

Section 5

DESIGN OF TARIFF STRUCTURE AND ANALYSIS of TARIFF

5.1 The JSEB submitted the petition for rationalization of tariffs for the FY 2003-04 to the Commission. The salient features of the petition have been discussed in Section 2 of this Order. Before discussing the proposed tariff schedule and the Commission's analysis, it is appropriate to list the major objections and suggestions received from different consumers on the tariff structure and the tariff schedule proposed by the JSEB.

(i) Most of the consumers have stated that tariffs in Jharkhand are already very high especially for the industrial and commercial consumers.

(ii) A number of consumers have referred to how other conditions of supply like the Minimum Monthly Consumption Charge (MMC), fixed cost charge and provisions for contracted demand / billing demand have led to higher costs for consumers.

(iii) The consumers have also stated that there is no justification for charging the Minimum Monthly Consumption charge and such a charge does not exist in the neighbouring states of Orissa and West Bengal. It has further been stated that the energy charges should be billed on actual consumption and not on the minimum monthly consumption.

(iv) The consumers have submitted that there is no justification for the high increase proposed by the Board and such an increase would cause undue burden to them.

(v) The industrial consumers have stated that industrial units in the state have already been closing down in large numbers. Many industrial units have either become bankrupt or have migrated to neighbouring states where the tariff is lower.

(vi) Many consumers have also submitted that the JSEB has not incorporated the tariff notifications issued by it at different points of time. These include the notifications related to Time of day tariff for industrial consumers and estimation of demand charge for small and medium industries on maximum demand basis.

(vii) Objections have also been raised against the fuel surcharge that the Board has taken into account for the determination of tariff. The consumers have submitted that the present fuel surcharge is a disputed one and is pending at various courts, hence computation of tariff by merging energy charge with the existing fuel surcharge is unlawful.

(viii) It has also been stated that provisions of the Industrial Policy 2001 have not been incorporated in the tariff structure proposed by the JSEB. They have further added that these provisions have major financial implications on the industries in the state.

(ix) It has been pointed out, specifically by the Military Engineer Services (MES) that take bulk supply on behalf of defence and distributes after breaking the bulk. Thus, although most of their consumption is domestic, they are treated as commercial consumers.

(x) Objections have also been raised on various clauses of the terms and conditions of supply of the JSEB, for e.g., power factor surcharge, Delayed payment surcharge and security deposit.

5.2 There are a number of conceptual issues in the tariff design that need to be discussed before analysing the specific proposals for each tariff category. The Commission considers these to be critical in the design of tariff structure. These are discussed below:

1) Cross subsidy and cost based tariffs

- 2) Two part tariff structure and minimum charges T&D losses and tariff
- 3) Quality of supply and service
- 4) Fuel and Power Purchase and Cost Adjustment (FPPCA) charge
- 5) Tariff for un-metered consumers
- 6) Time of day tariff

5.3 Cross subsidy and cost based tariff

The existing tariff structure in Jharkhand is not based on the cost of supply. Categories of commercial and industrial consumers have been cross subsidizing other consumers like domestic and agricultural to a great extent. The Commission intends to move in the direction of removing this distortion. For this, it is necessary to gradually reduce the number of categories and slabs in the existing tariff structure. The Commission, therefore, intends to initiate this process by merging some consumer categories and slabs this year. However this process would have to be graduated to ensure that there are no sudden increases, so that consumers have time to adjust.

For this purpose the Commission has used the average cost of supply due to lack of reliable data on the cost of supply at various voltage levels. The average cost of supply as approved by the Commission for FY 2003-04 is Rs. 3.66 per kWh. At existing tariffs, the highest average realisation of Rs.7.401 is from the EHTS category. No consumer category in the state is paying more than this at the existing tariffs. It is an accepted fact that the EHT cost of supply is significantly lower than the HT and LT cost. Similarly, HT cost is significantly lower than the LT cost. For instance, in AP where the losses are low, the LT cost is 113% of HT cost, whereas in the case of Jharkhand this cost would be higher as the loss level is high. Given this scenario, EHT and HT consumers are paying a tariff much higher than their cost of supply. This highlights the need for tariff rebalancing in the state.

Most of the states in India have experienced a declining trend in the share of industrial consumption in the total electricity consumption. One of the most important reasons for this has been the high cost of electricity for industries. This is a reason of concern not only for the power sector but also for the economy of the state and the country as a whole. The Commission therefore intends to move towards a regime of tariffs that reflects the cost of supply and thus ensures that the burden of meeting the full cost is shared equally amongst all categories of consumers.

The Commission strongly believes that a cost based tariff structure promotes efficient and economic investment and consumption. Section 61 (g) of the Electricity Act, 2003 also states that tariffs should progressively reflect the cost of supply of electricity and the Commission reduces and eliminates cross subsidies within a specified period. Section 61 (d) of the Act provides for safeguarding of the consumers' interest and at the same time recovery of the cost of electricity in a reasonable manner.

At this stage, it may be necessary to provide subsidised tariff to certain consumer categories like domestic, agriculture and other rural consumers due to socio-economic policy considerations. However, this needs to be provided in a transparent manner and should not unnecessarily burden other consumers. Cost based tariff provides a signal to the consumers, of the cost incurred due to the supply demanded. Thus, the Commission intends to gradually move to a cost based tariff structure. In the long run, tariffs would be classified according to cost of supply at different voltage levels. The Commission directs that in the next tariff petition the Board should submit the voltage wise costs so that the tariff rationalization process can be pursued further more effectively.

5.4 Two part tariff structure and minimum guarantee charges

A rational tariff structure requires a two-part tariff structure incorporating fixed charges to reflect the fixed costs. It is, therefore, essential that these fixed costs be reflected as fixed charges recovered from the consumers. For FY 2003-04, fixed costs comprise of approximately 28% of the total costs of the JSEB, whereas the revenue from

fixed charges at existing tariffs is only 14.61%. There is thus a distortion in the existing tariff structure that needs to be addressed. At the same time, if the entire fixed costs are recovered through fixed charges, then there will not be sufficient incentive for the Board to maximize the sale of electricity, as a significant portion of its expenses are fixed in nature.

The existing tariff structure in Jharkhand does have a provision for fixed charges in most of the consumer categories. The fixed charge in most categories has been referred to as "miscellaneous charge", which the Commission has correctly renamed as fixed charge. The existing structure also has a provision for a minimum consumption charge based on consumption (for urban domestic and commercial category, and LT industry category) and an Annual Minimum Guarantee charge (HTS-I, HTS-II, EHTS and Railway Traction).

The difference between fixed charge and minimum charges is that while fixed charges are charged from consumers irrespective of consumption, minimum charges are levied only when the bill of the consumer is less than a pre specified amount.

Ideally, the fixed/demand charge should be levied in proportion to the demand placed by an individual consumer on the system. This is so because it facilitates the utility in designing an appropriate system to cater to the supply needs of a consumer and is therefore a just and fair mechanism for recovering fixed costs of the system. Thus, the fixed/demand charge should be proportionally related to the load of the category. In the existing tariff structure, all consumer categories are paying a fixed charge on the basis of their load except the domestic consumers and unmetered commercial consumers who are paying a fixed charge on a per connection basis. The Commission has not changed the basis for levying fixed charge on this category in this tariff order as the information and database of the Board is not adequate. The Commission however intends to move in this direction in future and directs that the Board should make efforts to update its existing database on connected load.

A number of objections have been received in respect of the minimum monthly consumption (MMC) charge being levied by the Board. It has been highlighted that minimum charges are unfair because the consumers are not able to consume the minimum specified limit. It has also been highlighted that the basis and components of miscellaneous charge is not clear and the existing MMC is already very high especially for LT industry and commercial consumers, therefore instead of an increase it should ideally be reduced. HT consumers have also appealed to stop the levy of Annual Minimum Guarantee (AMG) charge.

The Board has argued that minimum charges protect its revenue stream against dishonest consumers and rampant theft of electricity. The Commission holds that this argument of the Board is insufficient and unreasonable, especially, as the Board and its employees are responsible for controlling these losses. The Commission would again like to highlight that Jharkhand is one of the fortunate states that has such a high proportion of HT industrial consumption. This is almost 70% and therefore its loss levels should ideally be significantly lower. As against this, the high T&D loss level in the state clearly shows that there are widespread malpractices and a crisis of governance.. It is therefore the responsibility of the Board to undertake immediate steps to curb theft and address the rising levels of malpractices and thus perform better.

The Commission believes that the minimum charge either induces the Board to supply less to the consumers or promotes under reporting of consumption and theft. The Commission holds that the Board should adopt the principle of "Bill all and collect all". Since 72% of the consumers are paying more than the cost of supply, there is no doubt that the Board could become profitable in couple of years. However, the Commission due to paucity of adequate data and information has not abolished the minimum charges for the current year altogether. The minimum charge has been abolished for commercial, LT industrial and Railways.

The Commission has rationalized the Annual Minimum Guarantee charges along with the following directions to the JSEB.

- The Commission directs the JSEB to provide details of the Minimum charges collected from different categories of consumers and prepare a schedule of rational demand charge, which may replace this minimum charge.

- The Commission directs the JSEB to provide details on the category wise number of consumers who pay only the minimum charges

5.5 Rationalisation of minimum charges

The Commission in this tariff order has rationalised the minimum charges based on minimum hours of supply from the Board and minimum off take from the consumer. In case the Board fails to supply the minimum number of hours, the Board would refund the proportional amount to the consumers. The contention of the Board that there is mass theft by industry holds some merit because of following:

- a. The average energy consumption is proportionally less than the average connected load in case of HT and EHT industries.
- b. Charging high fixed charge and negligible energy charge to HT special consumer reflects the Board's helplessness in reducing the losses prevalent in these industries

The Commission would again like to mention that it is the responsibility of the Board to control theft and pilferage and assure that these consumer pay in accordance with their consumption. For the current year, the Commission intends to rationalise the level of minimum charge by considering a minimum level of load factor and number of hours of supply for HT consumers. While determining the minimum charge, the Commission has kept in mind the minimum consumption that HT industries in any circumstance would off take, otherwise, the industry should opt for a more realistic level of contracted load. The Commission has also compared tariff including minimum charge in other states in India. The Commission has determined a Minimum Charge to be billed and paid on a monthly basis.

