
16	Release of tube-well connections	-	70.30	-	618.00
17	Rural Electrification (RGGVY)	16.50	-	235.80	189.91
18	Any other new project taken up by Board/Others	-	-	176.94	143.70
19	Talwandi Saboo T.P	-	314.39	-	-
20	Rajpura T.P	-	8.50	365.00	-
21	Gidderbha Thermal Project	-	-	350.00	-
	Total	1,500.00	1,535.28	3,682.91	5,016.42

Note: Expenditure incurred above is against the capital planned schemes only

21.1.2 For the Revised Estimates of FY 08-09, the planned Capital Expenditure Plans is detailed as under:

- The projected investment (RE) of the Board for the year FY08-09 is Rs. 3682.91Cr which is higher than the actual expenditure of last 2-3 years. It is due to the major investment that has been made in the Transmission & Distribution system apart from the planned R&M schedules of Thermal plants.
- Expenditure of Rs 2006.70 Cr under Transmission & Distribution is inclusive of Rs 640.15 Cr investment for Transmission and Rs 878.55 Cr for distribution projects along with Rs 488 Cr as investment for comprehensive T&D loss reduction plan.
- PSEB submits that the Board would be carrying out investment of the tune of Rs 235.80 Cr for Rural Electrification.
- PSEB would also like to submit that for thermal Power plant at Rajpura & Gidderbha would be requiring investment of Rs 365 Cr & Rs 350 Cr respectively as these would be required for increasing energy needs of state of Punjab

- e. 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.

Table 21-2: Investment Plan (Year wise) Approved Outlay (Rs. in Cr)

Sr. No.	Year	Originally Proposed By the Board	Approved By The Commission	Revised By The Board	Revised Approval By The Commission	Actual Expenditure	Final Approval By The Commission (True Up)
1	2	3	4	5	6	7	8
1	FY 07 - 08	3,778.85	2,500.00	3,169.65	1,500.00	1,535.28	-
2	FY 08 - 09 (RE)	2,684.26	1,500.00	3,682.91	-	-	-
3	FY 09 - 10 (P)	5,016.42	-	-	-	-	-

- 21.1.3 The Board had earlier submitted Rs. 2684.26 Cr of proposed investment plans to the Government of Punjab for the year FY08-09. The revised estimate of investment plans for FY08-09 is Rs.3682.91 Cr.
- 21.1.4 The total investment proposed for the year FY09-10 is Rs. 5016.42 Cr. To improve the Power system performance ,PSEB has given a major thrust on Transmission & Distribution schemes in the investment plan for the year of 2009-10 .This is being done to reduce T&D losses and make efficient usage of the Generation capacity. In Transmission & distribution that includes APDRP schemes; PSEB would like to propose investment amounting to Rs 3453.41 Cr that includes investment of Rs 2000 Cr for HVDS project for conversion of LT lines of AP feeders to 11 KV feeders under comprehensive T&D Loss reduction plan. PSEB also propose to invest Rs 189.91 Cr under RGGVY scheme. Transmission will involve renovation & refurbishment works for old substation equipment. PSEB would also like to propose that it will need Rs 618 Cr for release of 40,000 AP connections (tubewells)under the general connections for FY 2009-10.
- 21.1.5 To cater to the increased power demand, PSEB has also given thrust on Generation projects to overcome the shortage of power in the state. 168 MW Hydro Electric Plant at Shahpur Kandi has been proposed and an investment of Rs.10 Cr has been envisaged for it. Further, PSEB proposes Rs 43.74 Cr investment for Bhakra Power House
- 21.1.6 The Board hereby requests the Hon'ble Commission to approve this Capex Plan without any disallowance as any disallowance would cause stunted growth of the infrastructure needed to support the increasing power requirements of the state of Punjab.

22 REVENUE FROM SALE OF POWER AT EXISTING TARIFFS

22.1.1 Revenue from sale of power for FY08-09 & FY 09-10 is determined based on the Energy sales estimated in Chapters 3 & 4 and category wise tariff approved by the Commission in its Tariff Order dated July 03, 2008.

22.1.2 Sale of Power Revenue at existing tariff is estimated to be Rs 9131 Cr and Rs 9634 Cr in FY08-09 and FY09-10 respectively, as shown in the Table below.

Table 22-1 : Revenue from Sale of Power at existing tariffs

Revenue from Sale of Power (Rs. Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	@ Exist. Tariff
Domestic			
0-100 units	647	900	968
101-300 Units	593	758	820
> 300 Units	355	414	448
Total	1,595	2,072	2,236
Non-Domestic	756	1,013	1,137
Industrial Consumers			
Small Power	235	262	265
Medium Power	565	616	629
Large Power	3,198	3,587	3,876
Total	3,998	4,464	4,771
Bulk Supply	178	200	210
Railway Traction	44	55	55
Public Lighting	60	65	70
Golden Temple & Durgiana temple	2	2	2
Common Pool	83	84	83
Outside State (Banking)	806	923	798
TOTAL	7,523	8,878	9,362
AP Sales	18	-	-
MMC & Other Charges	125	130	140
PLEC Charges	118	123	132
GRAND TOTAL	7,785	9,131	9,634

Note: The above revenue does not include revenue from sale of power to SC DS, Non SC BPL and AP consumers.

22.1.3 Revenues from sale to outside state comprises of sale of power under Banking to other states (estimated at 805MUs at Rs 4.32 per unit) and to Traders (estimated at 736 MUs at Rs 7.81 per unit) for the year FY 08-09

22.1.4 As per the present policy of the Govt. of Punjab, Domestic consumers belonging to SC category with connected load upto 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 upto 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.

- 22.1.5 The amount of subsidy receivable from the Govt. of Punjab notified vide Memo No. 1/3/08-EB(PR)/3429 dated 2nd July 2008 for sale of power to Domestic SC Consumers, Domestic Non-SC BPL Consumers and AP Consumers for the year FY 08-09 is Rs. 2479.76 Cr. Further, the Govt. of Punjab has also agreed to pay the arrears of subsidy of Rs. 121.97 Cr for FY 07-08 (inclusive of interest) as determined by the Hon'ble Commission.
- 22.1.6 Thus the total subsidy receivable from the Govt. of Punjab for FY 08-09 is Rs. 2601.73 Cr. Further, the Board submits to the Hon'ble Commission that the revenue from sale of power to AP consumer for FY 08-09 may be trued up to actuals during the review of FY 08-09 for calculation of subsidy receivable from the Govt. of Punjab.

