CHAPTER-IV
WORKS EXPENDITURE
SECTION-A
(AUDIT REVIEWS)

POWER DEPARTMENT

4.1 Review of Power Department (Transmission & Distribution)

Highlights

The Power Department is responsible for the development of the power sector in Sikkim. A review of the transmission and distribution system of Power Department for the period 1998-99 to 2002-03 indicated deficient financial management, high system losses, poor programme management, mounting arrears of revenue and non-recovery of outstanding dues from the West Bengal State Electricity Board. Operating deficit of the Department was very high and accounted for 9 to 122 per cent of the State's fiscal deficit.

Rs.2.65 crore was irregularly drawn and kept outside the Government account to avoid lapse of budget grant.

(Paragraph 4.1.5)

System losses ranged from 20 to 28 *per cent,* which was much higher than the norms of the Central Electricity Authority.

(Paragraph 4.1.7)

Estimates of six works were inflated by Rs.62.48 lakh as the electrical wing followed its own Schedule of Rates.

(Paragraph 4.1.15)

The Department's inability to evacuate power from Ramam project led to extra expenditure of Rs.1.98 crore and non-recovery of dues amounting to Rs.25.79 crore.

(Paragraphs 4.1.17 & 4.1.18)

Consumption of lattice structures was higher than the norms resulting in extra financial outgo of Rs.23.58 lakh.

(Paragraph 4.1.19)

The differential between cost of energy purchased and its sale ranged between 24.86 to 40.50 paise per Kwh and resulted in a burden of Rs.13.06 crore to the State exchequer.

(Paragraph 4.1.26)

The operating deficit of the Department ranged between Rs.12 to Rs.19.82 crore and accounted for 9 to 122 *per cent* of State's fiscal deficit.

(Paragraphs 4.1.27)

Introduction

4.1.1 Sikkim abounds in innumerable streams and rivers which provide the State with abundant potential for development of hydro electric power. According to the estimation of the Central Water Commission, Sikkim's hydel potential is 8,000 Mega Watt (seasonal) and 3,000 Mega Watt (firm). The Power Department is responsible for the development of the power sector in the State which, *inter alia*, includes development of power projects, generation, transmission and distribution.

Organisational Setup

4.1.2 The Department is headed by a Secretary assisted by four Chief Engineers (CE) designated CE (Generation), CE (Transmission), CE (Headquarters) and CE (Civil). In addition, the Department's manpower as on 31 March 2003 comprised four Additional Chief Engineers, seven Superintending Engineers, 18 Executive Engineers and 389 other technical and 858 general staff.

Audit Coverage

4.1.3 The operation of power projects in the State was commented upon in the Report of the Comptroller & Auditor General of India for the year ended 31 March 1999. This review encompassing the period 1998-99 to 2002-03 covered the aspects of transmission and distribution of power and was conducted during April-June 2003 through a test check of records in the office of the Secretary, four Circle offices (out of seven) and 12 Divisional offices (out of 18), covering 40 *per cent* of total expenditure on transmission and distribution schemes.

Financial Outlay

Budget Provision and Expenditure

4.1.4 The budget provision and expenditure on transmission and distribution from 1998-99 to 2002-03 were as under:

Table 4.1

(Rupees in crore)

YEAR	Budget Provision			Expenditure			Excess (+)/Savings (-)		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
1998-99	3.79	11.25	15.04	3.90	12.37	16.27	(+) 0.11	(+) 1.12	(+) 1.23
1999-00	5.47	14.35	19.82	5.56	14.21	19.77	(+) 0. 09	(-) 0.14	(-) 0.05
2000-01	4.86	12.72	17.58	5.99	14.30	20.29	(+) 1.13	(+) 1.58	(+) 2.71
2001-02	6.45	23.71	30.16	6.25	36.91	43.16	(-) 0.20	(+) 13.20	(+) 13.00
2002-03	6.28	45.94	52.22	6.15	39.51	45.66	(-) 0.13	(-) 6.43	(-) 6.56
TOTAL	**26.85**	**107.97**	**134.82**	**27.85**	**117.30**	**145.15**	**(+) 1.00**	**(+) 9.33**	**(+) 10.33**

Source- Detailed Appropriation Accounts of the Government of Sikkim.