The Commission has also introduced incentives on energy charge for improvements in the load factor by introducing a load factor rebate. This would not only discourage underreporting of consumption by industrial consumers but would also provide assured stream of revenue to the Board.

5.6 T&D losses and tariff

As discussed in chapter 4, the Commission observes that since close to 70% of the entire consumption of electricity in the Board's system is attributed to industry and railway traction segments, the incidence of technical losses should be comparatively lesser as compared to other states where consumption by agriculture and other unmetered categories is very high thereby leading to higher losses. The Commission therefore believe that there may be high incidence of mass pilferage even in this sector. For instance, the revenue sheets given by the Board for FY 2002-03 indicates more than 40% revenue from fixed charge in one of the industrial category. The Commission believes that this proportion of fixed charge in total revenue charge is very high by any standards and reflects under reporting in energy consumption.

The Commission further believes that if these losses are reduced than there would be not be any tariff increase in future. For instance, an industrial consumer pays Rs. 4.00 per unit as energy charge whereas the average energy cost is Rs. 1.86 per unit. If one unit of unauthorized consumption is converted to authorized consumption in HT industrial category, it will fetch Rs.2.14 to the Board. Taking into account the high level of consumption by these categories, the Board's efforts towards reducing pilferage would lead to an improvement in its financial position. In the light of the Act, it is imperative for the Board to become efficient as open access, trading and other provisions of the Act are envisaged to introduce competition in the sector.

5.7 Quality of supply and service

The issue of maintaining the required levels of quality of supply and service has been overlooked for many years. However, with the initiation of reforms in the power sector, it has received some attention and importance. Quality of supply and service has a direct bearing on safety aspects, performance of equipment and consumer satisfaction. Poor quality of supply is also proving an impediment in promoting the use of energy efficient appliances. A number of reasons could be attributed to this, including weak distribution system, poor financial health of the utility, lack of

consumer awareness, inadequate enforcement mechanisms etc. If the JSEB can increase its sales, it will improve its financial viability and will have funds to focus on improving its supply and service standards.

The Electricity Act 2003 provides for consumer protection through certain standards of performance to be met by the utilities. In this regard, Section 57 of the Act deals with the standards of performance of licensee. It states that the Commissions may after consultation with the licensees and persons likely to be affected, specify standards of performance of a licensee or a class of licensees and also determine the penalty/compensation to be paid to the consumer if the licensee fails to meet these standards. Therefore, the JSEB is directed to prepare and submit to the Commission a proposal on a set of standards of performance along with penalties for non-adherence to these.

5.8 Fuel and Power Purchase Cost Adjustment (FPPCA) Charge

The fuel surcharge varies according to changes in the fuel cost and the power purchase cost. The JSEB has submitted that it shall calculate the actual rate of FPPCA charge to be levied from April 2003 at the end of FY 2003-04 on the cost base 2002-03 and on the basis of actual purchase and generation cost during FY 2003-04 as per the formula that would be approved by the Commission. However, the JSEB has not submitted a formula for determining this charge in the tariff petition. Hence, the Commission directs the Board to file a separate petition proposing a detailed formula for the determination of the FPPCA for its consideration. The Commission for this tariff determination exercise has scrutinized the JSEB's tariff proposal taking into account the entire costs that are related to generation, power purchase, transmission and distribution of electricity. The Commission based on its assessment has approved the cost of fuel and the cost of power purchase, and these costs have been taken account of in the approved Annual Revenue Requirement (ARR) for FY 2003-04. There would therefore be no levy of fuel surcharge for this period. With regard to the FPPCA formula to be proposed by the Board, the Commission would undertake due assessment of the methodology adopted by the Board before the formula is approved. The approved formula would, however, not be applicable for FY 2003-04.

5.9 Un-metered tariff and optional metered tariff

Unmetered consumption of electricity by some categories is a general phenomenon witnessed across the country. It is usually sub categories in the domestic, agriculture and commercial segments, especially, in the rural areas that are unmetered. However, in few states, other categories like public lighting, water and sewerage services etc are also unmetered. Agriculture, by far, remains the largest consumer of un-metered electricity. The tariff levied on unmetered categories is irrespective of the level of consumption, and is charged on fixed basis. This fixed charge is generally based either on a per connection basis or on connected load (watt/kilowatt or BHP) without any corresponding energy charge.

The most obvious fall out of un-metered consumption is inefficient usage of electricity. Unless metered, there could be reckless consumption of electricity which also tends to strain other natural resources, the most conspicuous being water resources. It is widely acknowledged that free running of tube wells because of unmetered supply has led to diminishing tables of groundwater. Besides, unmetered tariff might burden a consumer who consumes lesser than the units assumed by the Board, thereby paying a higher effective tariff.

There is a general practice of masquerading T&D losses in terms of higher unmetered consumption. Independent studies in this regard lead only to an approximate measurement of consumption by unmetered categories and for an accurate assessment in this regard and of T&D losses, metering is essential. Although unmetered consumption saves the cost of installing meter and meter reading, in the long run for sustainable provision of electricity and sustainable usage of other natural resources, it is imperative to meter the consumption and raise the bill accordingly. The Commission recognizes that complete metering would have huge financial implications for the Board and could be done only gradually notwithstanding the provision in terms of Section 55(1) of the Act, which mandates complete metering within two years from the date of issue of the Act.

In the existing tariff in Jharkhand, a fixed charge is levied for unmetered consumption for rural domestic and commercial consumers; for irrigation & agriculture consumers and for street lighting. On the basis of this fixed charge, average realization per unit of electricity could be determined having recorded the sales of a particular

unmetered category. In order to incentivise unmetered categories to opt for metering, an optional metered tariff has been introduced for domestic, commercial rural and agricultural consumers in the state. This optional tariff has been kept lower than the average realization from that category.

5.10 Time of day tariff

Higher demand during morning and evening hours is a typical characteristic of a load curve. Such higher demand is typically met through peaking stations, which are generally more expensive as compared to the base load stations. The higher cost of supply during the peak load hours is reflected through a time of day tariff in the tariff structure. Such a tariff structure provides correct signals to the consumers and also helps the utility to maintain a better system profile. Time of use charge attracts consumers to transfer daytime load to night time and thereby improves the system load factor.

Section 15.2.6 of the industrial policy announced by the Government of Jharkhand in 2001 also suggested a two-tier system of electricity tariffs to be charged from the industrial consumers. This system is to be based on peak and off peak hours. In fact, the JSEB itself has initiated steps towards this direction and issued a notification in July 2002 that TOD tariff for industrial consumers would become applicable from 1st September 2003. The Board, however, did not implement the TOD tariff at that time. In the tariff petition for FY 2003-04, it has proposed a time of day tariff for HTS-I, HTS-II and EHTS categories.

A few consumers have also objected to the proposed peak & off peak hours and respective tariffs, and have suggested differently in this context. The Board's proposal to keep 6 p.m. to 10 p.m. as peak hours has been objected, for this is the period when domestic consumption is made. It has been suggested that off peak hours should be more than the proposed limit. The Commission, however, at this stage, does not have enough evidence to support this suggestion. It is, however, a useful suggestion and JSEB should conduct some sample studies to collect and compile information on the demand from various consumer categories at different times of the day as well as on consumption of energy during these intervals as part of the load research study mentioned in Chapter 4. This would facilitate design of a more rational TOD tariff and based on such evidence the Commission would take a view in the next tariff order.

The Commission also feels that there is a need to incentivise off-peak consumption, while at the same time disincentivise peak hour consumption, so that consumers are motivated to shift from peak to off peak hours. From the above discussion it is evident that it would be rational to apply a TOD charge for consumption during the peak load hours and a rebate during off peak hours, which should be a part of the tariff structure. Ideally, such a tariff should be available to all consumers. The Commission, however, recognizes that certain issues like availability of data on time of day consumption, installation of meters with the requisite facility to record time differentiated consumption, determination of peak and off peak hours and tariff and providing enough incentives to consumers to make use of this tariff will need to be addressed before this tariff becomes fully operational in the state. Therefore, the Commission has introduced TOD tariffs only for HTS-I, HTS-II and EHTS consumers, where, in accordance with the industrial policy, the TOD meters have to be installed by the industrial units at their own cost. These charges have been explained in detail later while discussing the tariff for these consumers.

5.11 Subsidy provision by the Government of Jharkhand

As per the tariff petition of the JSEB and subsequent discussions with the Board, it was stated that the State Government has not been providing any subsidy to the Board. The Government however has been providing grants to the JSEB.

Table 5.1: Funds provided by the Government of Jharkhand to JSEB

DESCRIPTION	FY 2001-02	FY 2002-03
	Rs. Crore	Rs. Crore
RE State Plan	30	39.82
PMGY	0	18.76
Kutir Jyoti	1.18	2.88

APDRP	0	6
MOU (GOJ & GOI)	0	75
Sub total	31.18	142.46
Total funds in last two years	173.64	

The Commission here would like to mention that these grants should be judiciously utilised and the Board should show consequent benefits of these grants in terms of efficiency improvement and increased sales.

Ideally the tariff for various categories of consumer should be determined according to the prudent cost. However, in the current tariff determination process the Commission was constrained to determine the actual cost because of uncertainty regarding certain liabilities and data insufficiency. In this respect, the Commission is of the view that in such a situation, the consumers need to at least pay the true energy cost being incurred by the Board, i.e., the power purchase and generation costs. For FY 2003-04, the Commission has estimated this as Rs.1.86/kWh as given below.