Table 22–2: Subsidy from Govt. of Punjab

Subsidy from Govt.	FY 07-08	FY 08-09
	Actuals	R E
Subsidy for AP Consumers	2,284	2,480
Subsidy for Weaker Sections (SC DS)	271	
Subsidy for Weaker Sections (Non SC BPL Consumers)		
Govt Subsidy for tariff increase of other categories	293	
Past Subsidy & Interest Payable by GoP		122
Total	2,848	2,602

- 22.1.7 The Hon'ble Commission may note that the Board's projections of revenue from Domestic SC Consumers, Domestic Non- SC BPL Consumers and AP Consumers for the year FY 09-10 as projected by the Boards is as follows:

Table 22–3: Revenue from Sale of Power to AP, SC DS and Non SC BPL Consumers

Revenue from Sale of Power (Rs. Cr)	FY 09-10
	@ Exist. Tariff
AP Consumers	2,808
SC DS Consumers	282
Non SC BPL Consumers	12
Total	3,102

Note: Revenue from Sale of Power to non SC BPL Consumers for FY 09-10 includes revenue from Sale of Power to 1,48,000 consumers to be added during FY 09-10 under RGGVY Scheme

- 22.1.8 Thus, the projection of revenue recoverable for sale of power from the AP consumers, Domestic SC and Domestic Non SC Consumers for FY 09-10 is Rs. 3102 Cr (Rs. 2808+282+12 Cr). For the year FY 09-10, revenue from sale of power to Domestic Non SC BPL Consumers includes revenue from sale of power to 1,48,000 additional connections to be released under RGGVY scheme
- 22.1.9 For the year FY 09-10, 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 (Rs. 3102 Cr for FY 09-10) may be recovered from Govt. of Punjab as subsidy. However, this is subject to the commitment of the Govt.

23 AGGREGATE REVENUE REQUIREMENT

23.1.1 The table given below summarizes the Aggregate Revenue Requirement for FY 07-08, FY 08-09 & FY 09-10.

23.1.2 Aggregate Revenue Requirement for FY 09-10 is estimated to be Rs 15775 Cr.

Table 23–1: Aggregate Revenue Requirement

Annual Revenue Requirement (Rs Cr)	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Costs			
Fuel	2,625	2,749	3,047
Power Purchase	6,020	6,507	7,265
Employee	2,035	2,244	2,447
Repairs & Maintenance	294	354	407
Admin & General	70	72	76
Interest	858	1,207	1,586
Depreciation	665	722	970
Extra Ordinary Items & Other Debits	5	5	5
Fringe Benefit Tax	5	5	6
Add: Prior Period (Debit/Credit)	(111)	19	-
Total Costs	12,466	13,884	15,807
Add: Reasonable Return /Return on Equity	412	412	412
Less: Non-Tariff Income	444	424	444
Annual Revenue Requirement	12,435	13,872	15,775

24 REVENUE GAP

- 24.1.1 The Board has computed a revenue gap at existing tariff for FY07-08 at Rs. 1802 Crs, which is based on the difference in expenditures and revenues including subsidy as per the audited accounts. For the year FY 2008-09, the revenue gap has been re-estimated at Rs. 2139 Cr, after incorporating the subsidy requirements and other Government payables for the FY07-08 and FY08-09.
- 24.1.2 For the year FY 09-10, 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 (Rs. 3102 Cr for FY 09-10) may be recovered from Govt. of Punjab as subsidy. However, this is subject to the commitment of the Govt. of Punjab.
- 24.1.3 The expenditure for FY 09-10 have been projected as Rs. 15775 Crs whereas the revenues at existing tariff for FY 09-10 have been estimated at Rs. 12736 Crs, which includes estimated revenue of Rs 2808 Crs from sale of power to AP Consumers for 11699 MUs of consumption @ 240 p/unit.

Table 24-1 : Revenue Gap

Revenue Gap	FY 07-08	FY 08-09	FY 09-10
	Actuals	R E	Proj.
Annual Revenue Requirement	12,435	13,872	15,775
Covered by Revenue@Existing Tariff			
Revenue @ Existing Tariff	7,785	9,131	9,634
AP Consumers			2,808
SC DS Consumers			282
Non SC BPL Consumers			12
Total Revenue @ Existing Tariff	7,785	9,131	12,736
Add: Govt. Subsidy			
GoP Subsidy to Agriculture	2,284	2,480	
Domestic Subsidy	271		
Govt Subsidy for tariff increase of other categories	293		
Past Subsidy & Interest Payable by GoP		122	
Total Govt. Subsidy	2,848	2,602	-
Revenue @ Existing Tariff + GoP Subsidy	10,633	11,733	12,736
Revenue Gap/(Surplus)	1,802	2,139	3,039
Cummulative Revenue Gap/(Surplus)	1,802	3,941	6,980

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.

- 24.1.4 The Total gap for FY 09-10 is projected at Rs. 3039 Crs and the Cumulative gap for PSEB constituting the Gap of FY07-08, FY08-09, FY 09-10 works out to Rs. 6980 Crs.