It would be seen that against the total budget provision of Rs.134.82 crore during 1998-2003, the expenditure there against was Rs.145.15 crore resulting in an excess of Rs.10.33 crore. The excess under the revenue and capital account was rupees one crore and Rs.9.33 crore respectively. The excess expenditure of Rs.13 crore in 2001-02 was as much as 43 *per cent* of the budgetary provision under the revenue and capital heads for that year. This was mainly due to the clearance of pending bills during that year.

Irregular drawal to avoid lapse of budget grants

4.1.5 Sikkim Financial Rules prohibit drawal of money from Government account unless it is required for immediate disbursement. It is also not permissible to draw money in anticipation of demands or to prevent lapse of budget grants.

On 30 March 2002, the Department transferred Rs.2.65 crore to the Sikkim Power Development Corporation (SPDC) to avoid lapse of budget grants. The State Finance Department was not informed of this action. This money was meant for land compensation and compensatory afforestation (Rs.1.90 crore) and electrification work of community health centres (CHC) at Geyzing (Rs.40 lakh) and Mangan (Rs.35 lakh). It was seen that the SPDC returned Rs.1.90 crore through demand drafts between October 2002 and March 2003 to the Department of which till June 2003, only Rs.1.84 crore had been credited to the head of account "8443- Civil Deposits".

It was further noticed that as of June 2003, the SPDC was yet to return the balance of Rs.75 lakh. The Department had also not taken up the electrification work of the CHC at Mangan (CHC at Geyzing was taken up and completed in March 2003).

While accepting the above facts, the Department stated (June 2003) that transfer of funds was to facilitate the functioning of the SPDC but due to its lack of manpower and required infrastructure, the project could not be taken up by the SPDC. The Department's action to transfer the money to SPDC, whose primary mandate was to undertake generation projects in the State, solely to avoid lapse of funds was a violation of codal provisions and therefore, irregular.

Target and achievement

4.1.6 The target and achievement relating to transmission and distribution during 1998-99 to 2002-03 were as under:

Table 4.2

Particulars	Unit	O/B as on 1.4.98	1998-99		1999-00		2000-01		2001-02		20002-03	
			T	A	T	A	T	A	T	A	T	A
132 KV lines	KM	0	0	0	0	0	0	0	32	15	17	15
132/66 KV Sub station	MVA	0	0	0	0	0	0	0	100	0	100	0
66 KV lines	KM	300.87	0	0	0	0	17.30	2.00	24.50	16	38.50	25.30
66/11 KV substation	MVA	80.01	0	0	7.5	7.5	0	0	8.5	6	3.5	1
11KV lines	KM	2161.91	18.24	8.80	41	35.20	26.70	25.70	35.90	34.9	40.45	37.19
11/0.43 KV substation	MVA	48.46	8.64	4.05	6	2.60	5.68	3.51	4.62	4.31	3.46	3.40
LT lines	KM	5269.22	82.76	61.76	37.60	35.60	54.55	52.55	55.02	54	96.15	95.15
Total circuit kilometres		**7732**	**101**	**70.56 (70)**	**78.60**	**70.80 (90)**	**98.55**	**80.25 (81)**	**147.60**	**119.9 (82)**	**192.40**	**172.64 (90)**
Total MVA		**128.56**	**8.64**	**4.05 (54)**	**13.50**	**10.10 (75)**	**5.68**	**3.51 (62)**	**113.12**	**10.31 (9)**	**106.96**	**4.40 (4)**

Note: Figures within brackets denote percentage of achievement with reference to targets for that year.
KM – circuit kilometres; MVA –Mega Volt Ampere.
Source: Departmental figures.

It would be seen that during 1998-2003, the annual targets were mostly not achieved. In the case of transmission lines, the percentage of achievement ranged from 70 to 90 *per cent*. For substations, the achievement ranged between 4 to 75 *per cent* - in the last two years the figure was as low as 9 and 4 *per cent* respectively.