Table 5.2: Prudent energy cost of JSEB for FY 2003-04

Description	
Power Purchase Cost (Rs. Crore)	759.09
Generation Cost (Rs. Crore)	126.06
Total energy cost (Rs. Crore)	885.15
Energy input (MU)	4761
Energy cost per unit (Rs./unit)	1.86

The Commission on this basis has estimated the tariff that must be paid by the subsidized categories of consumer i.e. domestic, commercial unmetered, Irrigation and Agriculture, and street light. This would help the Board to at least recover the energy cost. For consumers who are not paying any energy charge as per the existing tariff, the fixed charge has been estimated on the basis that the average realisation from them is Rs.1.86/kWh. For urban domestic consumers, who have components of both fixed and energy charge in their tariff structure, the energy charge has been equated to Rs.1.86/kWh.

During discussions with the Government on the issue of subsidy and cross subsidies, it was recognized that there is a huge component of cross subsidy in the existing tariff structure and it will not be possible to remove this in one step. However, the Commission is of the view that the Board cannot continue to cross subsidize these consumers for long and therefore the Board should at least recover the prudent energy cost for these categories. The Government was of the view that tariff reflective of energy cost would lead to a tariff shock to certain categories of consumers. Accordingly, the Government agreed to pay the equivalent subsidy that assures the Board to recover at least the energy cost. For example, if the Kutir Jyoti consumers were to pay the average cost of Rs.1.86 per kWh, this would generate revenue of Rs.1.44 Crore in a full year. However, at the approved tariff of Rs. 27/connection/month, the revenue that is generated from this category is only Rs. 0.86 Crore. Thus, the Government needs to provide this difference of Rs. 0.58 Crore for subsidizing Kutir Jyoti consumers. On similar basis, the subsidy that the State Government needs to provide to the Board so that it can continue to provide subsidized tariffs to certain categories has been estimated below.

Table 5.3: Subsidy to be provided by the Government of Jharkhand for FY 2003-04

Category	Subsidy (Rs Crore)
Domestic (Rural Unmetered)	11.55
Domestic (Urban Metered)	18.57
Commercial (Rural Unmetered)	0.68

Irrigation and Agriculture	6.14
Street Light	3.06
Total	40.00

5.12 The Commission has also compared the existing average realization for different consumer categories of Jharkhand with other neighbouring states like West Bengal, Madhya Pradesh and Orissa.

Table 5.4: Comparison of Average realization among neighbouring states

	Madhya Pradesh		Orissa (SOUTHCO)		West Bengal		Jharkhand	
	Average Realization (Rs./kWh)	% of AR recovered	Average Realization (Rs./kWh)	% of AR recovered	Average Realization (Rs./kWh)	% of AR recovered	Average realisation (Rs/kWh)	% of AR recovered
Domestic	2.76	90%	1.79	70%	2.11	78%	1.1	31%
Non-domestic	5.62	183%	3.87	152%	3.37	125%	4.82	136%
Agricultural	1.31	43%	1.24	49%	9.90	367%	0.35	10%
Street Lights	3.22	105%	3.24	128%	1.50	56%	0.64	18%
Industrial (LT)	5.12	167%	3.61	142%	3.42	127%	5.19	147%
Industry HT	4.19	137%	3.62	143%	3.66	136%	4.51	127%
Industry EHT	4.17	136%	3.07	121%	3.58	133%	7.11	201%
Railway Traction	4.85	158%	3.98	157%	3.61	134%	4.96	140%
Overall Average realisation	3.06		2.54		2.70		3.54	

It is evident from the above table that the extent of cross subsidy is highest in Jharkhand as domestic, agriculture and street light are recovering only 31%, 10% and 18% of the overall average realization, whereas, HT and EHT consumers are contributing more than 140% of average realization. The Commission while determining tariff for various categories of consumers has kept this aspect in mind and has attempted to reduce this cross subsidy burden through rationalization of tariff.

5.13 The major changes introduced by the Commission in the approved tariff structure for the FY 2003-04 are listed below:

- (i) Gradual movement towards the cost of supply based tariff regime.
- (ii) Introduction of an optional metered tariff for unmetered rural consumers in the domestic and commercial categories.
- (iii) Merger of CS-II and CS-III consumer categories
- (iv) Merger of LTIS-I and LTIS-II consumer categories
- (v) Change in applicability of LTIS tariff by extending it to 107 HP. Correspondingly, HTS-I tariff made applicable for 107 HP and above.
- (vi) Introduction of load factor rebate and voltage rebate for HT Consumers

(vii) Introduction of TOD tariff for HTS-I, HTS-II and EHTS consumers.

(viii) Special tariff for Military Engineer (Defence) Services

5.14 The tariff schedule proposed by the JSEB and the Commission's approval is discussed in the following paragraphs. The approved tariff schedule is attached as Annexure 5.1 to this order.

5.15 Before the Commission's analysis of tariff and revenue from different consumer categories, it is highlighted that there are variations in the revenue as estimated by the Board and that estimated by the Commission. The Board after considerable delay provided the slab wise details of consumption and number of consumers for various categories. The Commission has estimated the revenue for the Board on the basis of its own sales projections, however, it has used the same category wise and slab wise proportions as provided by the JSEB for FY 2002-03. The Commission directs the Board that in the next tariff petition, the Board should provide category-wise and slab-wise data on sales, number of consumers and connected load.

5.16 The changes made in the schedule of tariff for various consumer categories are described in the following sections. The tariff that has been given in the following section for various categories takes into account the subsidy that will be provided by the Government and hence the consumers will be charged on the basis of this tariff.

Low Tension Supply

5.17 Category -1: Domestic Service (DS)

The existing schedule is applicable for use for domestic purpose including domestic pumping set and household electric appliances in private residence such as radios, televisions, desert coolers, air conditioners, motors upto 1 BHP for lifting water for domestic purposes and other household electrical appliances not covered under any other schedule. This rate is also applicable for supply to institutions such as Temples, Gurudwaras, Mosques, Church and Burial/Crematorium grounds and other recognized charitable institutions.

The existing schedule has three sub categories within the domestic category, whereas the JSEB has proposed five sub categories for this. Each of these is discussed in detail below.

5.17.1 Domestic Service (DS-I)

This tariff is applicable to rural areas not covered by area indicated under DS-II and for connected load not exceeding 2 kW. The Board has proposed to bifurcate this into three sub categories-Kutir Jyoti connections, rural areas with connected load less than 1 kW and rural areas with connected load greater than 1 kW (this to be merged with the existing DS-II category). The Commission has not approved this change in the applicability and all rural domestic consumers will continue to be in this category.

The following table depicts the changes proposed by the Board:

Table 5.5: Tariff for DS-I (a)-Kutir Jyoti Connections (Existing/Proposed)

DESCRIPTION	TARIFF	
	Existing	Proposed
Rs./connection/month	27	25

Table 5.6: Tariff for DS-I (b)- Other Rural Connections (Existing/Proposed)

DESCRIPTION	TARIFF	
	Existing	Proposed
Rs./connection/month		
Less than 1 kW	27	100

Above 1 kW	27*	100
	ENERGY CHARGE	
KWh/month (applicable for above 1 kW connected load)	Rs./kWh	
0-200 kWh	Nil	2
200-400 kWh	Nil	2.25
Above 400 kWh	Nil	2.5

* in addition a sum of Rs 15/connection/month to be charged

As far as Kutir Jyoti connections are concerned, the Board has proposed a decline in their tariffs. The Kutir Jyoti is a single point scheme for the population Below Poverty Line (BPL). The Commission has discussed this scheme with REC and it was stated that on average the connected load is 0.03 kW/connection and the tariff for Kutir Jyoti connections in most States in India is Rs.30/connection/month. As these are identified poorest of poor consumers, the Commission approves a concessional tariff for them. Therefore, the Commission has decided to maintain status quo as far as the tariff for this category is concerned. The tariff approved for Kutir Jyoti is given in the table below.

Table 5.7: Approved tariff for DS-I (a)-Kutir Jyoti Connections

DESCRIPTION	TARIFF
Rs./connection/month	27

The Commission recognizes that tariffs should progressively reflect the cost of supply, at the same time it is of the view that the interests of the marginal consumers need to be protected. Thus, the tariff approved for other rural consumers is as follows.

Table 5.8: Approved tariff for DS-I (b)-Other rural domestic consumers

DESCRIPTION	TARIFF
Rs./connection/month	65

The average realisation of these consumers at the tariffs approved by the Commission is Rs.1.17/kWh. This optional metered tariff has been kept lower than the average realisation of the consumers of this category to incentivise consumers to meter their consumption.

Optional metered tariff

As discussed earlier, the Commission has approved an optional metered tariff for the rural domestic consumers.

Table 5.9: Approved Metered tariff (Optional) for DS-I (a) and DS-I (b) categories

	TARIFF
	ENERGY CHARGE
KWh/month	Rs./kWh
All consumption	1.00

The approved tariff for DS-I category will generate additional revenue of Rs. 12.33 Crore in a full year.

5.17.2 Domestic Service (DS-II)

The existing tariff is applicable for urban areas covered by Notified Area Committee/Municipality/Municipal Corporation/All District Town/All Sub Divisional Town/All Block Headquarters/Industrial Areas/contiguous sub-

urban areas and for connected load not exceeding 4 kW. The Board has proposed that of these, all domestic connections in individual apartments, houses of multi-storeyed buildings or housing colonies of industrial undertakings, public undertakings purely for residential use will shift to a new category which is discussed later in this order.

The following table depicts the changes proposed by the Board:

Table 5.10: Tariff for DS-II Consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
	Fixed Charge	
	Existing	Proposed
Rs./connection/month	8	100
	ENERGY CHARGE	
	Rs./kWh	
	Existing	Proposed
KWh/month	0-200 kWh -1.23	0-200 kWh - 2
	200-300 kWh - 1.41	200-400 kWh - 2.25
	Above 300 kWh -1.60	Above 400 kWh - 2.50

The tariff as proposed by the Board would lead to a very high increase in the tariff for this category, therefore the Commission has not approved this increase. The existing tariff structure has three slabs in this category. The Board has not proposed any change in the number of slabs, however, the range of consumption in the slabs have been changed as given in the table above.