25 PSEB'S RESPONSE TO COMMISSION DIRECTIVES

Sr. No.	Issues	Directive in Tariff Order FY 2007-08	PSERC' s comments	PSEB 's Reply
1.	Energy Audit and T&D Loss Reduction.	<p>Background The Board was directed to furnish the actual audit reports and employee productivity scheme wherein incentives/disincentives were linked to the loss reduction trajectory for officers and staff. Also the Board was directed for making employees accountable for T&D targets and to reduce the T&D losses as in some circles the losses are more than 35%. The Board was to provide a well thought out Zone-wise T&D loss reduction trajectory based on segregation of technical and commercial losses in order to reset the loss trajectory, a persistent demand of PSEB.</p> <p>Directive i) The Board was directed to take up online monitoring system wherein disincentives/incentives are linked to the performance of the employees to highlight the efficacy of the online monitoring system.</p>	<p>The Commission notes that the Board has engaged Consultants for a period of 5 years for comprehensive IT roadmap and multi-stage IT implementation which would include various activities like creation of IT infrastructure (Hardware, Software and Net working), ERP (Electronically Resource Planning) implementation in the entire Board and implementation of specific engineering solutions like energy audit, meter data management (AMR and RMR), load forecasting, CIS(Customer Information System) and CRM (Customer Relationship Module) etc.</p> <p>The Commission trusts that the objective of linking incentives/ disincentives to the performance of employees would be suitably built into the monitoring system being devised. The Commission would also be happy to be apprised of the annual targets in the implementation of the computerization scheme.</p> <p>The issue of T&D loss reduction has been discussed in detail in Para 4.2. (Annexure-1)</p>	<p>Two no. work orders for carrying out energy audit at GHTP Lehra-Mohabbat have been placed upon the following firms:-</p> <ul style="list-style-type: none"> i) M/s. Electrical Research & Development Association Vadodara. ii) M/s. The Energy and Resources Institute, New Delhi. <p>T&D loss level is one of the most important performance key indicators for any power utility. Accurate estimation of T&D losses is crucial not only for working out energy required but also essential for its control and reduction. A comprehensive action plan for introducing energy accounting audit and working out T&D losses at any point of time at various levels has been envisaged for implementing throughout the state. Electronic meters capable of online monitoring & control of various parameters including energy accounting will be installed of 11 KV feeders.</p> <p>Status of AMR Project:- PSEB is going for remote meter reading of its 11 KV and above feeders (Transmission and Sub Transmission network). An Energy</p>

		<p>ii) Segregate the technical losses from commercial losses.</p>	<p>As no further T&D loss trajectory has yet been fixed, the Commission 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.</p>	<p>centre for energy accounting and audit of the network and monitoring of the distribution feeders is being set up at Patiala.</p> <p>Status:-</p> <ol style="list-style-type: none"> a. Work Awarded to M/s Easun Reyrolle, Bangalore, Survey of 250+ sub-stations serving the DS Circles of Patiala, Sangrur, Bathinda Muktsar & etc/ completed. b. IT hardware for BCS (Base Central Station) has reached Patiala like M2M Gateway, Router, Desktops etc. c. Communication hardware Data Concentrator Unit (DCU) has also reached Patiala (50 Nos) Installations of DCU's in Sangrur Circle has been started. 20 Sub stations covered already. d. Connectivity: M/s Airtel the service providers chosen by the AMR vendor (M/s Easun Reyrolle) has installed its modem at the BCS being setup. e. Energy Centre: - The Final plan of the energy centre as prepared by the Sr. Architect, PSEB, Patiala has been handed over to the Civil wing. Also the funding for its Civil Works has been approved by competent
--	--	---	---	---

				<p>authority.</p> <p>PO for purchase of 350 Nos 600 KVAR capacitors has been placed on M/s WSI and for purchase of 975 Nos 450 KVAR capacitor have been placed on M/s BHEL.</p> <p>PSEB has filed a petition No.15 of 2008 that Tariff Regulations providing for T&D loss level norms requires reconsideration, as T&D loss trajectory should be linked to the actual investment done by PSEB. There are various reasons like un-availability of funds, lack of supplier's interest etc., which lead to under achievement as compared to the plan. Such reasons for under achievement are not in control of PSEB.</p>
--	--	--	--	---

<p>2.</p>	<p>Agriculture Consumption</p>	<p>Background The Board was directed to implement the suggestions contained in the report submitted by Punjab Agriculture University (PAU) and furnish the compliance to the Commission. The Board was also to ensure that the sample meters are read regularly and correctly and copy of these reports were required to be forwarded to the Commission on quarterly basis. The Board was also to correlate the results of energy audit of 11 KV feeders exclusively feeding AP consumers with the results of sample meters. The Board was to get the accuracy of all sample meters checked and take remedial action to get the same replaced or recalibrated wherever required.</p> <p>Directive i) Submit compliance report with regard to suggestions of PAU. ii) Take up online system on pilot basis for energy audit of 11 KV AP Feeders to highlight the efficacy of the proposed system.</p>	<p>While the Board has, by and large, implemented the methodology of computing AP consumption based on the findings of the PAU Report, the shortcomings in this respect have been highlighted in para 3.2.3 (Annexure-2) of this Order. The correctives required for a more accurate estimation of AP consumption will emerge from the independent study proposed to be undertaken.</p>	<p>In respect of shortcomings as pointed out in para 3.2.3 of Tariff Order 2008-09, instructions vide CC No.64/2008 dated 31.10.2008 have been issued for compliance of the observations / shortcomings. Moreover, there is quite progress in respect of sample meters to be representative of proportion of submersible to monoblock pump sets. Sample Meters on submersible motors have been increased from 35.43% in 3/2007 to 39.23% in 3/2008.</p> <p>The sample size has been increased to 53655 Nos ending August 2008.</p> <p>As per decision of PSERC to carry out an in-house Pilot Study in respect of Mohali & Ropar Circles , before entrusting the job to an independent agency for more accurate estimation of AP consumption , requisite details of AP consumption for these two circles for the year 2007-08 have been submitted to the Commission .</p> <p>Moreover in compliance to the directions issued in the Minutes of Meeting held under the Chairmanship of Hon'ble Chief Minister Punjab on 8.1.2008 a Committee headed by Sh.A.K. Aggarwal, Advisor/Finance, PSEB has been constituted by the Board for analyzing the data of agriculture consumption in the State. The system/ procedure of</p>
-----------	--------------------------------	--	---	--

		<p>iii) Making the sample more representative of the proportion of submersible to conventional mono-block pumps.</p> <p>iv) More accurately capturing agro-climatic and hydrological factors and other local variations possibly on the lines suggested by PAU.</p> <p>v) Providing an adequate number of sample meters in each division and ensuring that the number of faulty/non-functional meters does not exceed a prescribed norm.</p> <p>vi) Effecting monthly reporting of consumption to the Commission by the Board.</p>		<p>determining of AP consumption is being examined in detail by the Committee. Report from the committee is expected at the end of December 2008.</p>
3.	<p>Improve-ment in Quality of Service.</p>	<p>Background The Board was directed to submit the status of schemes for improving the quality of service to its consumers. The Board was further directed to submit an action plan for gradual reduction of disparity in quality of power supply amongst consumers of different categories especially rural and urban consumers along with ARR for the</p>	<p>The Commission notes that with the implementation of the UPS scheme in rural areas, it is now possible to treat rural and urban areas on the same footing while considering the question of imposing cuts etc. This aspect needs to be considered by the Board.</p> <p>The Commission also observes that it is not necessary to link the placing of reliability</p>	<p>In Punjab, all the rural areas have been covered under Urban Pattern supply (UPS) . Power cuts are imposed to meet the gap between demand and supply on different categories of consumers on real time basis. Every effort is made to impose power cuts of almost equal duration on rural and urban consumers. However due to different mix of consumers i.e. domestic and industrial, different life styles in urban and rural areas,</p>

