

A7: COMMISSION'S ANALYSIS OF ARR AND TARIFF PETITION FOR FY 2009-10

- 7.1 This section contains a summary of the components of the petition for ARR of FY 2007-08 (True up as per actual figures), FY 2008-09 (revised estimates) & FY 2009-10 (projected) and determination of tariff for FY 2009-10, submitted by TSL and the Commission's analysis of the said components.
- 7.2 Since the audited accounts for FY 2007-08 and FY 2008-09 are made available to the Commission, the Commission has made use of the cost elements of ARR relating to these years for truing up for FY 2007-08 as well as computing the revised estimates for FY 2008-09.

Energy Sales

- 7.3 The petitioner has estimated the energy sales at two levels:
- (a) Consumption by Steel Works
 - (b) Jamshedpur Township consumption

Petitioner's submission

- 7.4 The petitioner has submitted details of actual energy sales for FY 2007-08, provisional sales for FY 2008-09 and projected sales for FY 2009-10. Projections for FY 2009-10 are based on the projected increase in demand by current consumers as well as estimated increase in sales through addition of new consumers.
- 7.5 The following table summarises the basis used for projecting the sales across various categories of consumers during FY 2009-10:

Table 52: Basis of growth in energy sales during FY 2009-10 over FY 2008-09

Consumer Category	Basis of Projection
Domestic LT	@3.44% , being CAGR for a period from FY07 to FY09
Domestic HT	@2%, being normative growth which is more than CAGR for a period from FY07 to FY09
Commercial	@8.00% , being normal growth
High Tension I	@5.00% due to new consumers and increase in load of existing consumers
High Tension II	@5.00% due to increase in consumption by existing consumers
High Tension III	@2.00% due to increase in consumption by existing consumers
Street Lights	@2.50%, based on the estimated increase in connected load
Temporary Supply	No growth
Sale to JUSCO	Sale of Residual energy

- 7.6 The number of consumers in each consumer category for the years FY 2007-08 (actual), FY 2008-09 (provisional) and FY 2009-10 (projected) are detailed hereunder:

Table 53 Number of Consumers

Category	FY 2007-08	FY 2008-09	FY 2009-10
	<i>Actual</i>	<i>Provisional</i>	<i>Projected</i>
Domestic	17,897	18,693	19,155
Domestic - DS HT	48	51	52
Commercial	6,478	6,788	6,914
High Tension I	36	39	46
High Tension II	10	10	13
High Tension III	8	9	9
Street Lights	3		
Total	24,480	25,590	26,189

- 7.7 The connected load for each consumer category for the years FY 2007-08 (actual), FY 2008-09 (provisional) and FY 2009-10 (projected) is detailed hereunder:

Table 54 Category-wise Connected Load

Category	Units	FY 2007-08	FY 2008-09	FY 2009-10
		<i>Actual</i>	<i>Provisional</i>	<i>Projected</i>
LT Domestic	kW	64,495	64,632	65,988
HT Domestic	kVA	11,113	12,713	12,967
LT Commercial	kW	37,268	37,999	38,704
High Tension I	kVA	6,070	7,530	9,630
High Tension II	kVA	17,125	19,825	21,675
High Tension III	kVA	142,900	198,900	198,900
Street Lights / Utilities	kW	1,496	1,563	1,603
Total		280,467	343,162	349,467

- 7.8 The table given below details the actual, provisional and projected sale of energy for FY 2007-08 (actual), FY 2008-09 (provisional) and FY 2009-10 (projected) respectively.

Table 55 Estimates of Energy Sales (MUs)

Category	FY 2007-08	FY 2008-09	FY 2009-10
	<i>Actual</i>	<i>Provisional</i>	<i>Projected</i>
Domestic - DS I		21.46	22.20
Domestic - DS II		21.70	22.45
Domestic - DS III		28.67	29.65
Domestic - Temporary Supply		3.29	3.41
Domestic Total	80.23	75.12	77.71
Domestic - DS HT	57.56	57.70	58.85

Commercial	32.06	40.92	44.20
High Tension I	14.48	15.77	16.56
High Tension II	58.70	79.76	83.75
High Tension III	840.09	936.30	955.02
Street Lights / Utilities	6.86	8.40	8.61
Temporary Supply		2.39	2.39
Sale to Other Licensee	4.41	38.39	52.52
Total	1094.39	1254.75	1299.61

Commission's analysis

- 7.9 The Commission scrutinized the commercial information and the basis of computation of sales projection filed by the petitioner. The Commission approves the sales for FY 2007-08 and FY 2008-09 at the same level as projected by the petitioner, as these are based on the actual sales registered by the petitioner.
- 7.10 For projecting the energy sales during FY 2009-10, the Commission, in absence of latest data, approves the energy sales as projected by the petitioner. However, the Commission has estimated the number of consumers and connected load/contract demand based on the pending list of consumers/connected load as on April 1, 2009 submitted by the petitioner.
- 7.11 The Commission has assumed that there would be an addition of at least the same number of consumers during FY 2009-10 as was registered during FY 2008-09. Accordingly the Commission approves the under mentioned consumers for FY 2007-08 (actual), FY 2008-09 (provisional) and FY 2009-10 (projected):

Table 56: Approved Number of Consumers

Category	FY 2007-08	FY 2008-09	FY 2009-10
	<i>Actual</i>	<i>Provisional</i>	<i>Projected</i>
Domestic - DS I			
Domestic - DS II			
Domestic - DS III			
Domestic - Temporary Supply			
Domestic Total	17,897	18,693	19,549
Domestic - DS HT	48	51	53
Commercial	6,478	6,788	7,021
High Tension I	36	39	52
High Tension II	10	10	16
High Tension III	8	9	9
Street Lights	3		
Total	24,480	25,590	26,700