These consumers are currently paying a very low tariff and the average realization from this category is much below the average cost of supply of the Board. The tariffs of this category has been revised keeping in view the consideration that tariff shocks to consumers should be avoided, but at the same time there should be a gradual movement towards the cost of supply regime. The Commission also considers that though in line with the general principles, tariffs should increasingly reflect the cost of supply, consumers above a certain minimum level of consumption should pay for this consumption. However, the Commission also recognizes the need to protect the smaller consumers, hence the slab of consumption upto 200 kWh has been retained and the higher consumption slabs of 200-300 kWh and above 300 kWh have been merged.

The tariff approved by the Commission for DS-II consumers is as follows:

Table 5.11: Approved tariff for DS-II category

DESCRIPTION	TARIFF
	Fixed Charge
Rs./connection/month	20
	ENERGY CHARGE
KWh/month	Rs./kWh
0-200 kWh	1.35
Above 200 kWh	1.70

The above tariff changes will bring additional revenue of Rs. 9.87 Crore in a full year from this category representing an increase of 19.37% over the existing revenue.

The approved tariff will generate total revenue of Rs.60.83 Crore in a full year comprising of Rs. 52.78 Crore through energy charges and Rs.1.60 Crore through fixed charge.

5.17.3 Domestic Service (DS-III)

The existing tariff of DS-III is applicable for consumers with loads exceeding 4 kW. The Board has proposed that this tariff be applicable to domestic connections having load above 4 kW and upto 75 kW.

The following table depicts the changes proposed by the Board:

Table 5.12: Tariff for DS-III Consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
	Fixed Charge	
	Existing	Proposed
Rs./connection/month	24	200
	ENERGY CHARGE	
	Rs./kWh	
	Existing	Proposed
KWh/month	0-200 kWh - 1.23	0-200 kWh - 2.5
	200-300 kWh - 1.41	200-400 kWh - 2.50
	Above 300 kWh - 1.60	Above 400 kWh - 2.85

The present tariff structure has three slabs in the domestic category. The Board has not proposed any change in the number of slabs. However, the Board has changed the middle consumption slab from 200-300 kWh to 200-400 kWh.

The Commission is of the view that those with higher levels of consumption have a better ability to pay. The Commission has therefore merged all the slabs in this category and has approved a single slab for the entire category. The tariff has been revised keeping in view the consideration that tariff shocks to consumers should be avoided, but at the same time there should be a gradual movement towards the cost of supply regime as discussed earlier also.

The tariff approved by the Commission for DS-III consumers is as follows:

Table 5.13: Approved tariff for DS-III category

DESCRIPTION	TARIFF
	Fixed Charge
Rs./connection/month	40
	ENERGY CHARGE
KWh/month	Rs./kWh
All consumption	1.70

The above tariff changes will bring additional revenue of Rs. 1.60 Crore in a full year from the DS-III category representing an increase of 39.04% over the existing revenue.

The approved tariff will generate total revenue of Rs.5.70 Crore in a full year comprising of Rs. 4.93 Crore through energy charges and Rs 0.77 Crore through fixed charge.

5.17.4 Domestic Service (DS- HT)

This is a new category that the Board has proposed to create. This would be applicable for power supply at 11 kV to housing colonies and housing complex/multi-storeyed buildings for purely residential use for load above 75 kW.

Table 5.14: Tariff for DS - HT Consumers (Proposed)

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DESCRIPTION	TARIFF
	Fixed Charge
Rs./kVA/month	90
	ENERGY CHARGE
Rs./kWh	1.80
	MINIMUM MONTHLY CONSUMPTION
Units/kW/month	80 units/kW/month

The Commission is of the view that HT consumers should have a tariff lower than the LT consumers because the cost of supply for HT consumers is evidently lower than that for LT consumers as supply at HT helps the utility to minimize T&D losses. The Commission thus approves the creation of a separate category for domestic HT consumers. However, if any part of the housing colony/housing complex/multi-storeyed building is used for purpose other than residential use then the connection will be treated under HTS category, i.e., High Tension Service Category.

There may be a decline in the revenue of the JSEB due to the creation of this category, but at the same time Board would reduce certain transaction cost associated with billing and collection and also through reduction in T&D loss. The Commission has not estimated the implication of the above change on the revenue of the Board. This is due to the reason that correct information on the consumption; connected load and number of consumers that would shift to this category is not available.

The tariff approved by the Commission for DS-HT category is as follows:

Table 5.15: Approved tariff for DS- HT category

	TARIFF
	Fixed Charge
Rs./kVA/month	30
	ENERGY CHARGE
KWh/month	Rs./kWh
All consumption	1.50

For all domestic consumers

The existing tariff structure also has a provision of charging Rs 100 per Air Conditioner per month for consumers who have installed Air Conditioner (window type). The Commission is of the view that the fixed charges and the energy charges determined for this category do not necessitate any additional charges to be levied on these consumers. Thus, these charges are abolished for all domestic consumers wherever applicable.

5.18 Category - 2: Non Domestic, Light, Fan, and Power Services

The existing schedule is applicable for the use of lights, fans, and power loads-non-domestic purposes like shops, hospital (private or government), clinic, nursing homes, restaurants, clubs, workshops, central air conditioning units, office (private or Central/State Governments and their undertakings), dispensaries, show-rooms, commercial establishments, cinemas, X-ray plants, schools and colleges (private or government), boarding/lodging houses, libraries (private or government), defense installations, recognized research institutions, hotels, railway stations, fuel-oil stations, (including vehicle service station), all India radio/TV installations, printing presses, housing co-operative societies for availing power, common services in multi storeyed building, universities, trust, museums, poultry farms, banks and such other installations not covered under any other category.

The defence services are presently included in this schedule; however, they have raised an objection against this.

This objection has been discussed in greater detail in section 3 of this tariff order. The Commission has thus created a separate category for the defence services, which is discussed later.

The existing schedule has three sub categories within the non-domestic category: CS-I, CS-II and CS-III. Each of these categories has been discussed in detail below. The Commission has dealt with the CS-II and CS-III categories together.

5.18.1 Category of service: CS-I

This tariff is applicable for rural areas for connected load not exceeding 2 kW.

The Board has proposed to change the applicability of this category to consumers in rural areas with connected load not exceeding 1 kW. The changes as proposed by the Board in the tariff for this category is given in the table below.

Table 5.16: Tariff for CS-I (Existing/Proposed)

DESCRIPTION	TARIFF	
	Existing	Proposed
	Rs.60 /kW/month or part thereof for connected load upto 1 KW	Rs150/connection/month
	Rs. 30/kW/month for each additional 1 kW or part thereof	

The above changes proposed by the Board would yield Rs. 2.35 Crore of additional revenue representing an increase of 815% over the existing revenue base. The Commission has not approved the level of increase as proposed by the Board, as such an increase is not sustainable and would lead to a huge increase in the tariffs for commercial consumers. However, since there has to be a gradual movement towards the cost of supply, the Commission has approved the following tariff for these consumers. The Commission has renamed this category as NDS-I.

Table 5.17: Approved tariff for NDS-I

DESCRIPTION	TARIFF
	Rs.110/kW/month or part thereof for connected load upto 1 KW
	Rs.50/KW/month for each additional 1 kW or part thereof

The above tariff will generate additional revenue of Rs. 0.88 Crore in a full year for the Board, representing an increase of 83.33% over the existing revenue base of this category.

Optional metered tariff

As discussed earlier, the Commission has approved an optional metered tariff for the rural commercial consumers.

Table 5.18: Approved Metered tariff (Optional) for CS-I category

	TARIFF

	ENERGY CHARGE
KWh/month	Rs./kWh
All consumption	1.25

The average realisation of these consumers at the tariffs approved by the Commission is Rs 1.38/kWh. This optional metered tariff has been kept lower than the average realisation of the consumers of this category to incentivise metering.

5.18.2 Category of Service: CS II

The existing schedule is applicable in urban areas covered by Notified Areas Committee/Municipality/Municipal Corporation/All District Town/All Sub-Divisional Town/All Block headquarters/Industrial Area and contiguous sub-urban area and for connected load upto 4 kW. The Board has proposed to include rural consumers with connected load upto 4 kW and the above-mentioned applicability in this category.

The following table depicts the changes proposed by the Board:

Table 5.19: Tariff for CS-II Consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
	Fixed Charge	
	Existing	Proposed
Rs./kW/month or part thereof	100	150
	ENERGY CHARGE	
	Rs./kWh	
	Existing	Proposed
KWh/month		
0-150 kWh	1.32	4.10
Above 150 kWh	1.60	4.40
	Fuel surcharge	
	Existing	Proposed
Rs./kWh	2.44	-
	MINIMUM MONTHLY CONSUMPTION	
	Existing	Proposed
Units/kW/month	50 units/kW/month	60 units/kW/month

The above changes proposed by the Board would yield Rs. 11.12 Crore of additional revenue representing an increase of 19.08% over the existing revenue base of this category. The Commission has not approved the increase proposed by the Board. The changes proposed would result in a very high tariff increase for this category and would be close to twice the average cost of supply as determined by the Commission. The Commission observes that there is no need for any tariff increase for this category, since the tariff is already higher than the cost of supply.

5.18.3 Category of Service: CS III

The existing schedule is applicable for connected load exceeding 4 kW and upto 60 kW. The Board has proposed to change the applicability of this category from upto 60 kW to 75 kW.

The following table depicts the changes proposed by the Board in the tariff for CS-III category.

Table 5.20: Tariff for CS-III Consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
		Fixed Charge
	Existing	Proposed
Rs./kW/month or part thereof	120	150
	ENERGY CHARGE	
	Rs./kWh	
	Existing	Proposed
KWh/month		
0-150 kWh	1.32	4.10
Above 150 kWh	1.60	4.40
	Fuel surcharge	
	Existing	Proposed
Rs./kWh	2.44	-
	MINIMUM MONTHLY CONSUMPTION	
	Existing	Proposed
Units/kW/month	50 units/kW/month	100 units/kW/month

The Commission has not approved the increase proposed by the Board as the changes proposed would result in a very high tariff increase for this category.

In the existing tariff, these two categories (CS-II and CS-III) have been differentiated only on the basis of their connected load and hence their fixed charge is different. The Commission thus believes that these two categories should be merged because of the following factors.