		<p>year 2006-07, which was not complied with.</p> <p>The Commission had directed the Board to draw Reliability Index (RI) roadmap for all cities and towns up to the district headquarters as well as for rural areas. RI of supply of power to consumers should also be indicated by the PSEB on its website.</p> <p>Directive</p> <p>i) The Board was to take steps to minimize the disparity between the rural and urban consumers with regards to power cuts.</p> <p>ii) The Board was to put up the RI on its website.</p>	<p>indices on its website with the larger issue of implementation of the IT system. The Commission, accordingly, reiterates that the reliability indices be placed on the Board's website without any further delay.</p>	<p>the actual quantum of power cuts in rural and urban areas used to differ previously . Nevertheless PSEB is now gradually imposing nearly identical duration of power cuts in case of rural and urban consumers, as is evident from the enclosed power supply statement for the year 2008-09 upto September 2008. There is hardly any disparity in imposition of power cuts between rural and urban consumers.</p> <p>Reliability Index for feeders at district headquarters and feeders in cities having population more than one lakh has been monitored on daily and monthly basis. However, for the remaining 11KV feeders, the reliability index has been monitored at circle level. Board is in the process of putting RI on the website through IT system. Also a link has been provided to the SO & C Organization on the PSEB website. Where power supply schedule as well as power cuts and relocations to industries etc. also available.</p>
4.	Two Part Tariff.	<p>Background</p> <p>The Board was directed to prepare a detailed and well considered proposal for introduction of Two Part Tariff based on actual billing data, actual load, and revenue implications for Large Supply and</p>	<p>The data has been received and the issue has been dealt with in Chapter-5 of T.O of 2008-09</p>	<p>The matter has already been dealt in Tariff Order 2008—09 by the Hon'ble Commission.</p>

		<p>Railway Traction categories. The proposal of the Board should have considered the objections of the consumers which were raised during the hearing of the Tariff Order of FY 2006-07.</p> <p>Directive The Commission had reiterated that the Board should by 31st October, 2007 submit a proposal which addresses the observations made by the Commission in its earlier Tariff Orders.</p>		
5.	KVAH Tariff.	<p>Background The Commission in its Tariff Order for FY 2005-06 had directed the Board to carry out a study on the practicability of introducing KVAH tariff for Large Supply, Medium Supply and Railway Traction consumers.</p> <p>Directive The Commission had reiterated that the Board should examine all matters relevant to the introduction of KVAH tariff and submit its proposals along with the next ARR.</p>	<p>The Board has submitted relevant data, along with its views as to the merits/demerits of KWh/KVAH based tariff without any analysis of the practicability of introducing KVAH tariff and its implications for different categories of consumers.</p>	<p>The proposal for KVAH Tariff is under discussion with the Board and will be submitted separately.</p>

6.	Bulk Supply Tariff.	<p>Background The Board was to carry out an assessment of consumption of electricity for domestic, industrial, commercial and street lighting purposes separately which may cover all the bulk supply consumers or may take a representative sample to achieve satisfactory overall results. A report in this regard was to be submitted by end of September, 2006.</p> <p>Directive The Commission had reiterated its earlier directive that the Board should submit a comprehensive proposal by 1st October, 2007.</p>	The issue has been dealt with in Chapter-5 of T.O of 2008-09	The proposal for Bulk supply Tariff is under discussion with Board and will be submitted separately.
7.	Metering Plan.	<p>Background The Board was to prepare revised metering plan and take requisite action to provide correct meters on all consumers to meet the requirement of Section 55 of Electricity Act, 2003. The Commission had granted extension up to March, 2007.</p> <p>Directive The Commission had allowed the Board an extension till 31st March</p>	The Commission notes the lack of any substantial progress regarding metering of AP connections and reiterates the need to effect 100% metering of AP connections.	All consumers except AP have been provided meters. As on 31.8.2008, 53655 nos. sample meters have been installed for estimation of AP consumption. PSEB has decided to increase this sample size to 1 Lac for which Instructions have been vide CC No.64/2008 dated 31.10.2008. In compliance to the directions issued in the Minutes of Meeting held under the Chairmanship of Hon'ble Chief Minister Punjab on 8.1.2008 a Committee headed by Sh. A.K. Aggarwal, Advisor/Finance, PSEB

		<p>2007 to complete the activity but the Board was unable to carry out the task completely.</p> <p>The Board was therefore, again directed to comply with the requirements of section 55 of the Act.</p>		<p>has been constituted by the Board for analyzing the data of agriculture consumption in the state. The system/ procedure of determining of AP consumption is being examined in detail by the Committee. Report from the committee is expected at the end of December 2008. Moreover, PSEB has filed SLP in Supreme Court of India on 5.8.2006 against this issue; the decision on this issue is still awaited.</p>
8	Employee Cost	<p>Background The Board was to carry out the professional work-studies to assess the manpower requirement. Energy audit was to be implemented to effect accountability and assess productivity. Board was directed to submit a proposal which would include energy audit to effect accountability and assess productivity, take into account the recommendation of the Public Expenditure Reforms Commission, Punjab Public Sector Disinvestment Commission, and the Expert Group on Power Sector Reforms along with the next year of FY 2007-08. During Tariff Order 2004-05, the Commission had suggested a group of six performance indicators, which</p>	<p>The continuing high Employee Cost of the Board is a matter of grave concern. The Commission notes, however, that a study has been commissioned in this respect and trusts that the Board will, in the shortest time frame possible, draw up a road map to bring down these costs to normative levels.</p>	<p>M/s PricewaterhouseCoopers Pvt. Ltd. has been awarded the work to conduct detailed staffing study on man power requirement across different business groups of PSEB including action plan. Staffing study for PSEB has been started by the firm. Till date M/s PwC has submitted some volumes of reports with respect to Generation, Transmission, Distribution and Secretariat wing covering certain items of work mentioned in work order. However, the complete report on staffing study covering all items of work mentioning the scope of study/deliverables is yet to be submitted by the consultants. PSEB has taken various steps to control the employee costs, such as imposing complete ban on creation of new posts, frozen of fresh recruitment against retirements / death cases, as such PSEB has been able to</p>