System losses

4.1.7 System losses during 1998-99 to 2002-03 were as below:

Table 4.3

Sl No	Item	1998-99	1999-2000	2000-01	2001-02	2002-03
		(In million units)				
1	(a) Gross generation	54.43	50.42	44.14	29.55	35.00
	(b) Less auxiliary consumption	0.90 (1.65)	0.90 (1.79)	1.03 (2.35)	0.78 (1.50)	1.20 (3.40)
2	Net generation	53.53	49.52	43.11	28.77	33.80
3	Purchase from outside the State	73.14	82.94	89.79	113.00	116.00
4	Total energy available for distribution (2+3)	126.67	132.46	132.90	141.77	149.80
5	(a) Actual energy sold	85.00	89.38	87.22	106.80	108.00
	(b) Energy supplied free*	16.18	16.43	15.93	0	0
6	Total energy distributed (5a+5b)	101.18	105.81	103.15	106.80	108.00
7	(a) Transmission & Distribution loss (4-6)	25.49 (20.12)	26.65 (20.12)	29.75 (22.39)	34.97 (24.66)	41.80 (28.00)

*Source: Annual Plan of the Department; Figures within brackets denote percentage; * till November 2000*

Transmission & Distribution (T&D) loss ranged from 20 *per cent* in 1998-99 to 28 *per cent* in 2002-03 and during the review period averaged 21 *per cent* which was far above the norm of 15.5 *per cent* for T&D loss fixed by the Central Electricity Authority (CEA). During 1998-2003, the T&D loss in excess of the CEA norm was 52.72 million units (MU) and in financial terms this worked out to Rs.105.44 crore[1]. According to a report of the Planning Commission (May 2002), Sikkim ranked 21 out of 27 states in T&D losses.

Auxiliary consumption as a percentage of gross generation was also higher than the CEA norm of 0.5 *per cent*. It varied from 1.50 to 3.40 *per cent* during the review period. The excess consumption worked out to 3.84 MU, which resulted in a loss of Rs.7.68 crore[2] of potential revenue.

The Department did not have the required infrastructure for measuring T&D loss at various stages of generation, transmission and distribution. The overall T&D loss as worked out by the Department was arrived at by deducting auxiliary consumption, free supply and energy sold. The data computed by the Department was not reliable for the following reasons:

- No systematic returns were/are found furnished by field offices to the headquarters at Gangtok. As and when, information was required by the CEA, Planning Commission and others, data was collected and compiled for that specific purpose. One set of data compiled for one purpose did not tally with the same data compiled for another purpose.
- No efforts were ever made to conduct energy audit and load surveys of the power system in a scientific and systematic manner.
- Absence of a proper system to ascertain stage wise losses was further compounded by a lack of *cent per cent* metered energy supply.

The Department also did not have a vigilance wing to check power theft and meter tampering and not once during 1998-2003 was action in this direction undertaken despite the high T&D losses.

Non-realisation of energy charges

Non-billing for public lighting - Rs.9.46 crore

4.1.8 Following a cabinet decision, the Department vide a notification dated 02 November 2000 stipulated that energy charges for public and street lighting in urban areas would be paid by the Urban Development & Housing Department and in rural areas by the respective Panchyats/Rural Development Department. It was noticed however, that the Department never raised any energy bills against these authorities for the energy consumed by public and street lighting from November 2000 to March 2003. As a result, the arrears of revenue on this account could also not be quantified by Audit.

[1] At the average rate of Rs.2 per unit of energy during 1998-2003.
[2] At the average rate of Rs.2 per unit of energy during 1998-2003.

Further, it was noticed that prior to November 2000, 47.30 Mkwh of energy valued at Rs.9.46 crore[3] was supplied free for public lighting between April 1998 to November 2000, although there was no authorisation of the Government for this on record. In the face of the huge operating losses incurred by the Department year after year, the unauthorised free supply of power till November 2000 and the non-billing for power supply after November 2000 was untenable.

Energy charges not raised – Rs.3.84 lakh

4.1.9 According to the Department's notification *ibid*, energy charges for upto 100 units per month to army pensioners, blind householders and places of worship in Sikkim were to be paid by the State Rajya Sainik Board (RSB), State Social Welfare Department (SWD) and Ecclesiastical Department (ED) respectively with effect from November 2000. Charges for consumption in excess of 100 units were to be borne by the individual consumers. It was however, seen that the Department never billed the three agencies for the energy consumption of up to 100 units of the individual consumers under their jurisdiction. Further, the Department did not even have a list of the three categories of consumers eligible for this benefit nor did it ever seek this information from the RSB, SWD and ED.