7.12 The approved connected load figure for the above-mentioned consumers is detailed hereunder:

Table 57: Approved Connected Load/Contract Demand

Category	Units	FY 2007-08	FY 2008-09	FY 2009-10
		<i>Actual</i>	<i>Provisional</i>	<i>Projected</i>
LT Domestic	kW	64,495	64,632	67,345
HT Domestic	kVA	11,113	12,713	13,216
LT Commercial	kW	37,268	37,999	39,303
High Tension I	kVA	6,070	7,530	10,886
High Tension II	kVA	17,125	19,825	26,677
High Tension III	kVA	142,900	198,900	198,900
Street Lights / Utilities	kW	1,496	1,563	1,603
Total		280,467	343,162	357,931

7.13 Based on the approved number of consumers and connected load, the category-wise approved sales to various categories of consumers is summarised as under:

Table 58: Approved category-wise unit sales (in MUs) for FY08, FY09 and FY10

Category	FY 2007-08	FY 2008-09	FY 2009-10
	<i>Actual</i>	<i>Provisional</i>	<i>Projected</i>
Domestic - DS I		21.46	22.20
Domestic - DS II		21.70	22.45
Domestic - DS III		28.67	29.65
Domestic - Temporary Supply		3.29	3.41
Domestic Total	80.23	75.12	77.71
Domestic - DS HT	57.56	57.70	58.85
Commercial	32.06	40.92	44.20
High Tension I	14.48	15.77	16.56
High Tension II	58.70	79.76	83.75
High Tension III	840.09	936.30	955.02
Street Lights / Utilities	6.86	8.40	8.61
Temporary Supply		2.39	2.39
Sale to Other Licensee	4.41	38.39	52.52
Total	1094.39	1254.75	1299.61

7.14 Since the sales figures for FY 2009-10 are on estimation basis, and shall be subjected to true-up in subsequent tariff orders, the Commission approves the sales of 1299.61 MUs submitted by the petitioner but directs the petitioner to conduct demand forecasting and load research studies to correctly estimate the category wise sales in future. The Commission has given timelines for the same in the directives section of this tariff order.

Distribution Losses

Petitioner's submission

- 7.15 The petitioner has proposed a distribution loss level of 8% during FY 2009-10. It has further submitted that it has planned a capital investment of Rs.2.00 Cr during FY 2009-10 in order to control losses. TSL has forecasted a marginal increase of 0.21% of distribution loss over the previous year as a result of projected expansion in consumer base, energy sales and network.
- 7.16 The petitioner cited that any reduction beyond 8.00% loss requires substantial efforts in terms of investment and has requested the Commission to allow distribution losses at a level of 8.00% for FY 2009-10, which it claims to be much lower when compared to distribution losses of other private distribution licensees in India.

Commission's analysis

- 7.17 The Commission notes that more than 50% of the additional energy projected to be sold during FY 2009-10 over FY 2008-09 is to the HT consumers and 32% to JUSCO, which is again at HT/EHT level. Therefore, Commission feels that there is no rationale for increase in distribution losses over the previous year's level. Therefore, the Commission deems it fit to approve a distribution loss level of 7.75%, which is equivalent to distribution loss level registered during FY 2008-09.
- 7.18 However, in case the actual distribution losses during FY 2009-10 are reported in the range as stated in the petition, the Commission would review the loss levels in the subsequent tariff order. Meanwhile, **the Commission directs the petitioner to conduct loss estimation and energy audit studies to ascertain the loss levels more accurately. The Commission has given timelines for the same in the directives section of this tariff order.**

Energy Balance

Petitioner's submission

- 7.19 TSL has estimated an overall increase in energy consumption in its license area by 3.57% in FY 2009-10, due to changing lifestyle and increase in disposable income of different sections of the society.
- 7.20 The energy balance for FY 2007-08 and FY 2008-09 is based on the actual energy purchase, energy sales and corresponding energy losses for both years.

7.21 The Petitioner's projection of energy balance for FY 2009-10 is based on the energy sales projections for township consumption being grossed up by an estimated distribution loss level of 8.0% in order to compute the quantum of power purchase required. Accordingly, with an estimated distribution loss level of 8.0% and energy sales estimation of 1299.61 MUs, the Petitioner's estimated energy requirement for the power distribution to Jamshedpur town is proposed at 1415.43 MUs for FY 2009-10 as detailed in table given hereunder:

Table 59: Projected Energy Balance

	FY 2007-08	FY 2008-09	FY 2009-10
Energy Requirement			
Power Distribution Business	1094.39	1254.76	1299.61
<i>Overall Loss (%)</i>	<i>9.33%</i>	<i>7.79%</i>	<i>8.00%</i>
Energy Requirement for Jamshedpur Town	1207.06	1360.74	1415.43
Transfer to Tata Steel	466.08	589.80	574.74
Total	1673.14	1950.45	1990.18
Energy Availability			
TPCL (Units II & III)	1435.15	1523.43	1512.14
DVC	237.99	400.90	471.34
Others		26.12	6.70
Total	1673.14	1950.45	1990.18

Commission's analysis

7.22 The Commission has considered the energy transferred to Steel Works at the same level as that proposed by the petitioner for all the three years under consideration. In its last Tariff Order for FY 2005-06, the Commission has directed the petitioner to treat Steel Works as a distinct consumer and propose its tariff within a period of six months of the issue of that tariff order. In this regard, the petitioner has stated that issue of treating Unit II & Unit III of TPCL as a captive unit of TSL is still under consideration of Hon'ble Supreme Court of India after being rejected by Appellate Tribunal. Since the Appellate Tribunal has rejected the claim of the petitioner and the Hon'ble Supreme Court has also not put any stay on the Judgement of Appellate Tribunal, the Commission has decided to net off the power sold to the Steel Works from the power purchase cost of the petitioner.