- 1) The nature of service of these two categories is similar.
- 2) The difference in the existing tariff is marginal.

This merger would also simplify and rationalize the tariff structure. This category is now renamed as NDS-II.

The Commission has also merged the two slabs of 0-150 kWh and above 150 kWh to simplify the tariff structure further. These consumers are paying an average tariff much above the average cost of supply. The Commission, has therefore, tried to reduce the cross subsidy element present in the tariff for these categories and has approved a marginal reduction in their tariff. The approved tariff for CS-II and CS-III categories is given in the table below.

Table 5.21: Approved tariff for NDS II (CS-II&III) category

	TARIFF
	Fixed Charge
Rs./kW/month or part thereof	100
	ENERGY CHARGE
	Rs./kWh
All consumption	3.60

Minimum consumption charges have been abolished.

The above tariff will lead to a decline in the revenue for the above category by Rs. 4.38 Crore in a full year. Of

this, Rs.4.23 Crore would be from the existing CS-II category and Rs. 1.03 Crore from existing CS-III category. The total revenue that would be generated at the approved tariff would be Rs.67.05 Crore comprising of Rs.48.32 Crores through energy charges and Rs.18.73 Crores through fixed charges.

5.19 Category 3: Low Tension Industrial and Medium Power

The existing schedule for this category is applicable for electrical motors and other industrial appliances and medium power of less than 80 HP. The use of arc welding set, electric motors in public water works, flour mills, oil mills, dal mills, atta chakki, haulers, spellers etc. will also be covered under this category.

The Board has proposed that this tariff will be applicable to consumers with load upto 107 HP. The existing tariff structure has two sub-categories-LTIS-I and LTIS-II. LTIS-I is applicable for load upto 25 BHP and LTIS-II for load above 25 BHP. The Board has also proposed to bifurcate the existing two sub-categories of LTIS-I and LTIS-II, and create a total of four sub categories.

The changes proposed by the Board in the tariff for this category are given below.

Table 5.22: Tariff for LTIS consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
	Fixed Charge	
Rs./BHP/month or part thereof	Existing	Proposed
LTIS-I	60	100
LTIS-II	80	120
LTIS-III	-	180*
LTIS-IV	-	180**
ENERGY CHARGE		
Rs./kWh		
	Existing	Proposed
KWh/month		
All consumption		
LTIS-I	1.11	3.90
LTIS-II	1.30	4.10
LTIS-III	-	4.20
LTIS-IV	-	4.20
Fuel surcharge		
Rs./kWh	2.44	-
MINIMUM MONTHLY CONSUMPTION		
Units/kW/month	Existing	Proposed
LTIS-I	70 kWh/BHP/month	60 kWh/BHP/month (rural areas) 90 kWh/BHP/month (urban areas)
LTIS-II	70 kWh/BHP/month	120 kWh/BHP/month
LTIS-III	-	130 kWh/BHP/month
LTIS-IV	-	120 kWh/BHP/month

The above changes proposed by the Board would bring in additional revenue of Rs.21.30 Crore for the Board, representing an increase of 24.73% in revenue over the revenue from existing tariffs. The Commission has not

approved this increase in tariff proposed by the Board, as the average tariff would be higher than the average cost of supply of the Board and would unnecessarily burden the small and medium industries in the state.

The Jharkhand Industrial Policy 2001 suggested that the applicability of this category should be increased to 107 HP (Section 15.2.9). Such a step would promote the small and medium industries and the economic growth of the state. The Commission is also of the same view and it therefore approves to include industries with load upto 107 BHP in this category. The Commission has not approved the creation of the two additional categories as proposed by the Board as it goes against the general principle of simplification of the tariff structure. Further, the Board has not been able to provide any estimate of benefits accruing or rationale for this proposed creation of two additional categories. Infact, the character of use of both these categories is similar. The divergence in the existing tariff for these categories is also not significant. The Commission has therefore decided to merge these two categories in line with the principles of tariff reflecting the cost of supply.

The Commission is of the view that in future all industrial consumers should be merged into a single category and charged on the basis of the difference in the cost of supply at different voltage levels. This move to merge the LTIS-I and LTIS-II categories is the first step in moving towards this direction.

As per the existing tariff, the average realization of the LT industry category is well above the average cost of supply. Such a tariff structure is not sustainable in the long run and has adverse impacts on the industrial growth of the state. The Commission has therefore taken the first step towards aligning the tariff for LT industry to the cost of supply and thereby reduce the extent of cross subsidy present in the state.

According to the Jharkhand Industrial Policy 2001, the concept of maximum connected load has to be changed to the concept of maximum demand load. In this respect, the Board has also proposed the following:

* Contract load of LTIS consumer shall be 75% of the connected load in case the number of motors/appliances/electrical equipments is more than one. If there is only one motor/appliance/electrical equipment then the connected load would be treated as contract load.

* The maximum demand recorded in a year will be treated as contract load for that year for the consumer who opts for maximum demand meters. This option shall be availed only after installation of maximum demand meters and executing an agreement with the Board for this option of tariff. In case, the consumers supply their own meters, these will be installed after testing and sealing by the Board and no meter rent will be charged.

The Commission accepts the above proposal of the Board.

Minimum consumption charges have been abolished.

The tariff approved by the Commission for LTIS consumers is as follows:

Table 5.23: Approved tariff for LTIS category

	TARIFF
Rs./HP/month or part thereof	FIXED CHARGE
LTIS-I	60
LTIS-II	60
KWh/month	ENERGY CHARGE
All consumption	Rs./kWh
LTIS-I	3.50
LTIS-II	3.50

The above tariff changes will lead to decline in the revenue by Rs. 3.42 Crore in a full year, representing a reduction of 3.97% over the existing revenue. The approved tariff will generate total revenue of Rs.82.72 Crore in

a full year comprising of Rs. 58.10 Crore through energy charges and Rs 24.61 Crore through fixed charge.

5.20 Category - 4: Irrigation and Agriculture service (IAS)

The existing schedule is applicable for the use of electrical energy for agriculture purposes including processing of agricultural produce, confined to Chaff-Cutter, Thresher, Cane crusher and Rice-Hauler, when operated by the agriculturist in the field or farm and does not include rice mills, flour mills, oil mills, dal mills or expellers. There are two sub categories under irrigation and agricultural services: IAS-I (for private tube wells and lift irrigation schemes) and IAS-II (for state tube wells and lift irrigation schemes)

The changes proposed by the Board in the tariff structure are given in the table below.

Table 5.24: Tariff for IAS consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
	FIXED CHARGE	
	Existing	Proposed
IAS -I	Rs.30/BHP/month	Upto 5 HP- Rs 50/HP/month
		Above 5 HP - Rs 70/HP/month
IAS-II	Rs. 120/BHP/month	Rs. 290/BHP/month

The above changes proposed by the Board result in an increase of Rs.0.75 Crore in the revenue generated from this category, representing an increase of 114.29% over the existing revenue base. However, the Commission has not accepted this proposal of the JSEB.

The Commission does recognize that these categories are paying below the average cost of supply and the average tariff. For instance, at the existing tariff IAS-I and IAS-II are paying average tariff of Rs.0.30 per unit and Rs.0.53 per unit respectively, whereas the overall average tariff is Rs.3.54 per unit. The Commission therefore, has increased the tariff for these categories and at the same time the Commission has ensured that there is no tariff shock.

The tariff approved by the Commission for IAS consumers is as follows:

Table 5.25: Approved tariff for IAS category

DESCRIPTION	TARIFF
	FIXED CHARGE
	Rs./HP/month
IAS-I	50
IAS-II	200

The above tariff changes will bring additional revenue of Rs. 1.13 Crore in a full year from the domestic consumers representing an increase of 66.67% over the existing revenue of both the sub categories. The approved tariff will generate total revenue of Rs.2.28 Crore in a full year through fixed charges.

Optional metered tariff

As discussed earlier, the Commission has approved an optional metered tariff for the Agricultural consumers.

Table 5.26: Approved Metered tariff (Optional) for IAS category

DESCRIPTION	TARIFF

	FIXED CHARGE
All consumption	Rs./kWh
IAS-I	0.50
IAS-II	0.75

This optional metered tariff has been kept lower than the average realisation of the consumers of this category to incentivise metering.

5.21 Category: High Tension Service (HTS)

At present, there are four categories that come under high-tension service. These are HTS-I, HTS-II, EHTS and HTS (Special). The existing and proposed tariff of the Board for each of these is discussed in greater detail in the following part of this tariff order. The Commission has analysed tariff taking into account after the description of all HT categories, except for HTS (Special), which is dealt with separately due to the special consumption pattern of these consumers.

5.22 Category - 5: 11 kV or 66 kV High Tension Service (HTS-I)

The existing tariff schedule is applicable for installations with a minimum contract demand of 75 kVA. The Board has proposed to change this applicability to 100 kVA. The Commission has accepted this change as suggested in the Industrial Policy 2001. The same has been discussed earlier in the LTIS category.

The changes as proposed by the Board in the tariff for HTS-I category are given in the table below.

Table 5.27: Tariff for HTS-I consumers (Existing/Proposed)

DESCRIPTION	TARIFF*	
	DEMAND CHARGE	
	Existing	Proposed
Rs./kVA/month	125	200
	ENERGY CHARGE	
	Existing	Proposed
Rs./KWh/month	1.78	4.40
	FUEL SURCHARGE	
Rs./KWh/month	2.44	
	Annual minimum guarantee (AMG) charge	
	-subject to minimum contract demand for this category, monthly minimum demand charge as per appropriate tariff based on actual maximum demand of that month or 75% of the contract demand whichever is higher. -Energy charges based on load factor of 25% and power factor 0.85 on contracted demand payable at the rate of Rs.1.78/kWh	The following AMG charge shall be realized from the consumer as per appropriate tariff AMG charge based on load factor of 25% and power factor 0.9 on contract demand payable at the rate of energy charge applicable to HTS-I category

*If power is supplied at 6.6 kV or 3.3 kV, an additional charge of 7.5% on the demand and energy charges will be levied.