In three (out of 12) revenue billing units it was found that energy charges had not been raised against all the 336 consumers falling in the three categories or the RSB/SWD/ED for energy worth Rs.3.84 lakh consumed during the period November 2000 to March 2003.

Programme management and implementation

4.1.10 Efficient execution of works is dependent on proper planning, realistic targets and an effective monitoring and control mechanism, attributes which were found wanting as evidenced from the audit findings below.

In 352 works completed/taken up/ongoing during 1998-2003, it was seen that there was time over run ranging from one month to more than three years in 242 works **(Appendix-XIII).**

Cost overrun ranging from 4 to 52 *per cent* of the original estimated costs was noticed in 83 works **(Appendix-XIV)** completed/ongoing during the review period.

Financial rules forbid taking up of works and procurement of materials without the administrative approval, technical and expenditure sanction of competent authority. Ninety two works/schemes procurement **(Appendix-XV)** at a total cost of Rs.1.90 crore were taken up during 1998-99 to 2002-03 without complying with these formalities.

[3] Calculated at Rs 2 per unit.

Execution of a transmission scheme

4.1.11 The State Government sanctioned in November 1998 a project, "Construction of 132 KV transmission line, switchyard, etc." at a cost of Rs.26.28 crore (revised in October 2002 to Rs.39.79 crore). Observations with reference to the execution of this project are as follows.

Land acquisition– injudicious decision of the Department and irregular payment of interest

4.1.12 For construction of switch yard and residential quarters at Melli, the required land measuring 3.01 hectares was identified by the Department and the Land Revenue Department (LRD) was asked (May 1999) to assess the cost of the land. The LRD assessed the value of the land in June 1999 at Rs.27 per square feet. Subsequently the rate was negotiated to Rs.20 per square feet and Rs.1.12 crore was paid to the landowner in February 2003 along with interest of Rs.24.30 lakh (at 9 *per cent* per annum from November 1999, the month the land was occupied by Power Department).

From August 1999 to February 2003, the file pertaining to the land acquisition lay dormant in Power Department. In paragraph 4.1.5 it was pointed out that Rs.1.90 crore was transferred to the SPDC on 30 March 2002 to avoid surrender of the unspent budgetary provision for land acquisition and afforestation. Instead of transferring the fund to SPDC, this amount could have been utilised to pay the landowner in March 2002 and the Department could have thus avoided interest payment of Rs. 7.29 lakh[4] for the period March 2002 to February 2003 but for the fact that no action was taken on the concerned file between August 1999 to February 2003.

Although the possession of the land was taken in November 1999, the work order for construction of switchyard structures and quarters on this plot was awarded only in November 2002. Therefore, taking possession of the land in November 1999 was much in advance of the actual requirement. Had the Department taken possession in November 2002 interest of only Rs.1.82 lakh[5], instead of Rs.24.30 lakh, would have had to be paid to the landowner for the period December 2002 to February 2003.

Unwarranted payment of Rs.14.30 lakh to the contractor

4.1.13 The work relating to erection of 132 KV transmission lines including sub-station estimated at Rs.23.37 crore was awarded to a contractor in November 2002 at his quoted bid of Rs.27.87 crore (19 *per cent* above).

[4] (Rs.24.30 lakh X 12) /40 months = Rs. 7.29 lakh.

[5] (Rs.24.30 lakh X3)/40 months= Rs. 1.82 lakh.

It was noticed that this contractor was also paid Rs.14.30 lakh in June 2002 for survey work for the transmission line although survey and investigation work for this project had been given to a Kolkata based firm for which it was paid Rs.18 lakh in February 2002. It was further noticed that the Department had not invited open offers for this work and neither did it enter into any formal agreement with the Kolkata firm who was given the job.

Irregular framing of estimates on lump sum basis.

4.1.14 Despite having a full fledged civil engineering wing headed by a Chief Engineer, the estimates of Rs.2.82 crore relating to the civil work for construction of quarters, office building, internal electrification, etc. was prepared on lump sum basis which was a startling deviation from normal procedure.