7.23 Based on the approved distribution loss level of 7.75% during FY 2009-10, the Commission calculated the power purchase requirement of the petitioner by adjusting the difference from short-term source of power. The approved energy balance along-with source wise power purchase is detailed hereunder:

Table 60: Approved Energy Balance and source-wise purchase of power

	FY 2007-08	FY 2008-09	FY 2009-10
Energy Requirement			
Power Distribution Business	1094.39	1254.75	1299.61
<i>Overall Losses (%)</i>	<i>9.33%</i>	<i>7.79%</i>	<i>7.75%</i>

Energy Requirement for Jamshedpur Town	1207.06	1360.73	1408.79
Transfer to Tata Steel	466.01	589.30	574.74
Total	1673.07	1950.03	1983.53
Energy Availability			
TPCL (Units II & III)	1435.08	1523.01	1512.09
DVC	237.99	400.90	471.34
Others		26.12	0.10
Total	1673.07	1950.03	1983.53

Power Purchase Cost

Petitioner's submission

- 7.24 As mentioned earlier, primarily there are two sources of power purchase for the petitioner viz., DVC (under perpetual PPA) and TPCL (under long-term PPA). Apart from this, the petitioner occasionally resorts to short-term power purchase to meet the power shortage during outage of generating units at TPCL and power drawal restrictions from DVC.
- 7.25 The average cost of power purchase from TPCL and DVC is estimated at Rs.2.70/unit and Rs.3.95/unit respectively for FY 2009-10. The petitioner submits that this estimate is based on the prevailing fuel prices and any changes in them should be passed through after netting it for losses. Further, the petitioner submitted that DVC has increased fuel surcharge w.e.f. April 2008 and has asked arrears for the same in June 2009 for power supplied during FY 2008-09. Likewise, TSL has computed the power purchase cost for FY 2008-09 while taking into effect the arrears due to increased fuel cost surcharge.
- 7.26 The petitioner has projected a total power purchase cost of Rs.426.20 Cr as a cost of purchasing 1415.44 MUs as detailed in table given hereunder:

Table 61: Projected Power Purchase Cost (Rs. Cr)

SOURCE	FY 2007-08	FY 2008-09	FY 2009-10
TPCL			
Units Purchased (MUs)	1,435	1,523.43	1,512.14
Per Unit Price	2.33	2.51	2.70
<i>Power Purchase Cost</i>	334.88	382.65	408.29
DVC			
Units Purchased (MUs)	237.99	400.90	471.34
Per Unit Price	4.19	3.88	3.95
<i>Power Purchase Cost</i>	99.66	155.44	186.29
Others			
Units Purchased (MUs)	0.00	26.12	6.70
Per Unit Price		9.28	7.00
<i>Power Purchase Cost</i>		24.24	4.69

Total Units Purchased (MUs)	1673.14	1950.45	1990.18
Total Power Purchase Cost (Rs. Cr)	434.54	562.33	599.27
<i>Per unit cost of power purchase</i>	2.60	2.88	3.01
Receipt from power transfer to Steel Works (Rs. Cr)	121.05	170.03	173.07
Net Power Purchase (MUs)	1207.06	1360.65	1415.44
Net Power Purchase Cost (Rs. Cr)	313.49	392.30	426.20

Commission's analysis

- 7.27 The Commission has determined the power purchase cost from DVC for FY 2007-08 and FY 2008-09 based on the audited accounts. The power purchase rate from DVC for FY 2009-10 has been considered at the same level submitted by the petitioner, being the current rate charged by the DVC from other utilities.
- 7.28 The Commission feels that the petitioner needs to manage the deficit either through DVC or needs to cut down on its sale to JUSCO, with whom TSL has executed an agreement in FY 2008-09 for sale of its residual power.
- 7.29 The Commission considers the proposed power purchase rate of Rs.9.28/kWh for short-term power to be too high and approves the short-term power purchase rate at the same level as that approved for the power purchased from DVC i.e. Rs. 3.95/unit, with the condition that it will be trued- up as and when the actual rate of power purchase from other sources is made available, subject to prudence check by the Commission.
- 7.30 However, considering that the timing of the issue of this tariff order is such that almost 10 months of the tariff period has already passed, the Commission shall consider the short-term purchase, as per actual rate of purchase, for the period starting from 1st April 2009 and till the issue of this tariff order when the true up exercise will be undertaken, subject to prudence check. The petitioner shall be required to submit the data separately for the period as stated above.
- 7.31 The Commission has determined the cost of power purchase from TPCL for all the three years on the basis of the Tariff Order on Annual Revenue Requirement and Determination of Generation Tariff for Financial Years 2007-08, 2008-09 and 2009-10 for TPCL on the petition for FY 2009-10, issued in January 2010.

Table 62 Approved Power Purchase Cost (Rs. Cr)

SOURCE	FY 2007-08	FY 2008-09	FY 2009-10
TPCL (Unit II)			
Units Purchased (MUs)	736	761.5	1,512.14
Per Unit Price	2.37	2.46	2.57
<i>Power Purchase Cost</i>	174.34	187.67	388.50
TPCL (Unit III)			

Units Purchased (MUs)	699	761.5	1,512.14
Per Unit Price	2.41	2.48	2.57
Power Purchase Cost	168.32	188.57	388.50
DVC			
Units Purchased (MUs)	237.99	400.90	471.34
Per Unit Price	4.19	3.88	3.95
Power Purchase Cost	99.66	155.44	186.29
Others			
Units Purchased (MUs)		26.12	0.05
Per Unit Price		9.28	3.95
Power Purchase Cost		24.24	0.02
Total Units Purchased (MUs)	1673.07	1950.03	1983.53
Total Power Purchase Cost (Rs. Cr)	442.33	555.92	574.81
<i>Per unit cost of power purchase</i>	<i>2.64</i>	<i>2.85</i>	<i>2.90</i>
Receipt from power transfer to Steel Works (Rs. Cr)	123.20	167.99	166.55
Net Power Purchase (MUs)	1207.06	1360.73	1408.79
Net Power Purchase Cost (Rs. Cr)	319.12	387.92	408.26

Operations & Maintenance (O&M) Expenses

7.32 O&M expenses consist of (a) employee cost; (b) repair & maintenance (R&M) expenses; & (c) administrative & general (A&G) expenses.