		could be used by the Board for devising a formula for determining staff costs each year incorporating improving levels of efficiency.		save Rs.1290.56 Cr on employee cost in the last year on accounts of retirements in recent years. The No. of employees of the Board as on 31.3.2008 is as under:- Technical = 40371 Nos. Non-Technical = 25942 Nos. Total = 66313 Nos. PSEB has filed petition No 15 of 2008 before PSERC for amendment / modification of the provisions (Terms & Conditions for determination of Tariff) of the Regulations - 2005 (Employee Costs).
9	Fixed Assets Register.	<p>Background The Board was to confirm completion/maintenance of Fixed Assets Registers/cards involving Rs.80.94 crores belonging to 5 divisions and ensure that these are updated regularly. The Board was to furnish status report along with ARR for the year 2007-08</p> <p>Directive The Board was directed to furnish a copy of the same.</p>	The Board is advised to ensure regular updating of Fixed Assets Registers/Cards.	Fixed Assets Registers /Cards are being maintained and updated regularly.
10	Receivables	<p>Background In the Tariff Order for the year 2006-07, the Commission had observed that over 55% of the outstanding amount is more than one year old</p>	There does not appear to be any progress in the reduction of receivables with total outstanding as on 31.3.2007 having actually increased when compared with the corresponding figure for the previous year	Statement showing age wise defaulting amount in respect of Punjab Govt., Court Cases, DSC cases, PDCO and other cases as on 30.6.2008 is enclosed as Annexure.- in Vol. II of ARR Petition for FY 2008-09.

		and special efforts need to be made for recovery of old arrears. The State Government needs also to be impressed upon to provide adequate contingency in the budgets of departments in arrears, which will not only cater to the requirement of current electricity bills but ensure liquidation of outstanding as well. The Commission also noted that the largest single item of arrears is amount involved in court or DSC cases. These two categories need to be shown separately and high priority accorded to an early decision and recovery of amounts pending in the DSCs.	and the increasing trend continuing in 2007-08. Arrears of Govt. Departments and amounts pending in the DSCs have also similarly increased. Clearly, the Board needs to put in strenuous efforts to ensure that arrears are substantially reduced.	
11	Management Information System (MIS).	<p>Background The Board was to improve its Management Information System to give consistent data with greater details and explain basis for all the projections indicating sources of data and the method of estimating projected values and also submit report on implementation of computerization plan.</p> <p>The Commission had observed that there is no report on</p>	The Commission notes that only about 10% of the funds of IT related schemes have been utilized upto August 2007. The Commission trusts that the Board would have ensured optimum utilization of all funds available under APDRP Scheme at the end of the financial year. The Commission presumes that the implementation of different IT applications in the Board for which consultants have been appointed would include an IT enabled MIS system as well. The Board is advised to indicate the time frames for putting such an MIS in place.	<p>Against total sanctioned scheme amount of Rs.715.57 Cr for 26 nos. APDRP schemes, Rs.387.21 Cr have been utilized up to August 2007. Against a provision of Rs.64.31 Cr for IT related jobs under APDRP, Rs.6.62 Cr have only been utilized so far.</p> <p>In line with the decision of the Board for pursuing the phase wise implementation of IT in PSEB in different activities are being carried out by the relevant quarters:</p> <p>i. Human Resources Information System</p>

		<p>implementation of computerization plan of the Board or utilization of APDRP funds.</p> <p>Directive</p> <ul style="list-style-type: none"> i) Submit a status report on measures taken by the Board to address the issue while filing the ARR and Tariff Petition for the year 2008-09. ii) Provide a report on the utilization of APDRP funds. iii) Indicate the time frame for implementation of the complete MIS system. 		<p>(HRIS): Under this project, service book data of the various employees was sought to be captured from across the state which was later to be digitized for eventual use in the application software being developed namely the personnel information system and payroll, GPF, Loan, Leave and Pension accounting systems. Data entry of almost all employees has been completed and monthly updation of records required due to movement of employees is under process.</p> <ul style="list-style-type: none"> ii. GIS Mapping: - a pilot project for GIS mapping of two feeders including providing a unique GIS based consumer indexing and asset coding of HT/LT consumers is near completion. iii. Setting up of Bijli Suvidha kendras (BSK): There is a proposal to set up BSKs at suitable locations in the State with a pilot project to set up BSK in six major cities at the first instance namely: Ludhiana, Amritsar, Mohali, Jalandhar, Patiala & Bathinda. Civil works for the above are under advanced stages of completion. iv. Spot Billing of Residential (DS) & Non residential (NRS) Consumers:
--	--	---	--	--

				<p>170 Nos. spot billing machines have been procured for the purpose and a data linkup with RCC is being worked out. Presently work of spot billing has started in 6 Divisions.</p> <p>v. Inventory Management: - Work order has been placed on M/s DOEACC, Chandigarh for an IT project for maintaining the Optimum inventory level at different stores of PSEB and for ascertaining the latest position of the material available in the stores. Software for Inventory Management Module is under development. However, schedule for stores has been completed and shall undergo trial run shortly.</p> <p>vi. Load forecasting:- PSEB has already submitted database of all the consumer categories such as their demand, energy consumption so as to facilitate accurate forecasting in future. A load forecasting module is already in place under systems operation organization installed under aegis of PGCIL ULDC scheme.</p> <p>It shall be pertinent to mention that the tendering process with respect to hiring services of consultants for implementation of various IT applications in PSEB has since been completed and consequently M/s</p>
--	--	--	--	---