The above changes proposed by the Board would generate additional revenue of Rs. 17.44 Crore in a year, amounting to an increase of 6.28% as compared to revenue from existing tariff.

5.23 Category - 6: 33 kV High Tension Service (HTS-II)

The existing tariff schedule is applicable for installations with a minimum contract demand of 1000 kVA.

The changes as proposed by the Board in the tariff for HTS-II category are given in the table below.

Table 5.28: Tariff for HTS-II consumers (Existing/Proposed)

DESCRIPTION	TARIFF*	
	DEMAND CHARGE	
	Existing	Proposed
Rs./kVA/month	115	200
	ENERGY CHARGE	
Rs./KWh	Existing	Proposed
All consumption	1.72	4.30
Rs./KWh	FUEL SURCHARGE	
	2.44	-
	Annual minimum guarantee (AMG) charge	
	-Subject to minimum contract demand for this category, monthly minimum demand charge as per appropriate tariff based on actual maximum demand of that month or 75% of the contract demand whichever is higher. -Energy charges based on load factor of 30% and power factor 0.85 on contracted demand payable at the rate of Rs.1.72/kWh	The following AMG charge shall be realized from the consumer as per appropriate tariff AMG charge based on load factor of 30% and power factor 0.9 on contract demand payable at the rate of energy charge applicable to HTS-II category

The above changes proposed by the Board would generate additional revenue of Rs. 16.07 Crore in a year, amounting to an increase of 7.83% as compared to revenue from existing tariff.

5.24 Category - 7: 132 kV Extra High Tension Service (EHTS)

The existing tariff schedule is applicable for installations with a minimum contract demand of 7.5 MVA.

The changes as proposed by the Board in the tariff for HTS-II category are given in the table below.

Table 5.29: Tariff for EHTS consumers (Existing/Proposed)

DESCRIPTION	TARIFF*	
	DEMAND CHARGE	
	Existing	Proposed
Rs./kVA/month	110	200
	ENERGY CHARGE	
Rs./KWh/month	Existing	Proposed
All consumption	4.13	4.15
Rs./KWh	FUEL SURCHARGE	
	2.44	-
	Annual minimum guarantee (AMG) charge	
	-Subject to minimum contract demand for this category, monthly minimum demand charge as per appropriate tariff based on actual maximum demand of that month or 75% of the contract demand whichever is higher. -Energy charges based on load factor of 50% and power factor 0.85 on contracted demand payable	The following AMG charge shall be realized from the consumer as per appropriate tariff AMG charge based on load factor of 50% and power factor 0.9 on contract demand payable at the rate of energy charge applicable to EHTS category

at the rate of Rs.1.69/kWh

The above changes proposed by the Board would generate additional revenue of Rs. 5.12 Crore in a year, amounting to an increase of 34.55% as compared to revenue from existing tariff.

The Commission's analysis of HTS-I, HTS-II and EHTS

The proposal of the Board to increase the tariff of these HT (HTS-I, HTS-II and EHTS) consumers has not been accepted as the existing tariff of this category is significantly above the average cost of supply implying high cross subsidization. An increase in the tariff would aggravate this distortion. As discussed earlier also, the cost of supplying at HT and EHT is significantly lower than that at LT. However, in the existing tariff structure, the HT and EHT consumers are already paying well above the average cost of supply, which would lead to a decline in industrial consumption as industries would either shift to other states or move to captive generation. Such a scenario would not be favourable for the Board and for the economy of the state also. In view of the above discussion, the Commission has not approved the tariffs increase as proposed by the Board for these consumers.

The Commission has merged the three HTS categories in order to rationalize and simplify the tariff structure. However, the Commission has introduced a rebate on energy charge for receiving supply at higher voltage levels, as the cost of supply at higher voltage is lower.

With regard to minimum charge the Commission has compared minimum charge in other states in India.

Table 5.30: Comparison of tariff in other states in India

Large Industry	Haryana	Uttar Pradesh	Rajasthan	Uttranchal	Madhya Pradesh	West Bengal	Chattisgarh	Orissa	Mahara
Energy Charge (paise/kWh)	409	350/kVAh	401	190 /kVAh	423/kVA	330/kVA	317/kVAh	290/kVA	280 (addit 30 paise p as T&D los Charge)
Demand / Fixed charge (per month)		Rs. 180/kVA	Rs. 90/kVA of billing demand	125/kVA	148/kVA	180/kVA	129/kVA	200/kVA	Rs. 300/kVA/r
Minimum Charge	Rs. 250 per kVA of Contract Demand	Rs. 5100 / kVA/year	Rs. 440 per kVA of BD per month, Rs. 700 per kVA of BD per month (for arc furnaces), Rs. 520 per kVA of BD per month (for others)	350 per kVA	No minimum charge for supply at 11 and 33 kV. 40% load factor for supply at 132 kV	No minimum charge	No Minimum charge. 40%load factor for supply at 132 kV	No Minimum charge. Rs. 700/month as a customer charge	No minimum charge

It is evident from the above table that there is no common approach towards minimum charge. However, if we compare neighbouring states like Orissa, West Bengal and Madhya Pradesh (supply at less than 132 kV), there is no minimum charge. As mentioned earlier, the Commission would ideally like to scrap this charge, but for current year it has retained this charge due to lack of information and data to ascertain the true impact of this charge. The Commission has already directed the Board to provide details in this regard in the next petition.

For the current year, the Commission would not like to increase the burden on the industries on account of minimum charge and has therefore attempted to keep it at the existing level. The Commission has assumed a minimum level of supply and a minimum level of consumption. For this, the Commission has considered 10% load factor for HTS-I and HTS-II categories considering an average consumption of two (2) hours in a day. For EHTS and HT Special, load factor of 20% and 30% respectively has been taken by considering an average consumption of four (4) hours and seven (7) hours in a day respectively. The Commission observes that if these categories of industries are not able to maintain this minimal load factor, than they should reduce there contracted load. The Commission would like to explicitly mention that if the consumption exceeds the mentioned load factor, no minimum charge would be applicable.

For encouraging consumption, the Commission has also introduced a load factor rebate for all industrial consumers. For the entire consumption in excess of this defined load factor, a rebate is provided on the energy charges for such excess consumption. The Commission would have liked to align the tariff structure towards cost of supply during the current year itself, but it was constrained due to the huge tariff shock that it would translate into for other consumers and consequent increase that would have been required in tariff for other categories. Thus as a principle the Commission has taken the first step towards reducing this distortion in the tariff structure. The Commission is conscious of the fact that HT industry in Jharkhand has borne the brunt of cross subsidy in the past and the tariff applicable to them is above the cost of supply. The significance of this step should not, however, be judged by the quantitative decline but the signal and intent whereby the Commission intends to further rationalize the tariff in the future.

The tariff approved by the Commission for HTS consumers is as follows:

Table 5.31: Approved tariff for HT consumers

DESCRIPTION	TARIFF*
Rs./kVA/month	DEMAND CHARGE
HTS-I	140
HTS-II	140
EHTS	140
	ENERGY CHARGE
Rs./KWh/month	
HTS-I	4.0
HTS-II	4.0
HTS-III	4.0
EHT	4.0
	Minimum Monthly Charge(MMC)
HTS-I and HTS-II	Rs.250/kVA/month
EHTS	Rs.400/kVA/month

Table 5.32: Voltage rebate for HT consumers

Load Factor	Voltage rebate
Supply at 33 kV	5%
Supply at 132 kV	7.5%

Table 5.33: Load factor rebate for HT consumers*

Load Factor	Load factor rebate
40-60%	5%
60-70%	7.5%
Above 70%	10%

*The above rebate will be available only on monthly basis and Consumer with arrears shall not be eligible for the above rebates.

Apart from the above, the Commission has also approved a TOD tariff for these consumers.

Table 5.34: Approved TOD tariff for HT consumers

Description	TOD Tariff
Rs./KWh/month	HTS-I
Peak Hour	

06.00 AM - 10.00 AM	4.60
06.00 PM - 10.00 PM	
Off Peak Hour 10.00 PM - 06.00 AM	3.60

It is expected that the above schemes of TOD tariff, load factor rebate and voltage rebates would provide sufficient incentive to the consumers to optimize their consumption profile and quantum to the benefit of the Board.

HTS-I: The above tariff changes will lead to a decline in the revenue for HTS-I category by Rs. 15.79 Crore in a full year, representing a reduction of 5.69% over the existing revenue. The approved tariff will generate total revenue of Rs.261.73 Crore in a year comprising of Rs. 244.93 Crore through energy charges and Rs 16.80 Crore through fixed charge.

HTS-II: The above tariff changes will lead to a decline in the revenue for HTS-II category by Rs. 13.82 Crore in a full year, representing a reduction of 6.73% over the existing revenue. The approved tariff will generate total revenue of Rs.191.53 Crore in a full year comprising of Rs. 175.72 Crore through energy charges and Rs 15.81 Crore through fixed charge.

EHTS: The above tariff changes will lead to an increase in the revenue for EHTS category by Rs. 0.80 Crore in a year, representing an increase of 5.37% over the existing revenue. The approved tariff will generate total revenue of Rs.15.63 Crore in a year comprising of Rs. 7.72 Crore through energy charges and Rs 7.91 Crore through fixed charge

5.25 Category - 8: HT Special Service (HTSS) (HT consumer with Induction furnace)

This tariff schedule shall apply to all consumers who have a contracted demand of 300 kVA and more for induction furnace, however, it will not apply to casting units having induction furnace of melting capacity of 500 kg or below.

The changes proposed by the Board in the tariff for the HTSS category are given in the table below.