Petitioner's submission

7.33 The petitioner has submitted that it has outsourced its major portion of power distribution business to its 100% subsidiary, JUSCO. For FY 2009-10, it has projected the O&M expenses based on the normative increase of 10% over the previous years' O&M expenses.

7.34 The petitioner has submitted that its power distribution network is expanding every year and so are its load & energy sales. In order to meet these requirements, the licensee requires additional O&M expenses. The petitioner has further justified its claim by comparing the O&M expenses as a percentage of ARR with Torrent Power and BRPL for FY 2008-09. O&M expenses as a percentage of ARR are 9.18% and 8.96% in case of Torrent Power and BRPL respectively, whereas for TSL they are 8.73%.

Commission's analysis

7.35 The Commission acknowledges that the O&M expenses of the petitioner as a percentage of ARR are among the lowest in the Country. The Commission also approves the 10% inflation factor considered by the petitioner for projection of O&M expenses and hence approves the O&M expenditure proposed by the petitioner.

Table 63: Proposed and Approved O&M Expenses (Rs. Cr)

	FY 2007-08	FY 2008-09	FY 2009-10
O&M Expenses	31.47	39.52	43.47
% increase		26%	10%

Capital Investment Plan

Petitioner's submission

7.36 The petitioner has proposed a capital investment plan of Rs.179.75 Cr for the next 5 years with the objective to meet the increasing demand of existing consumers and creation of distribution network in the main city as well as fringe areas of Jamshedpur. Till FY 2008-09, TSL has invested Rs.16.70 Cr in various schemes and has planned to invest rest of the amount of Rs.163.05 Cr in a phased manner during next 5 years. The capital expenditure proposed for FY 2009-10 is Rs.23.25 Cr.

7.37 The Capex plan proposed by the petitioner for FY 2009-10 is detailed hereunder:

Table 64 Proposed Capital Investment plan for FY 2009-10

S No.	Particulars	Capital Investment (Rs Cr (Phasing for FY 2008-09)
1.	132 Kv Transmission line from Jojobera to Sonari	4
2.	Augmentation of Power Supply in Bistpur and Marine	4
3.	To set up 6.6 Kv distribution network from 2 nd 15 MVA transformers at L town yard	1
4.	Installation of 2 nd 15 MVA transformers at Sonari and downstream network	4.8
5.	Creation of distribution infrastructure in fringe areas of Jamshedpur viz Bhatia Basti, Ullliyan, Shahstri Nagar, Chota Govindpur, Govindpur and Birsa Nagar	2.4
6.	Strengthening of Testing & maintenance facilities for distribution equipment	0.4
7.	132/33 Kv, 2*50 MVA substation for future growth	0.5
8.	Substation Automation/SCADA for Ch Area, Sonari, L town, Telco area & Tinplate Area 33/6.6 Kv substations	1
9.	GSM based Remote meter reading for high Value consumers.	0.6
10.	Replacement of Bare O/H LT Lines with insulated cable/ Ariel Bunched Cable line	1
11.	Replacement of 33 Kv O/H L5, L6,L3,L4 to underground cabling including capacity enhancement	1.1
12.	33Kv Tie between Bara Substation and Tinplate Area Substation	0.55
13.	Power Supply to VidyapatiNagar, Baridih Basti	2
	Total Capital Investment Plan	23.35

Commission's analysis

7.38 The Commission observes that the petitioner has not been fully investing in various scheme as per the proposed investment plan in the previous years, as shown below:

Table 65: Capex Achievement Vs Capex approved (Rs. Cr)

	FY 2007-08	FY 2008-09
Capex proposed	15.00	18.98
Actual Capex achieved	10.97	13.39
Achievement (%)	73%	71%

7.39 It is evident from the above that the petitioner has been able to achieve only about 72% of the proposed capital investment in previous years. The Commission feels that the petitioner should review its 5-year capital investment plan in more detail and propose a more realistic capital investment plan in future.

7.40 In the meantime, the Commission approves the capital investment plan of Rs.23.35 Cr for FY 2009-10 as submitted by the petitioner. However, the petitioner is required to submit scheme-wise details of actual capital expenditure incurred in FY 2009-10 and also the scheme-wise implementation schedule for FY 2010-11, with the next tariff petition.

CWIP & Gross Fixed Asset

Petitioner's submission

7.41 The petitioner submitted that during FY 2008-09 it would be able to capitalise assets worth Rs.26.83 Cr. It has submitted the following figures of GFA for FY 2007-08, FY 2008-09 and FY 2009-10:

Table 66: Proposed Capitalisation Schedule (Rs. Cr)

Asset Class	Closing GFA of FY 08	Addition during FY 09	Closing GFA for FY 09	Addition during FY 10	Closing GFA for FY 10
Building	0.47	0.00	0.47	0.10	0.57
P&M	114.65	0.77	115.42	25.72	141.14
Furniture	0.77	0.01	0.77	0.17	0.95
Computers & IT	0.23	0.00	0.23	0.05	0.29
Civil Structure	3.49	0.02	3.51	0.78	4.29
Total	119.61	0.80	120.41	26.83	147.24

Commission's analysis

7.42 The Commission approves the CWIP and GFA for FY 2007-08 and 2008-09 as per the audited accounts submitted by the petitioner.