Extra financial liability of Rs.62.48 lakh in six projects alone due to inflated rates of the electrical wing of the Department

4.1.15 All works Departments of the State Government with effect from November 1998 follow the Schedule of Rate (SOR) of the Sikkim Public Works (Roads & Bridges) Department (SPWD). In the case of the Power Department however, while its civil wing followed the SPWD SOR, the electrical wing had its own SOR in respect of civil engineering works executed by it. A comparison of the SORs of the civil wing and electrical wing revealed the rates of the latter were far higher than of the former in respect of the same items of work. The estimates prepared by the electrical wing in respect of civil works executed by it were therefore, inflated by this extent.

For example, it was seen in the case of one item, viz., 1:2:4 RCC work of a project executed jointly by both the civil and electrical wings, the estimates of the former was Rs.1,552 per cubic metre for this work while that of the latter Rs.4,500 per cubic metre.

A scrutiny of the civil work estimates of six[6] transmission lines/switch yard projects prepared and executed by the electrical wing during 1998-2003 revealed that the estimates for these works were inflated by Rs.62.48 lakh in respect of two items of civil work alone *viz.* 1:2:4 RCC work and 1:3:6 CC work, of these projects which were test checked. This figure would be much higher if all the civil items of work of these projects are taken into account.

[6] (i) 66 KVA sub-station at Mamring; (ii) 66 KVA sub-station at LLHP; (iii) 66 KV S/C transmission line from URHP to Nimtar; (iv) 66 KVA/11KVA sub-station at Phodong; (v) Construction of S/C transmission line from Melli to Mamring; (vi) 132 KV transmission line from Sagabary to Mamring.

Unrealistic basis of fixing transportation cost

4.1.16 The Department allows 10 *per cent* extra over and above the estimated cost for electrical works on account of transportation charges, the basis for which was neither available on record nor could be justified by the Department.

For road and rail carriage in India, transportation charges are generally fixed on the basis of weight and distance. Sikkim Nationalised Transport's (SNT) freight charge in May 2003 was Rs.4.45 per kilometre per metric tonne and railway freight was Rs.1.48 to Rs.2.15 per kilometre per metric tonne up to 1000 kilometre in September 2003. The policy of the Department allowing a lump sum 10 *per cent* extra on account of transportation charges was therefore, unusual and a departure from normal practice. In the case of high value contracts particularly, the system followed by the Department appeared to favour the contractor as the amount paid as transportation costs was very high.

In the case of one contract[7] involving installation of transformers at a cost of Rs. 5.26 crore, the Department paid Rs.52.60 lakh as transportation costs.

It is recommended that the Department reimburse transportation costs on the basis of weight and distance at the carriage rates of the SNT or the railways.

Ramam Hydel Electricity Project (RHEP)

Extra expenditure of Rs.1.98 crore due to inability to evacuate the State's share of power

4.1.17 According to the agreement of November 1996 between the Governments of Sikkim and West Bengal in respect of the RHEP

- The Government of Sikkim was entitled to 20 *per cent* of the total energy generated (less auxiliary consumption) at the bus bar of the RHEP Stage-II against payment at the cost of generation as determined by Government of West Bengal.
- Should the Government of Sikkim not be in a position to utilise its share of power, the Government of West Bengal would buy back all such power at the rate of 2.5 paise per unit which represented the difference between the cost of generation and the resale rate of the said electrical energy by the Government of Sikkim, i.e., sale price of Government of Sikkim *minus* cost of generation = 2.5 paise per unit.

Although the RHEP was commissioned in April 1996, the Government of Sikkim could not draw its share till April 2001 amounting to 214.01 Million Units (MU) due to the Department's failure to erect a 132 KV transmission line to evacuate the power. Thus, the State which is power deficit could not draw its share of

[7] Construction of 132 KV transmission line, switchyard, etc.

power between April 1996 and April 2001 and during this period it imported 299.30 MU of power at a cost of Rs.37.93 crore. Had it been in a position to do so, it would have saved Rs.1.98 crore[8] which represents the difference between what it would have paid the Government of West Bengal (Rs.25.14 crore[9]) for 214.01 MU of power and the cost (Rs.27.12 crore[10]) of the equivalent quantity of power it imported during this period.

Outstanding dues of Rs.25.79 crore

4.1.18 In accordance with the agreement of 1976, Government of West Bengal bought back the Government of Sikkim's 20 *per cent* share of power between April 1996 to April 2001 and compensated the latter at the rate of 2.5 paise per unit.