				<p>PriceWaterhouse Coopers (PwC) have been given a letter of intent for hiring their services for a 5 years term. The consultants shall be responsible for giving a comprehensive IT Road Map and ensure a multi- stage IT implementation. The various stages being submission of basic study report, detailed request for proposal, bid evaluation, vendor selection and program management support up till the successful implementation of 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.</p> <p>The consultants have submitted the basis study report which is under consideration for approval by the Board.</p>
--	--	--	--	---

12	Energy Conservation.	<p>Background The Board was to take adequate steps so that benefits of energy conservation are known to all categories of consumers and encourage them to adopt various energy conservation measures and avoid wasteful use of energy. The Board was also directed to take effective steps for installation of shunt capacitors by all industrial, railway traction and tubewell consumers to improve power factor of the system and thereby reduce T&D losses. The Board was to submit time bound action plan in respect of tubewell consumers & to install line capacitors and capacitor banks in the grid sub-stations for improving voltage profile. The status report detailing at least circle wise capacitor installation plans based on technical study of load flow and PF analysis duly supported with financial estimates alongwith action plan was to be furnished with the ARR for the year 2007-08.</p> <p>Directive i. Submit status report</p>	<p>The Commission notes the measures proposed to be undertaken by the Board to incentivize energy conservation. The Board is advised to report on the progress achieved in the implementation of these measures at the time of filing next ARR.</p> <p>The capacitor installation program enclosed with the ARR depicts a substantial MVAR capacity yet to be added. Moreover, the total installed capacity has been intimated to be upto 31.3.2007 whereas the total planned capacity addition is depicted only upto 31.3.2006, which needs to be updated.</p> <p>Information on Circle-wise capacitor installation plan has yet to be received and the Commission reiterates that it be submitted at the earliest.</p>	<ul style="list-style-type: none"> i. PSEB for its in house requirement has issued re-tender for procurement of CFLs T-8 36 W FTL along with Electronic chokes and HPSV lamps for replacement of present lighting system with Energy Efficient Lighting System in its buildings etc. This re-tender amounting to Rs.10 Crore (Approx) has been issued by the office of CE/MM, PSEB Patiala. ii. PSEB has already issued Commercial Circular 67/2007 and has made mandatory the use of CFLs on all the 10 lac AP Tube well Kothas (20 lac). iii. PSEB has already spent Rs.94 lac (Approx.) by launching publicity campaign through print and Electronic Media for educating and appealing the General and Industrial consumers for mandatory use of CFLs and other Energy Efficient Lighting Fixtures and to discourage the use of in-efficient yellow bulbs and conventional tubes alongwith Electro-magnetic chokes etc. iv. For promotion of efficient use of Energy and its conservation in the State of Punjab, comprehensive & time bound proposals for mandatory use of Efficient Lighting System for Commercial, Residential, Agricultural and Industrial consumers have been prepared and are
----	----------------------	--	--	--

		<p>regarding various measures taken to incentivise energy conservation by it and its consumers.</p> <p>ii. Submit a report detailing at least circle-wise capacitor installation plans duly supported with financial estimates.</p>		<p>under process.</p> <p>v. The paper reading contests organized in different schools of Punjab to which students participated in particular and public in general, They were encouraged to save energy by use of CFLs and Energy Efficiency Electrical appliances through these contexts and distribution of leaf lets handbills, stickers and literature of Energy Conservation. 20 No paper reading contests were carried out during the year 2007-08 and the covering of those were also done by the electronic Media and publicity given in leading News Papers and Telecasted on T.V. Channels.</p> <p>vi. State Level function of Energy conservation was celebrated on 14th December, 2007 at Bathinda. The paper reading context was carried out by calling the students of all the leading schools of Bathinda and the prizes were distributed. Industrialists, Farmers and consumers took active part in the function. The industrialists dealing with Energy Conservation, PEDDA Chandigarh and PAU Ludhiana have provided the stalls to give awareness among the masses for Energy Conservation.</p> <p>vii. Stalls were arranged in Five Number</p>
--	--	---	--	---

				<p>Kisan Melas organized by PAU Ludhiana, Pamphlets, hand bills, stickers and other educative material distributed to the farmers and public to make them aware about energy conservation and use of CFL's. The banners, posters, Audio Tapes and Video Films were shown to give attraction to the farmers and public in these Melas.</p> <p>viii. The proposal for replacement of present lighting System with Energy Efficient lighting System for domestic Consumers under Demand Side Management (DSM), Bachat lamp Yojna (BLY) & CDM is also under consideration with PSEB & BEE which will be implemented by March 2009 positively.</p> <p>ix. Energy Conservation Directorate installed a stall regarding energy conservation at Khatkar kalan, Distt. Nawanshehar on the occasion of Bharat Nirwan Public Information Campaign to build awareness for energy Conservation among the public by distributing Pamphlets, stickers and Hand bills and displaying banners etc.</p>
--	--	--	--	---

26 OTHER TARIFF RELATED ISSUES

26.1 Extra Levy for Private Hospitals

- 26.1.1 As per page No.152 and 153 of Tariff Order 2008-09, Objections for extra levy of private hospitals were raised by two objectors vide Issue No.1 of objection No.16, and objection No.18, wherein responses of PSEB and views of the Commission have been mentioned. PSERC sought related information on the issue vide letter dated 28.7.2008.
- 26.1.2 PSEB submitted the information to the Commission vide letter dated 4.12.2008 (Volume II) that as per PR Circular No.3/2000 dated 9.6.2000 privately managed Commercial Heart Care, MRI and CT Scan Units set up in the State for attending to accident/ emergency cases were decided to give supply on the pattern of essential services on the terms and conditions of the PR circular. As per above cited PR circular, consumers who opt for availing the facility of 24 hours uninterrupted power supply without any weekly off days / power cuts, shall be charged 25% extra tariff and this extra tariff is being levied since the issuance of this PR circular.
- 26.1.3 The rationale for charging 25% extra Tariff was clarified that although, as per record available no specific rationale for charging extra tariff is there, but it can be safely presumed that extra tariff is necessary as the consumer will get 24 hours un-interrupted power supply without any weekly off days / power cuts even though during short supply PSEB purchases power at much higher rates as compared to the normal tariff. This will not only help the institution to provide better services to the patients, but will help the institution commercially also. Further to avoid misuse of the facility, the extra tariff will act as a deterrent.
- 26.1.4 In reference to above reply, PSERC has sought comments of the Board vide letter dated 10.12.2008 that while getting approval of its General Conditions of Tariff and Schedule of Tariff, the provisions of 25% extra tariff were not indicated in the proposal submitted to the Commission .
- 26.1.5 While submitting proposal to the Commission for getting approval of General Conditions of Tariff and Schedule of Tariff, the provision of 25% extra tariff was not indicated considering that it is a Power Regulation matter and not linked with tariff. PSEB thus submits to the Hon'ble Commission that this provision of 25% extra tariff may please be considered and approved in the Tariff order for the year FY 09-10.