- 7.43 For the purpose of computing the CWIP & GFA for FY 2009-10, the Commission has determined the average conversion rate of total CWIP into fixed assets to determine the amount of CWIP and GFA for the financial year ending 31st March, 2010. The average conversion rate is 40%, based on the audited accounts of the petitioner for FY 2006-07 to FY 2008-09.
- 7.44 Based on the approved capitalisation of Rs.23.25 Cr and conversion rate of 40%, the approved CWIP amounts to Rs.26.50 Cr for FY 2009-10, as detailed in the table given below:

Table 67 Approved CWIP (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Opening CWIP	2.76	8.88	21.17
Capex During the Year	10.97	13.39	23.25
Total CWIP	13.73	22.27	44.43
Less. Transferred to FA	4.85	1.10	17.93
Closing CWIP	8.88	21.17	26.50
<i>Average Conversion Rate</i>	<i>35%</i>	<i>5%</i>	<i>40%</i>

- 7.45 On the basis of CWIP as calculated above, value of approved GFA is detailed hereunder:

Table 68: Approved GFA for FY 2009-10 (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Opening balance of GFA	110.76	115.61	116.70
Add: Transferred from CWIP	4.85	1.10	17.93
Closing balance of GFA	115.61	116.70	134.63

Depreciation

Petitioner's submission

- 7.46 The petitioner has submitted that it has been maintaining its distribution assets under the broad classification of: land, building, plant & machinery, furniture, computer & IT and civil structure. All the assets except civil structure have been separately identified for power distribution business of the licensee and the proportionate value of civil structure is being included in the gross block of assets on the basis of valuation carried out by the registered valuer. The petitioner further submitted that re-classification of these assets as per 'Distribution Tariff Regulations, 2004' is not practically feasible at this point of time.

7.47 The petitioner has submitted the computation of depreciation charge on the basis of the straight-line method (SLM) at the rates prescribed in the Companies Act, 1956. For assets capitalised during the year, depreciation has been computed on half-yearly basis. The proposed depreciation charge for FY 2007-08, FY 2008-09 and FY 2009-10 is tabulated below:

Table 69 Proposed Depreciation Charge (Rs. Cr)

Assets	FY 2007-08	FY 2008-09	FY 2009-10
Land	0.00	0.00	0.00
Building	0.02	0.02	0.02
Plant & Machinery	4.93	4.91	5.55
Furniture	0.03	0.02	0.02
Computers & IT	0.01	0.01	0.01
Civil Structure	0.15	0.15	0.15
Total Depreciation	5.14	5.11	5.75
Closing Balance of GFA	119.60	120.39	147.22
Depreciation as a % of GFA	4.30%	4.24%	3.91%

Commission's analysis

7.48 The 'Distribution Tariff Regulations, 2004' specify that the depreciation shall be calculated annually as per SLM at the rate of depreciation prescribed in the schedule attached to the Regulations at Appendix-II. Further, it is provided that capital base for the purpose of depreciation shall be the historical cost of the asset with the residual life of the asset being 10% of its approved original cost.

7.49 In view of the petitioners' inability to classify its distribution assets in accordance with Appendix II, the Commission has for the time being considered the classification and depreciation rates as proposed by it.

7.50 For the purpose of calculation of the depreciation charge for the FY 2007-08 and FY 2008-09, the Commission has considered the values as given in the audited accounts for these years. However, the proportionate depreciation on the assets created out of consumer contribution has been deducted to arrive at the approved depreciation charge of Rs.4.60 Cr and Rs.4.63 Cr for FY 2007-08 and FY 2008-09 respectively.

7.51 For FY 2009-10, the Commission has calculated the depreciation charge by applying the average depreciation rate determined on the basis of audited accounts for FY 2008-09 to the average GFA approved by the Commission for FY 2009-10. The calculation of approved rate base is detailed in the table given below:

Table 70: Calculation of Rate Base for FY 2009-10 (Rs. Cr)

Particulars	Amount
GFA as on 1.4.2008	115.61
GFA as on 31.3.2009	116.70
Average GFA for FY 2008-09(A)	116.15
Depreciation Charge for FY 2008-09(B)	5.21
<i>Depreciation rate (B/A)</i>	<i>4.48%</i>

7.52 The depreciation rate of 4.48%, as determined above, is applied on average GFA of Rs.125.67 Cr, to compute the approved depreciation charge for FY 2009-10, amounting to Rs.5.63 Cr. The depreciation charge is reduced in the proportion of assets funded by way of consumer contribution which amounts to Rs.0.62 Cr. Accordingly, the Commission approves depreciation charge of Rs. 5.01 Cr for FY 2009-10 as summarised in the table given below:

Table 71 Approved Depreciation charge for FY08, FY09 & FY10 (Rs. Cr)

Assets	FY 2007-08	FY 2008-09	FY 2009-10
Land	0.00	0.00	0.00
Building	0.02	0.02	0.02
Plant & Machinery	4.96	5.00	5.44
Furniture	0.03	0.02	0.02
Computers & IT	0.01	0.01	0.01
Civil Structure	0.15	0.15	0.15
Gross Depreciation	5.18	5.21	5.63
Less: Depreciation on assets created out of Consumer Contribution	0.58	0.57	0.62
Net Depreciation	4.60	4.63	5.01
Closing Balance of GFA	115.61	116.70	134.63
Depreciation as a % of GFA	4.48%	4.48%	4.48%

Debt and Equity Components

Petitioner's submission

- 7.53 The petitioner has submitted that it has funded the entire capital expenditure through its own resources i.e. through equity infusion and consumer contribution and thus claimed interest on loan and RoE on the normative debt and equity.
- 7.54 The petitioner has computed normative equity to be equal to the 30% of the gross fixed assets as at the year end and the normative debt has been considered as 70% of the net fixed assets net of consumer contribution.

Commission's analysis

7.55 The 'Distribution Tariff Regulations, 2004' states that:

“Debt Equity ratio for the purpose of determination of tariff shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30%. Where actual equity employed is less than 30%, the actual equity shall be considered.