Table 5.35: Tariff for HTSS consumers (Existing/Proposed)

DESCRIPTION	TARIFF	
		DEMAND CHARGE
	Existing	Proposed
Rs./kVA/month	700	750
	ENERGY CHARGE	
Rs./KWh/month	Existing	Proposed
All consumption	1.2	1.25
Rs./KWh	FUEL SURCHARGE	
	2.44	-

The Commission recognizes that this is a special category of consumers and their tariff should be different as their consumption pattern induces sudden shocks in the system. This aspect is however taken care of by the higher demand charge that ensures that the consumers with higher demand would pay more. However, the existing tariff structure is skewed with a very low energy charge and a very high demand charge. The Commission has made an attempt to rationalise the tariff for this category by reducing this distortion to some extent. The existing average realisation from this category is Rs. 2.08/kWh. This is against all principles of equity as in the present scenario the poor consumers are cross-subsidizing the industrial consumers. Further, if we consider the energy cost of Rs.1.86 and loss level of 30% (instead of current approved loss level of 42.7%) in the system, the energy charge should not be less than Rs.2.66 per unit. This is not acceptable and the Commission has thus approved the following tariff for HTSS consumers is as follows:

Table 5.36: Approved tariff for HTSS consumers

DESCRIPTION	TARIFF
Rs./kVA/month	DEMAND CHARGE
HTSS	300
	ENERGY CHARGE
Rs./KWh/month	
HTSS	2.50
	Minimum monthly charge
HTSS	Rs.400/kVA/month

The Commission has also approved certain rebate according to voltage of supply and load factor of these consumers. These are mentioned below.

Table 5.37: Voltage rebate for HTSS consumers

Load Factor	Voltage rebate
Supply at 33 kV	5%
Supply at 132 kV	7.5%

Table 5.38: Load factor rebate for HT consumers*

Load Factor	Load factor rebate
40-60%	5%
60-70%	7.5%
Above 70%	10%

*Consumer with arrears shall not be eligible for the above rebates. The above rebate will be available only on monthly basis.

The above tariff changes will generate total revenue of Rs. 82.77 Crore in a year, representing an increase of 38.53% over the existing revenue. The average realisation from this approved tariff would be Rs 2.88/kWh, which is still lower than the average cost of supply.

5.26 Category - 9: Railway Traction Service (RTS)

As per the existing schedule, this tariff is applicable for railway traction only. There are two sub-categories within this category. These are RTS-I (supply at 25 kV) and RTS-II (supply at 132 kV). The Board has not proposed any changes in the applicability of this category.

The changes proposed by the Board in the tariff for the RTS category are given in the table below.

Table 5.39: Tariff for RTS category (Existing/Proposed)

DESCRIPTION	TARIFF*	
	DEMAND CHARGE	
Rs./kVA/month	Existing	Proposed
RTS-I	140	200
RTS-II	140	200
	ENERGY CHARGE	
Rs./KWh/month	Existing	Proposed
RTS-I	2.00	4.45
RTS-II	1.94	4.40

Rs./KWh	FUEL SURCHARGE	
	2.44	-
	Annual minimum guarantee (AMG) charge	
	-Subject to minimum contract demand for this category, monthly minimum demand charge as per appropriate tariff based on actual maximum demand of that month or 75% of the contract demand whichever is higher. -Energy charges based on load factor of 25% and power factor 0.85 on contracted demand payable at the rate of Rs.1.94/2.00 per kWh for RTS-II and RTS-I respectively	The following AMG charge shall be realized from the consumer as per appropriate tariff AMG charge based on load factor of 25% and power factor 0.9 on contract demand payable at the rate of energy charge applicable to RTS-II and RTS-I respectively

The above changes will yield additional revenue of Rs.9.37 Crore, representing an increase of 5.11% over the existing revenue base. The Commission has not agreed with the proposal of the Board as the tariff for this category is already above the cost of supply.

The Commission has merged the existing categories of RTS-I and RTS-II as there is not much differential in the existing tariff for these. The Commission has approved a tariff that will lead to a marginal reduction in the revenue generated from the two categories combined.

Annual Minimum Guarantee charge has been abolished.

The approved tariff is given in the table below.

Table 5.40: Approved tariff for RTS consumers

DESCRIPTION	TARIFF
Rs./kVA/month	DEMAND CHARGE
	140
	ENERGY CHARGE
Rs./KWh/month	
	4.30
	Minimum monthly charge
HTSS	Rs.400/kVA/month

Table 5.41: Voltage rebate for RTS consumers

Load Factor	Voltage rebate
Supply at 132 kV	7.5%

The above tariff changes will lead to a decline in the revenue for RTS category by Rs. 10.26 Crore in a full year, representing a reduction of 5.59% over the existing revenue. The approved tariff will generate total revenue of Rs.173.29 Crore in a full year comprising of Rs. 152.74 Crore through energy charges and Rs 20.56 Crore through fixed charge

5.27 Category - 10: Street Light Service (SS)

The existing tariff schedule is applicable for use for Street Light System, including single system in Corporation, Municipality, Notified Area Committee. Panchayats, etc. and also in areas not covered by Municipalities and Notified Area Committee provided the number of lamps served from a point of supply is not less than 5. In the existing

structure, there are separate tariffs for metered (SS-I) and unmetered (SS-II) street light supply. The Board has however submitted that there are no metered connections for street lighting at present. The Commission re-emphasises that the JSEB should take immediate steps to meter all consumers at the earliest.

The changes in the tariff structure of this category as proposed by the Board are given below.

Table 5.42: Tariff for SS-I category (Existing/Proposed)

DESCRIPTION	TARIFF	
		FIXED MAINTENANCE CHARGE
	Existing	Proposed
	Rs./connection/month or part thereof	
	For each incandescent lamp - 12	
	For each fluorescent or mercury vapour lamp - 15	
	ENERGY CHARGE	
Rs./KWh/month	Existing	Proposed
All consumption	1.40	For rural areas - 0.80
		For urban areas - 2.50
Rs./KWh	FUEL SURCHARGE	
	2.44	-

Table 5.43: Tariff for SS-II category (Existing/Proposed)

Existing	Proposed
Gross rate Rs./month	Rs/lamp/month
40 Watts 18	For rural area upto 100 watt - 20
60 Watts 27	Above 100 watt upto 250 watt-50
100 Watts 45	For Urban Area upto 100 watt - 80
150 Watts 67	Above 100 watt upto 250 watt - 200
200 Watts 90	Above 250 watt upto500 watt - 350
250 Watts 112	
300 Watts 125	High mast light Rs. 450/KW/month
500 Watts 225	

The total revenue that this proposed tariff structure would generate for the Board has not been estimated due to lack of adequate data.

Since the category is paying Rs.0.64 per unit at the existing tariff, which is far less than the cost of supply, the Commission has increased tariff on average by approximately 60% and has simplified the existing rate schedule. Keeping this in view the Commission has approved the following tariff for Street Lights.

Table 5.44: Approved tariff for SS-II category (unmetered category)

Approved
Rs./lamp/month
Rs.100 per 100-watt lamp. In addition, Rs.25 would be charged for each additional 50 watt

Since we have mentioned about the lack of data earlier also, it is estimated that the revised tariffs would generate additional revenue of Rs. 1.45 Crore.

As noted earlier there are no metered lamps currently in spite of a provision in the tariff schedule. The Commission directs the Board to step up its efforts to meter this category. The approved tariff for meter category is as follows:

Table 5.45: Approved tariff for SS-I category (Metered category)

DESCRIPTION	TARIFF
	MAINTANANCE CHARGE
Rs./connection/month	20
Rs./KWh/month	ENERGY CHARGE
All consumption	3.50

5.28 Category - 11: Rural Electric Co-operative (Bulk Supply) - REC

The existing tariff schedule is applicable for use of electricity in Rural Electric Co-operatives (licensee) for supply at 33 kV or 11 kV. The schedule proposed by the Board extends this to include Village Panchayats where the domestic and non-domestic rural tariff is not applicable.

The tariff changes proposed by the Board for the category of Rural Electric Co-operative Service is given in the table below.

Table 5.46: Tariff for RECs (Existing/Proposed)

DESCRIPTION	TARIFF	
	Existing	Proposed
KWh/month		
All consumption	Rs.0.70.kWh	Rs 300/kVA installed capacity of distribution transformer

At present, no consumers are taking supply in the state under this category. However, such consumers do exist in neighbouring states including Bihar. The Board expects that in due course of time, there would be consumers who would come under this tariff category. The Commission is also of the view that there is a need to continue with this category to give an opportunity to the rural consumers to form such cooperatives and take supply under this category. However, the Commission does not accept the proposal of the Board to charge this category on per kVA basis as it creates difficulty in estimating the correct consumption. The Commission has thus decided to maintain the status quo for this category. The approved tariff is Rs. 0.70/kWh.

5.29 Category - 12: Bulk Supply to Military Engineering Services (MES)

The MES services have objected to the current practice of the JSEB charging them at a commercial/industrial rate. It has been stated by the MES that it purchases bulk power from the Board, and the entire take over points, stepping down arrangements and distribution has been created and is being maintained by the MES from their own funds. Most of the defence consumption is domestic, the remaining, though being consumed in activities like running educational institutions, hospitals, water supply installations etc. these are run purely on not-for-profit basis. The Commission agrees that where there is a mixed load and it is possible to distinguish these loads by providing separate connections, this should be done. Such practice of having special tariff for consumers with mixed load is also in existence in other states.

The Commission has analysed the consumption patterns of the MES, and it is observed that 70% of their consumption is for domestic purposes and the rest 30% is commercial. Keeping this in view, the Commission has determined a separate tariff for this category. The tariff approved for this category is given below.

Table 5.47: Approved tariff for MES

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DESCRIPTION	TARIFF
	FIXED CHARGE
Rs./kVA/month	150
Rs./KWh/month	ENERGY CHARGE
All consumption	2.50

5.30 Terms and conditions of supply

The JSEB has submitted a number of clauses of the existing terms and conditions of supply for the consideration of the Commission. The Commission has dealt with the power factor surcharge (rebate and penalty) and delayed payment surcharge in this section. The JSEB has submitted a number of other clauses, while, the others would have to be dealt with at a later stage. This is due to the reason that a detailed and in-depth analysis of the issues involved is herewith required and hence they have not been dealt with in this tariff order.