In December 2000, Audit pointed out that the rate of 2.5 paise per unit was unrealistic considering that sale price and cost of generation had increased considerably since 1976 which would have resulted in a higher differential rate. Only in September 2002 did the Department act on this counsel and took up the matter with Eastern Regional Electricity Board. Thereafter, in September 2002 both the Governments agreed to revise the earlier differential rate of 2.5 paise per unit to Rs.1.23 per unit with effect from April 1996. Due to this revision the Government of West Bengal was liable to pay the Government of Sikkim Rs.25.79 crore which till September however, had not been paid up. There was no evidence to indicate that the Department took any proactive steps to recover the dues.

Excessive consumption lattice structures - Rs.23.58 lakh

4.1.19 According to norms of the Department, 10 lattice structures of 11 metres length or 14 of 9 metres or 20 of 8.5 metres (the last, rarely used in the State) are to be utilised for one circuit kilometre of distribution line. Of the 12 works executing divisional offices of the Department, nine more or less adhered to these norms. In the remaining three[11], a check of 267 works completed by these offices during 1998-2003 showed that in 114 works, 15 to 29 lattice structures per circuit kilometre of the three types were used which resulted in an excess consumption of 570 lattice structures the value of which worked out to Rs.23.58 lakh[12]. The extra financial liability would be higher if the cost of related consumables like stay wire, insulators, concreting, etc., are taken into account.

Thus, although the Department had fixed norms, it did not monitor and enforce compliance as a result of which it was unaware of the excessive consumption of lattice structures.

[8] Rs.27.12 crore - Rs.25.14 crore = Rs.1.98 crore.
[9] Rs.1.18 (Average cost of generation) X 214.01 MU = Rs. 25.14 crore.
[10] (Rs.37.93 crore ÷ 299.30 MU)X 214.01MU=Rs.27.12 crore.
[11] Geyzing, Jorethang and Mangan.
[12] calculated at Rs.4,137 per lattice structure of 9 metres – rate of the Department in 2000-01.

Non-deduction of Royalty

4.1.20 In accordance with Government directions, royalty for consumption of forest produce was to be deducted from the bill of a contractor and deposited into Government revenues. While the civil wing of the Department was complying with this requirement in respect of works it executed, the electrical wing was not. The royalty foregone by the Government in one instance was as below.

According to Departmental norms, the consumption of stone chips and sand for installing one lattice structure and one stay wire are:

- Lattice structure – 12 cubic feet (cft) stone chips and six cft sand.
- Stay wire - eight cft stone chips and four cft sand.

Audit observed that 7,710 lattice structures and 1,242 stay wires were used for 514 kilometres of power lines during 1998-2003 for which as per norms, 1,02,456 cft of stone chips and 51,228 cft of sand would have been consumed. It was however seen that in not a single case was royalty on sand and stone totalling Rs.1.17 lakh ever deducted from contractors' bills. The contractors thus got an undue benefit to this extent at the expense of the State exchequer.

The amount would be far higher if all the works executed by the electrical wing are taken into account. The Department is advised to immediately ensure that the Government directive on deduction of royalty is complied with forthwith by its electrical wing.

Replacement of overhead lines by underground cable – value/quantity not taken into account

4.1.21 During 1998-2003, 12.05 circuit kilometres of overhead distribution lines were replaced by underground cable. However, the replaced over ground cables totalling 36.15 kilometres in length which were in working condition were not taken into store account for possible use elsewhere nor was any deduction of their value effected from the bills of contractors. The approximate value of these cables (excluding other accessories) worked out to Rs.14.46 lakh[13].

Utilisation of meters-defective meters and locking up of Rs.41.84 lakh

4.1.22 Information obtained from all 12 divisional offices of the Department indicated that they were supplied 12,099 meters of different specifications between November 2001 to March 2003. As on June 2003, 10,267 metres were utilised, 1,413 were in stock and 419 declared unserviceable. According to the agreement with the two suppliers of these meters, all defective meters were to be repaired/replaced by them. However, no action has been taken by the Department

[13] calculated at half the cost of a new cable (Rs.80,000 per kilometre) in June 2003.

in this regard with the result that the 419 unserviceable meters costing Rs.25.42 lakh were lying in stock.