7.56 Accordingly, the Commission has calculated the normative debt and equity in the ratio of 70:30 of the value of GFA after netting the consumer contribution. Normative repayment of loan is deemed to be equal to net depreciation charge during the year. The table given below summarizes the proposed and approved normative capital structure of the petitioner for FY 2007-08, FY 2008-09 and FY 2009-10:

Table 72: Proposed and Approved Capital Structure for FY 08, FY09 & FY10 (Rs. Cr)

PARTICULARS	FY 2007-08		FY 2008-09		FY 2009-10	
	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>
Gross Fixed Assets	119.60	115.61	120.39	116.70	147.22	134.63
Less: Accumulated Depreciation	47.13	45.76	52.23	50.39	57.98	55.40
Net Fixed Assets	72.47	69.85	68.16	66.31	89.24	79.23
<i>Sources:</i>						
Consumer Contribution	11.41	12.86	11.41	12.86	13.41	14.83
Equity [30% *(GFA-CC)]	32.46	30.83	32.70	31.15	40.14	35.94
Loans [70%* (GFA-CC)- Accumulated Dep.]	42.74	26.17	39.72	22.30	53.08	28.46
Total	86.61	69.85	83.83	66.31	106.63	79.23

Interest and Other Finance Charges

Petitioner's submission

7.57 Based on the normative debt as calculated above, the petitioner calculated the net interest liability at 200 basis points (i.e.2%) below SBI PLR of 12.25% as on 1st April 07, 1st April 08 & 1st April 09. This interest rate is applied to the closing balance of normative loan to arrive at the net interest charges of Rs.4.38 Cr, Rs.4.07 Cr & Rs.5.44 Cr for FY 2007-08, FY 2008-09 & FY 2009-10 respectively.

- 7.58 The petitioner has projected normative working capital of Rs.36.79 Cr, Rs.46.40 Cr & Rs.49.78 Cr for FY 2007-08, FY 2008-09 & FY 2009-10 respectively, consisting of receivables equivalent to 2 months (excluding the HT3 consumption), average bank balance required for 1 month power purchase net of security deposit. The interest on normative working capital has been calculated by applying an interest rate of 12.25% (SBI PLR).
- 7.59 The petitioner has also proposed the interest on security deposit by consumers at the bank rate which is equivalent to 6.00% p.a. The total interest and finance charges proposed by the petitioner is summarised in the table given below:

Table 73: Interest and Finance charges proposed by the petitioner (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Interest on Normative Debt @ 10.25%	4.38	4.07	5.44
Interest on Working Capital @12.25%	4.51	5.68	6.10
Interest on Security Deposit @ 5.75%	0.17	0.22	0.26
Total	9.06	9.98	11.80

Commission's analysis

- 7.60 In accordance with generally accepted accounting principles and norms specified in the 'Distribution Tariff Regulations, 2004', the interest on loan is computed on the average loan outstanding during the year. Accordingly, the interest on normative loan is computed on the average normative loan balance during the year by applying interest rate of 10.25%, as proposed by the petitioner. The interest on normative loan approved by the Commission for FY 2007-08, FY 2008-09 & FY 2009-10 amounts to Rs.2.74 Cr , Rs.2.48 Cr & Rs.2.60 Cr respectively as detailed hereunder:

Table 74 Approved interest on Normative Loans (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Opening Balance of Normative Loan	27.38	26.17	22.30
Deemed Addition during the year	3.39	0.77	11.17
Deemed Repayments	4.60	4.63	5.01
Closing Balance of Deemed Loan	26.17	22.30	28.46
Average balance during the Year	26.77	24.24	25.38
<i>Interest Rate</i>	<i>10.25%</i>	<i>10.25%</i>	<i>10.25%</i>
Interest Payment	2.74	2.48	2.60
Less: Capitalized	-	-	-
Net interest	2.74	2.48	2.60

- 7.61 In accordance with the Regulation 13 of 'Distribution Tariff Regulations, 2004' the interest on working capital shall be allowed to meet the shortfall in collection over and above the target approved by the Commission.

- 7.62 For FY 2007-08 and FY 2008-09, the Commission has considered the actual working capital as reported in the audited accounts for the purpose of calculation of working capital base.
- 7.63 However for FY 2009-10, the Commission is allowing the interest on working capital at the working capital base projected by the petitioner and modified in accordance with approved power purchase cost. For estimating the interest on working capital, the interest rate applicable is sub-prime lending rate of SBI, which is 12.25%, in line with the 'Distribution Tariff Regulations, 2004'.

Table 75 Approved interest on Normative Working Capital Loan (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Receivables for 2 months' sale	45.03	68.88	19.37
Average Bank Balance required for 1 month of power purchase	23.37	29.72	34.12
Sub total	68.40	98.61	53.49
Less: Sundry creditors & Security deposit	61.44	73.46	3.83
Total Working Capital	6.97	25.15	49.66
<i>Rate of interest</i>	<i>12.25%</i>	<i>12.25%</i>	<i>12.25%</i>
Interest on Working Capital	0.85	3.08	6.08

- 7.64 Interest on consumer security deposit is being allowed on the approved consumer security base by applying the prevalent RBI bank rate i.e. 5.75% p.a.