5.30.1 Surcharge for delayed payment

The Board has proposed that the Commission should allow the levy of a delayed payment surcharge at the rate of 2% per month or part thereof for the delay made, irrespective of the period of delay. This charge shall be applicable for all consumers as per the proposal of the Board. The Board has also proposed a compensation charge. This charges is also present in the existing tariff schedule. Some consumers have raised the objection that this is a violation of the provisions of Industrial Policy 2001 of the state of Jharkhand. Section 15.2.15 of the policy states that the delayed payment surcharge shall be recoverable from the defaulting consumers at the rate of 1/2 (half) percent interest per week and not on monthly basis. The Board in this respect has replied that the billing cycle for HT consumers at present is on monthly basis and therefore levy of surcharge on a per week basis would not be administratively feasible. The Commission, however, is of the view that the JSEB can follow this provision of the Industrial Policy by modifying its billing software and its billing cycle. The Commission, thus, approves a delayed payment surcharge recoverable from the defaulting industrial consumers only at the rate of 1/2 (half) percent interest per week. For other defaulting consumers, the existing delayed payment surcharge shall continue to be levied.

5.30.2 Power factor surcharge

The JSEB has proposed to change the existing condition for levying the power factor surcharge. A provision for power factor surcharge is already in existence for HT service, Extra High Tension Service, HT Special Service (Induction furnace), Irrigation & Agriculture (State), Railway Traction and LTIS with maximum demand meter.

The Board has proposed that in case the average power factor in a month for these consumers falls below 0.9, a penalty @1% for every 0.01fall in power factor below 0.90 shall be levied on demand and energy charges including fuel surcharges. The existing schedule specifies that in case the average power factor in a month for these consumers falls below 0.85, a penalty @1% for every 0.01fall in power factor below 0.85 shall be levied on demand and energy charges including fuel surcharges.

The Commission is of the view that the power factor penalty should be common for all categories and different penalties cannot be imposed on different classes of consumers for the violation of similar terms and conditions. The Commission, has thus approved the following power factor penalty.

"In case average power factor in a month for a consumer falls below 0.85, a penalty @1% for every 0.01 fall in power factor from 0.85 to 0.60; plus 2% for every 0.1 fall below 0.60 to 0.30 (upto and including 0.30) shall be levied on demand and energy charges."

5.30.3 Power factor rebate

The existing tariff does not have a provision for power factor rebate. The Board has proposed to introduce a

rebate @ 0.5% of demand and energy charges (for categories on whom PF surcharge is levied) for every increase of 0.01 power factor above 0.95. The Commission is of the view that since a penalty has been approved for all the consumer categories for not maintaining a power factor of 0.85, therefore, a rebate for maintaining power factor above 0.85 should also be there. Also, a uniform level of rebate for improvement in the power factor above 0.85 as in such a system is not justified, as in such a system, there is no differentiation between consumers maintaining a very high power factor; say 97.5% and those maintaining it at say 86%. In view of this, the power factor rebate approved by the Commission for those consumers who have electronic meters that can record the power factor is as follows:

" In case average power factor maintained by the consumer is more than 85%, a rebate of 1% and if average power factor is more than 95%, a rebate of 2% on demand and energy charges shall be applicable".

5.31 Retrospective increase in tariff

The new tariff will come into force from January 1, 2004. The Board's prayer to make the new tariff applicable from April 1, 2003 and be valid upto March 31 2005 has not been accepted as already discussed in Section 3. Also, as discussed in Section 1 of this tariff order, the Board submitted its petition for determining the Annual Revenue Requirement (ARR) and revision of tariff for the year 2003-04 on August 26, 2003. The Commission undertook an examination of the filing and had found that the guidelines issued for filing the tariff have not been complied by the Board, and there were major information gaps in the petition. Thereupon, the Board revised the petition and submitted it on November 4, 2003 and it was only after this that the process of tariff determination started with and information and clarifications were requested from the JSEB subsequently. Thus, it can be argued that the Board itself, more than anybody else is responsible for the delay in the issuance of the order for FY 2003-04. The Commission has, therefore, not approved retrospective applicability of the new tariff. As far as the applicability of the tariff till March 31 2005 is concerned, the Commission has not approved this also. The Board is directed to submit a tariff petition for the determination of tariff for FY 2004-05 by March 31, 2004 so that the Commission can analyse the prudence of its costs and revenue estimates and determine the tariff for the next year on the basis of those estimates.

5.32 Non tariff income

The JSEB has proposed revenue of Rs. 321.83 Crore as non-tariff income for FY 2003-04. The sources of this are given in the following table:

Table 5.48: Non Tariff income

DESCRIPTION	FY 2002-03	FY 2003-04	
		Proposed	Approved
	(Rs Crore)	(Rs Crore)	(Rs Crore)
Rent of meter/transformer rent	14.33	15.35	15.35
Delayed Payment Surcharge	283.31	303.57	303.57
Others	2.71	2.90	2.90
Connection/disconnection and other charge excluding rebate		15.81	15.81
Less rebate for timely payment		1.60	15.81
TOTAL	300.35	321.83	336.04

The Commission has approved non-tariff income as proposed by the Board. As given in the table above, the Commission has also accounted for Rs. 15.81 Crore through connection/disconnection charges and rebate of Rs. 1.60 Crore for timely payment of bills. These were already accounted for by the Board in the estimates submitted

for revenue generated through sale of power. The Commission has appropriately shifted them to non-tariff income. The Commission has thus approved Rs. 336.04 Crore as non-tariff income for FY 2003-04.

5.33 Overall revenue -expenditure position of the JSEB

The overall revenue -expenditure position of the JSEB is given in the table below:

Table 5.49: Overall revenue -expenditure position (as per approved tariff)

	Rs. Crore
Revenue requirement	1334.11
Revenue from tariff	967.38
Non-tariff income	336.04
Total Revenue	1303.42
Subsidy from Government	40.00
Total income	1343.42
Surplus	9.31

The Commission recognizes that a surplus of Rs.9.31 Crores would be generated in a full year. However, this amount is subject to reduction due to introduction of separate MES tariff, optional metered tariff for rural domestic and rural commercial consumers, abolishment of minimum consumption charge, provision of load factor rebate and voltage rebate as the impact of these has not been quantified due to lack of adequate data.

5.34 Consumer category wise revenue and Convergence Index

The category wise revenue generated through tariff is given in the table below:

Table 5.50: Category wise revenue through tariff

Category	Existing		Approved		Difference		Average Cost covered at existing tariff	Average Cost covered at approved tariff
	(Rs Crore)	Average realisation (Rs/kWh)	(Rs Crore)	Average realisation (Rs/kWh)	(Rs Crore)	%	%	%
DS-1 unmetered	8.60	0.52	19.50	1.17	10.90	126.67%	14.11%	31.99%
DS-2	50.96	1.34	60.83	1.60	9.87	19.37%	36.63%	43.72%
DS-3	4.10	1.41	5.70	1.97	1.60	39.04%	38.73%	53.85%
Total Domestic	63.66	1.10	86.03	1.49	22.37	35.13%	30.22%	40.84%
Street light	2.38	0.64	3.83	1.03	1.45	60.74%	17.61%	28.31%
CS-I unmetered	1.05	0.75	1.93	1.38	0.88	83.33%	20.54%	37.66%
CS-2	61.64	5.16	57.41	4.81	-4.23	-6.87%	141.32%	131.62%
CS-3	8.73	5.92	7.71	5.23	-1.03	-11.74%	162.25%	143.20%
Total Commercial	71.43	4.82	67.05	4.52	-4.38	-6.13%	131.94%	123.85%
IAS-1	1.11	0.30	1.85	0.50	0.74	66.67%	8.16%	13.60%
IAS-2	0.58	0.53	0.97	0.89	0.39	66.67%	14.56%	24.27%
Total IAS	1.69	0.35	2.82	0.58	1.13	66.67%	9.61%	16.01%

LTIS-1	54.68	4.77	54.11	4.72	-0.57	-1.05%	130.68%	129.31%
LTIS-2	31.45	6.12	28.61	5.57	-2.84	-9.04%	167.58%	152.44%
Total LTIS	86.13	5.19	82.72	5.09	-3.42	-3.97%	142.10%	139.41%
HTS-1	277.52	4.51	261.73	4.27	-15.79	-5.69%	123.43%	117.07%
HTS-2	205.35	4.44	191.53	4.14	-13.82	-6.73%	121.63%	113.45%
EHTS	14.83	7.11	15.63	7.49	0.80	5.37%	194.63%	205.08%
HT Special	59.74	2.08	82.77	2.88	23.02	38.53%	56.84%	78.75%
Total HTS	497.70	16.05	551.65	3.98	-5.80	-1.04%	124.03%	108.94%
RTS-1	89.30	5.07	86.83	4.93	-2.47	-2.76%	138.82%	134.98%
RTS-2	94.25	4.87	86.46	4.47	-7.79	-8.26%	133.39%	122.37%
Total Railway Traction	243.29	4.96	173.29	4.69	-70.00	-28.77%	135.98%	128.38%
TOTAL	966.29	3.54	967.38	3.54	1.09	0.11%	96.96%	97.07%

The above category wise increases in tariff have been designed so that the average realization from each category converges towards the overall average realization. To measure the extent to which this has been done the following index has been used:

$$CI = \left(\frac{[(ARc/OAr)-1]^2 * Sc}{Sc} \right)$$

Where CI = Convergence Index

ARc = Average realization of each category

OAr = Overall average realization

Sc = Category wise consumption

The above index ideally should converge to Zero over the years. The convergence towards zero would reflect alignment of average realisation of each category with overall average realisation.

The convergence index has been calculated at the existing tariffs and also at the revised tariffs approved by the Commission. The results are given in table 5.51.

Table 5.51: Convergence Index

Description	
CI at existing tariffs	0.48
CI at revised tariffs	0.39
Percentage improvement	18%

1 The average realisation has been calculated on the basis of data provided by the JSEB on sales, load and number of consumers for FY 2002-03. It might be possible that the actual consumption is being under reported.

2 The Commission would again like to mention that this fixed cost of 28% may be considered as approximate estimate, since transfer liability has still not been firmed up and accounts of the Board are still not audited.