26.2 Review and Enhancement of rate of Peak Load Exemption Charges (PLEC)

- 26.2.1 The Board submits that the Board has to meet the load of the consumers during evening peak load hours when the domestic, commercial and other consumers require additional lighting load. There is a shortage of power during this period and to meet this additional load, peak load restrictions are presently being imposed on LS consumers so that energy being used for meeting the load of the industry during these hours is diverted to the domestic and commercial consumers. The peak load restriction hours during the year decided after discussions with the industry and prevalent since 8.12.03 is as under:

Table 26–1: Peak Load Restriction Hours as prevalent

Sr No	Months	Consumers under All Op. Zones (except Central Zone)	Consumers under Op. Central Zone
1	Feb, Mar, Sep & Oct	18.30 hrs to 21.30 hrs	19.00 hrs to 22.00 hrs
2	Apr, May & Aug	19.00 hrs to 22.00 hrs	19.30 hrs to 22.30 hrs
3	Jun & Jul	19.30 hrs to 22.30 hrs	20.00 hrs to 23.00 hrs
4	Nov, Dec & Jan	18.00 hrs to 21.00 hrs	18.00 hrs to 21.00 hrs

26.2.2 In order to cater to the need of those sections of industry which has to run compulsory during these Peak Load Hours and Continuous Process Industry, exemption from observing peak load is being allowed on the terms & conditions attached at (Volume II)

26.2.3 The salient details of the Peak Load Exemption Charges and other terms & conditions are as under:-

- a. These Peak Load Exemption Charges are presently applicable on all LS consumers though earlier these were imposed on MS consumers also.
- b. The consumer can avail 10% of contract demand at 0.9 Power factor or 50KW whichever is lower (for Arc furnace consumers 5%) without payment of charges during peak load hours (called normal peak load allowed without payment of Peak Load Exemption Charges).
- c. Presently for a peak load exemption of 100KW, SE/DS is authorized to allow the usage and the rate is worked out as under:-

“Rs. 120/- per Kw per month for the net load allowed during the peak load hours i.e. 100KW minus normal peak load allowed without payment of PLEC during these hours”

- d. For load above 100KW the competent authority is CE/SO&C and the rates are as under:-
 - i. The Contract Demand of the consumer in KVA is converted in KW by multiplying it with power factor of 0.9.
 - ii. For 65% of this KW load, the Peak Load Exemption Charges are Rs. 1.80 per KW per hr. and for load above 65%, it is Rs. 2.70 per KW per hr.
 - iii. The charges are levied on the exemption allowed in KW and it is not linked to the actual usage of the load.
 - iv. The charges are for full exempted load & consumer is not allowed any load without payment of Peak Load Exemption Charges.
- e. As per request by the consumer, the usage is allowed for a minimum period of six months in the first instance. Any change thereto is further valid for a minimum period of 3 months. This has been done to assess the demand of the system and arrange power to meet the load in advance and to reduce the work load of the offices dealing with the sanction and levying of these charges.
- f. LS consumers being fed from rural area feeders viz tube well feeders and 3 wire/4 wire feeders are exempted from levy of Peak Load Exemption Charges.

26.2.4 PSEB had fixed the rates for giving this additional facility in 1998 on the basis of:-

- a. The then prevailing rate of power generated through DG Sets (which was very low as the cost of diesel when these rates were fixed was Rs. 9.87 /Ltr. The cost of diesel is now approx~ Rs. 32 /Ltr. (Rise of 340%)
- b. The tariff of power being procured through traders/bilateral contracts is higher during evening peak load hours of 17.00 hrs to 23.00 hrs. Normally the seller entities do not offer any power during this period and if it is offered, it is always at a higher price. The documents attached at Volume IV may be perused as per which the differential rate of power during peak and non peak hours is as under:-
 - i. Bids sought by PTC for the period 15th July to 30th September, 08 attached at Volume IV specify the minimum reserve price during evening peak hours as Rs. 7/- compared with rate of night power as Rs. 5/- and off peak power as Rs. 6/-.
 - ii. The rate of power being cleared by Indian Exchange (Volume IV) is always higher during peak load hours compared with non peak hours. The rate cleared by exchange for 24.8.08 was Rs. 8/- to 9/- during peak load hours compared with Rs. 6/- to 7/- during non peak hours.
 - iii. The rate of liquid fired power at Anta & Auriya Stations (Volume IV) for the month of July '08 are:
 - Anta (LF) = 13.1712
 - Auriya (LF) = 15.8121
 - Dadri (LF) = 07.7195
- c. The ceiling rate of power under unscheduled inter change (UI) as fixed by CERC is Rs. 10/- at 49.00 Hz frequency. The frequency generally remains low during evening peak load hours due to excessive demand/limited availability and the rate of UI during peak load hours generally varies between Rs. 7/- to Rs. 9/-.
- d. With the current tariff for LS Industry as Rs. 3.95/- per unit and the peak load charges of Rs. 1.80 /unit and Rs. 2.70 /unit the chargeable rate during peak load hours for usage of power is Rs. 5.75/6.65 per unit. However, the average rate of trading power as per data available for the current year from Apr '08 to Jul '08 is Rs. 7.1966/Unit at Punjab periphery (Volume IV). With an average T&D Loss of 20%, the rate at consumer premises works out to Rs. 8.63 per unit. Even if we presume that the power during peak load hours will be available at the same rate, PSEB is not being compensated fully even on average rate basis for the additional power required to be purchased during peak load hours.
- e. The tariff of LS consumers during Feb '98 was Rs. 2.75/unit which has now increased to Rs. 3.95/unit. Since Feb '98, the Peak Load Exemption Charges have not been enhanced whereas the cost of generation through DG Sets as well as the cost of power during peak load hours has increased considerably.
- f. Though there has been continuous increase in the tariff for sale of power to industrial consumers, there has not been any change in the rate of Peak Load Exemption Charges. The basic rate of sale of power to LS industry was Rs. 2.75 /unit in 1998 which have increased to Rs.3.95 /unit as on date.