Table 76 Approved interest on consumer security deposit (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Average Security Deposit	2.86	3.67	3.83
<i>Interest rate (%)</i>	<i>5.75%</i>	<i>5.75%</i>	<i>5.75%</i>
Interest on Security Deposit	0.16	0.21	0.22

Total Interest and Finance Charges

- 7.65 As per the analysis of the Commission detailed above, the Interest and Finance Charges for the FYs 2007-08, 2008-09 and 2009-10 are approved as follows

Table 77 Approved Interest and other Finance charges (Rs. Cr)

Particulars	FY 2007-08	FY 2008-09	FY 2009-10
Interest on Loan	2.74	2.48	2.60
Interest on Working Capital	0.85	3.08	6.08
Interest on Security Deposits	0.16	0.21	0.22
Total Interest & Finance Charges	3.76	5.78	8.91

Return on Equity

Petitioner's submission

- 7.66 The petitioner has submitted that although the Commission recommends a 14% rate of return on equity as reasonable, the power distribution business is perceived to have a greater inherent risk than the Generation or Transmission business due to various factors such as direct interface with retail consumers. The petitioner further submitted that various SERC's allow a RoE of 16% for power distribution in acknowledgment of the greater business risk, and hence the petitioner has computed RoE considering a 16% rate of return.
- 7.67 The base considered is the GFA less consumer contribution and 30% of the same is taken as the equity base for calculation of returns. RoE is also computed and charged proportionately on the assets capitalized during the year. Based on the above methodology, the RoE computed by the petitioner for FY 2007-08, FY 2008-09 and FY 2009-10 is Rs.5.19 Cr, Rs.5.23 Cr and Rs.6.42 Cr respectively.

Commission's analysis

- 7.68 In accordance with the 'Distribution Tariff Regulations, 2004' the Commission has considered the equity base to be equal to 30% of gross fixed assets net of consumer contribution.
- 7.69 Further, the Commission permits a rate of return of 14% as specified in Regulation 20.1 of the 'Distribution Tariff Regulations, 2004' as against the Petitioner's requested rate of return of 16%.
- 7.70 Accordingly, the Commission approves RoE amounting to Rs.4.21Cr for FY 2007-08, Rs.4.34 Cr for FY 2008-09 and Rs.4.70 Cr for FY 2009-10 as detailed hereunder:.

Table 78 Proposed and approved Return on Equity (Rs. Cr)

Return on Equity	FY 2007-08		FY 2008-09		FY 2009-10	
	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>
Normative Equity Base	32.46	30.83	32.70	31.15	40.14	35.94
Rate of Return (%)	16%	14%	16%	14%	16%	14%
Return on Equity	5.19	4.21	5.23	4.34	6.42	4.70

Income Tax

Petitioner's submission

7.71 The income tax is calculated based on the provisions of the Income Tax Act, 1961. Tax computations are based on adding back the normative interest and finance charges on long-term loan as well as normative interest on working capital claimed in ARR. Accordingly, the petitioner has proposed the income tax for FY 2007-08, FY 2008-09 & FY 2009-10 as Rs. 5.69 Cr, Rs.6.01 Cr and Rs.7.23 Cr, respectively

Commission's analysis

7.72 The Commission has considered the method of computation of income tax used by the petitioner and computed the income tax accordingly. There is deviation in the income tax claimed and approved by the Commission. This is due to the difference in RoE and interest figures as approved by the Commission. Accordingly, the Commission approves Rs.3.39 Cr, Rs.4.13 Cr and Rs.5.37 Cr as Income-tax for FY 2007-08, FY 2008-09 and FY 2009-10 respectively.

Non Tariff Income (NTI)

Petitioner's submission

7.73 The Non-Tariff Income includes hire-charges for equipments, fixed charges, misc. recoveries etc., among others. The NTI for 2007-08, 2008-09 and 2009-10 is given to be Rs. 5.61Cr, Rs. 3.16 Cr and Rs. 3.17Cr respectively.

Commission's analysis

7.74 The Commission has considered the non-tariff income for FY 2007-08 and FY2008-09 based on the audited accounts. For FY 2009-10, the Commission has marginally increased the miscellaneous charges in proportion to increase in number of consumers.

Table 79 Proposed and approved NTI (Rs. Cr)

Misc Charges/Income from Consumers	FY 2007-08		FY 2008-09		FY 2009-10	
	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>	<i>Submitted by TSL</i>	<i>Approved by JSERC</i>
Hire Charge for Equipments	0.02	0.02	0.04	0.04	0.04	0.04
Elect Charge-Fixed Charge	0.38	0.40	0.40	0.40	0.40	0.42
Recovery of Short of Fittings	0.06	0.06	0.10	0.10	0.10	0.10
Service Charges	0.18	0.19	0.07	0.07	0.07	0.07
Income - Permanent Electrical Installation	4.84	5.06	2.10	2.10	2.11	2.19
Total	5.61	5.87	3.16	3.16	3.17	3.30

Revenue from existing tariff

Petitioner's submission

7.75 The petitioner has submitted the Category-wise revenue from existing tariffs for FY 2007-08, FY 2008-09 on the basis of the accounts and for FY 2009-10 on the basis of the projected sales and load for each category. The revenues from existing tariff submitted by the petitioner for FY 2007-08, FY 2008-09 and FY 2009-10 is Rs.380.13 Cr, Rs.443.65 Cr and Rs.458.91Cr respectively. The petitioner has requested for allowing revenue considering the collection efficiency of 96.17%, 97.81% and 98% for FY 2007-08, FY 2008-09 and FY 2009-10 respectively.

Commission's Analysis

7.76 The Commission approves the revenues from existing tariff for FY 2007-08 and FY 2008-09 as these are as per the audited accounts submitted by the petitioner.

7.77 For FY 2009-10, the Commission has computed the revenues at existing tariffs amounting to Rs.469.18 Cr. The revenues from all the charges except the fixed charges have been computed as per the projections of the petitioner. The fixed charges have been computed on the basis of the consumers and load projected by the Commission.

7.78 The Commission disallows the reduction in revenue on account of lower collection efficiency, as there is no provision for bad debts as per the 'Distribution Tariff Regulations, 2004' and Commission believes that any inefficiency on part of the petitioner should not be loaded to the consumers.

Table 80 Revenue from existing tariffs for FY 2009-10

Consumer Category	Fixed Charge	Energy Charge	Revenue from Fixed Charge	Revenue from Energy Charge	Revenue from MMC	PF Surcharge	Rebates	Total Revenue
	Rs./kW Rs./kVA, Rs./BHP, Rs./month/c onnection	Rs./kWh OR Rs./kVAh	Rs. Cr (yearly)	Rs. Cr (yearly)	Rs. Cr (yearly)	Rs. Cr (yearly)	Rs. Cr (yearly)	Rs. Cr (yearly)
Domestic								
0-100	Rs. 10 -	1.70	0.09	3.77				3.86
101-400	220 V /	2.80	0.09	6.29				6.38
Above 400	Rs. 20 - 440 V	3.00	0.12	8.90				9.01
Domestic Temp for Religious functions		3.00		1.02				1.02
Domestic Total			0.30	19.98				20.28
Domestic HT	275	2.70	0.02	15.89				15.91

Commercial Supply	Rs. 25 - 220 V, Rs. 75 - 440 V	4.30	0.31	19.01				19.32
High Tension Service								
HT-1 (100-500 kVA)	200	3.30	2.21	5.46	0.83	0.01	0.00	8.51
HT-2 (500-5000 kVA)	200	3.25	5.58	27.22	1.44	0.01	0.21	34.04
HT-3 (5000 kVA or more)	180	3.20	42.96	305.61	7.72		3.34	352.95
Sub Total HTS			50.75	338.29	9.99	0.02	3.55	395.50
Street Light	20	2.90	0.00	2.50				2.50
Temporary Supply	30	5.00		1.20				1.20
Sale to Other Licensee		2.92 and 2.72		14.49				14.49
Total Within State			51.38	411.35	9.99	0.02	3.55	469.18

Revenue surplus of FY 2005-06 and FY 2007-08

Petitioner's submission

7.79 The petitioner has submitted the revenue surplus of Rs. 15.98 Cr for FY 2005-06 and FY 2006-07.

Commission's Analysis

7.80 The Commission has scrutinized the annual accounts for FY 2005-06 and FY 2006-07 and has computed the accumulated revenue surplus for both these years as Rs.18.48 Cr., as detailed hereunder:

Table 81: Computation of Net Surplus for FY 2005-06 and FY 2006-07(Rs. in Cr)

Particulars	FY 2005-06 (Actual)	FY 2006-07 (Actual)
Net Surplus as per Statement of Affairs (A)	9.64	16.58
<i>Return on Equity</i>		
Gross Fixed Assets (GFA)	99.10	110.76
Less: Consumer Contribution	12.77	12.86
Net GFA	86.33	97.91
Normative Equity @30%	25.90	29.37
RoE @ 14% (B)	3.63	4.11
Net Surplus (A-B)	6.01	12.47
Cumulative Surplus		18.48

Summary of ARR for FY 2009-10 and treatment of revenue gap

7.81 In view of the above, the Annual revenue requirement proposed by the petitioner and approved by the Commission, for the FY 2007-08 (actual), FY 2008-09(revised) and FY 2009-10 (projected) along with the revenues at existing tariffs and revenue gap for FY 2009-10 is summarised in the table given below:

Table 82 Summary of Annual Revenue Requirement (Rs. Cr)

Costs	FY 08 (Actual)		FY 09 (Actual)		FY 10 (Projections)	
	Submitted by TSL	Approved by JSERC	Submitted by TSL	Approved by JSERC	Submitted by TSL	Approved by JSERC
Power Purchase Cost	313.49	319.12	392.30	387.92	426.20	409.43
O&M Expenses	31.47	31.47	39.52	39.52	43.47	43.47
Interest & Other Finance Charges	9.06	3.76	9.97	5.78	11.80	8.91
Depreciation	5.14	4.60	5.11	4.63	5.75	5.01
Return on Equity	5.19	4.21	5.23	4.34	6.42	4.70
Income tax	5.69	3.39	6.01	4.13	7.23	5.37
Less: Expenses Capitalised						
Total Costs	370.04	366.56	458.14	446.31	500.87	476.89
Less: Non-tariff income	5.61	5.87	3.16	3.16	3.17	3.30
Annual Revenue Requirement	364.43	360.69	454.98	443.15	497.70	473.59
Revenue @Existing tariff	380.13	380.13	443.59	443.59	458.91	469.18
Revenue @Existing tariff (at <100% collection efficiency)	365.58		433.93		449.73	
Revenue (gap)/surplus	1.14	19.44	(21.09)	0.44	(47.97)	(4.41)
Surplus of FY 05-06 & FY 06-07	15.98	18.48				
Net Revenue (gap)/surplus	17.12	37.92	(21.09)	0.44	(47.97)	(4.41)
Cumulative (Gap)/surplus (upto FY 2009-10)					(51.94)	33.96

7.82 The cumulative revenue surplus approved by the Commission up to FY 2009-10 is **Rs. 33.96 Cr** as against the revenue gap of **Rs.51.94 Cr** proposed by the petitioner.

Treatment of Revenue Gap/Surplus

7.83 The petitioner has proposed to recover the revenue gap envisaged for FY 2009-10 amounting to **Rs. 47.97 Cr** from the consumers in FY 2009-10 and the remaining gap be deferred as regulatory asset.

- 7.84 As stated above, as per the annual revenue requirement and the revenues at exiting tariff determined by the Commission, there is a cumulative revenue surplus of **Rs. 33.96 Cr** as against the envisaged revenue gap of **Rs. 51.94 Cr** submitted by the petitioner. Since there is no revenue gap, the Commission disallows the proposal for tariff hike submitted by the petitioner.
- 7.85 Meanwhile, as the effective time period remaining for the tariff year is less, Commission has decided not to make any revision in the tariff schedule and has been decided to carry forward the revenue surplus to the next tariff year.