26.2.5 Due to this non enhancement of rates of PLEC over the last 10 years the tendency of the

consumers to avail maximum load during peak load hours has increased considerably as the industry finds it remunerative not to run their DG Set as the cost of diesel power is much more than the Peak Load Exemption Charges, hence, the need to review & refix these charges.

26.2.6 In view of the above, the rates of Peak Load Exemption Charges are required to be reviewed and increased appropriately so that PSEB gets appropriate revenue for the costly power procured during peak load hours and the industrial consumers pay the cost of power as nearer to the cost of diesel based power as possible and fewer power cuts are imposed on the domestic and commercial sectors during the period when their requirement is at its peak.

26.2.7 PSEB thus prays to the Hon'ble Commission that:-

- a. The Hon'ble Commission may review and refix the peak load exemption charges for the LS industry as deemed fit.
- b. The Hon'ble Commission may grant any other relief connected with the same as deemed fit.

26.3 Segregation of Costs - Generation, Transmission and Distribution

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

Table 26–2: Segregation of Costs – G T D

Apportionment of cost among various functions as per Board Accounts for the year FY07-08									
Sr. No.	Particular	TOTAL		GEN	TRANS	DIST	Total (G - T - D)	Common Assets/ Expenses	Remarks
ASSETS									
1	ASSETS	16,420.74	Direct	8,871.10	1,965.69	5,447.20	16,284.00		<i>General Assets trifurcated in the ratio of assets</i>
			Approx	74.49	16.51	45.74	136.74	136.74	
			Total	8,945.60	1,982.20	5,492.94	16,420.74		
EXPENSES									
1	Employee Cost	2,153.09	Direct	289.06	133.38	1,163.05	1,585.49		<i>General Expenses trifurcated in the ratio of respective heads</i>
			Approx	103.48	47.75	416.36	567.59	567.59	
			Total	392.54	181.13	1,579.41	2,153.09		
	Capitalization	117.81	Net of Cap	371.06	171.22	1,492.99	2,035.27		
2	R & M Cost	19.76	Dir.	19.76					<i>Operating expenses trifurcated in the ratio of respective heads</i>
		277.24	Direct	155.19	31.29	65.54	252.02		
		297.00	Approx	15.53	3.13	6.56	25.22	25.22	
			Total	190.48	34.42	72.10	297.00		
	Capitalization	3.10	Net of Cap	188.50	34.06	71.35	293.90		
3	A & G	92.04	Direct	10.95	11.97	43.99	66.91		<i>Operating expenses trifurcated in the ratio of respective heads</i>
			Approx	4.11	4.49	16.52	25.13	25.13	
			Total	15.06	16.46	60.52	92.04		
		Capitalization	22.33	Net of Cap	11.40	12.47	45.84	69.71	
4	Depreciation (net)	666.92	Direct	289.32	92.23	273.72	655.26		<i>Operating expenses trifurcated in the ratio of respective heads</i>
			Approx	5.15	1.64	4.87	11.66	11.66	
			Total	294.46	93.87	278.59	666.92		
		Capitalization	1.77	Net of Cap	293.68	93.62	277.85	665.15	
5	Int & Fin Charges	1,085.39	Direct	617.69	140.14	324.33	1,082.16		<i>General Expenses trifurcated in the ratio of respective heads</i>
			Approx	1.85	0.42	0.97	3.23	3.23	
			Total	619.54	140.56	325.30	1,085.39		
		Capitalization	221.77	Net of Cap	492.95	111.84	258.83	863.62	
6	Return on Equity	412.46		224.70	49.79	137.97	412.46		<i>Trifurcated in the ratio of assets</i>
7	Total Expenses*			1,582.29	472.99	2,284.82	4,340.11		

- 26.3.2 Based on the above segregation of costs for the year FY 07-08, the ARR for FY 09-10 (less Fuel Cost and Power Purchase Cost) has been segregated in terms of Generation, Transmission and Distribution Costs as summarized in the table below.
- 26.3.3 As per the Open Access Regulations notified by the Hon'ble Commission, the open access charges for the year FY09-10 are computed in the Table below:

Table 26–3: Open Access Charges for FY 09-10

Bifurcation of ARR FY 09-10 - G T D			
A	Total ARR For FY 09-10		
1	ARR FY 09-10	Rs Cr	15,775
	Less:		
1	Fuel cost	Rs Cr	3,047
2	Power Purchase	Rs Cr	7,265
3	Balance ARR	Rs Cr	5,464
B Bifurcation of Balance ARR- GTD			
1	GEN	Rs Cr	1,992
2	TRANS	Rs Cr	595
3	DIST	Rs Cr	2,876
C Capacity			
1	Total Transmission Capacity	MW	6705
2	Total Distribution Capacity	MW	6697
D Open Access Charges			
1	Transmission Charges	/MW/day	2,433
2	Wheeling charges	/MW/day	11,768
E Transmission + Wheeling Charges			
1	Long term customers	/MW/day	4,733
2	Short term customers	/MW/day	3,550

27 WAIVER

- 27.1.1 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.
- 27.1.2 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.
- 27.1.3 PSEB has segregated the transmission and wheeling costs and the same has been furnished with the petition.
- 27.1.4 PSEB submits to the Commission that it would submit necessary additional information required by the Commission during the processing of this petition

28 PRAYER

- 28.1.1 PSEB requests the Hon'ble Commission to:
- a. Approve the Aggregate Revenue Requirement for FY 09-10.
 - b. Treat the filing as complete in view of substantial compliance as also the specific requests for waivers with justification placed on record;
 - c. Allow the remaining provisions for tariff as per existing PSEB Tariff for supply of Electricity rules, regulations and guidelines as amended upto date;
 - d. 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. K K Singla

December 29, 2008

**Chief Engineer (Commercial)
Punjab State Electricity Board, Patiala**

29 DETAILED FORMATS