It was further observed that out of 270 meters of specifications other than those supplied to the divisional offices which were received between October 2001 to August 2002 in the central store, only 156 meters were issued on the basis of actual requirement till March 2003. Apart from indicating a faulty assessment of requirements, this resulted in locking up of funds amounting to Rs.16.42 lakh (cost of the 114 unutilised meters).

Failure of transformers

4.1.23 The year-wise data on the failure rate of transformers, during the period under review, compiled from information submitted by all 12 divisional offices was as under:

Table 4.4

Particulars	1998-99	1999-00	2000-01	2001-02	2002-03
Existing Transformer during the period including installed transformer during the year	1120	1154	1194	1225	1268
Failed during the year	85	87	84	106	95
Failure rate (in *per cent*)	7.58	7.53	7.03	8.65	7.49

Against the permissible norm of 4 *per cent* the failure rate of transformers during the review period varied from 7.03 *per cent* during 2000-01 to 8.65 *per cent* in 2001-02. Continuous loading of the transformers beyond the limits prescribed by the manufacturers, failure to keep the transformers in good condition by maintenance of the prescribed oil levels, use of fuses of incorrect sizes and poor upkeep of protective devices like lightening arresters and breakers are some of the common reasons for the failure of transformers.

Further, of the 1,268 transformers with the Department as on 31 March 2003, 83 distribution transformers and four power transformers valued at Rs.1.30 crore were in unserviceable condition. As of September 2003, no steps had been taken to dispose them off.

Revenue from sale of power

Arrears of revenue up by 205 per cent during 1998-2003

4.1.24 The position during 1998-2003 in this respect was as follows:

Table 4.5

Particulars	1998-99	1999-00	2000-01	2001-02	2002-03
Number of consumers	48981	52645	54749	59029	60800
Dues at the beginning of the year *(Rupees in lakh)*	326.84	464.61	677.08	800.93	1150.93
Assessment during the year *(Rupees in lakh)*	814.06	1037.51	1073.85	1850	2465.00
Revenue collected during the year *(Rupees in lakh)*	676.49	824.84	950.00	1500	2200.00
Outstanding revenue at the end of the year *(Rupees in lakh)*	464.61	677.08	800.93	1150.93	1415.93
Revenue collected as a percentage of assessment	83	80	88	81	89
Outstanding revenue as a percentage of assessment	57	65	75	62	57

Source: Information furnished by the Department.

During the review period the number of consumers went up by 24 *per cent* while the amount billed on account of energy consumption rose by 203 *per cent*.

The power dues of the rural consumers amounting to Rs.2 crore was waived by the Government in March 2000 but despite this, the arrears of revenue as on 31 March 2003 was Rs.14.16 crore, up from Rs.4.65 crore as on 31 March 1999. This represented an increase of 205 *per cent* during 1998-2003.

Outstanding revenue at the end of each year of the review period was consistently more than half of the amount billed as energy charges during the year and ranged from 57 (1998-99 and 2002-03) *per cent* to as high as 75 *per cent* (2001-02).

The revenue collected every year was always less than the amount billed. The shortfall ranged from 11 *per cent* (2002-03) to 20 *per cent* (1999-00).

The above statistics indicated that the revenue collection machinery of the Department was extremely weak and lacked initiative and drive.

Arrears of revenue from Government/private consumers

4.1.25 The position of outstanding arrears of revenue in respect of nine revenue divisions (out of 12) as on 31 March 1999 and 2003 in this respect was as below:

Table 4.6

(Rupees in crore)

Category	Outstanding Revenue as on 31 March	
	1999	2003
Private	7.30	8.94
Government	1.47	1.59
Total	**8.77**	**10.53**

It would be seen that as on 31 March 1999, of the total dues of Rs.8.77 crore, Rs.7.30 crore (83 *per cent*) and Rs.1.47 crore (17 *per cent*) was owed by private consumers and Government agencies respectively. As on 31 March 2003, the total dues were Rs.10.53 crore of which Rs.8.94 crore (85 *per cent*) and Rs.1.59 crore

(15 *per cent*) was owed by private consumers and Government agencies. The percentage increase during 1998-2003 in the dues payable by the private and Government consumers was 22 per *cent* and 8 *per cent* respectively.

With regard to the dues from private consumers, it was seen that although various tariff notifications of the Department invariably mentioned that failure to pay any bill would invite disconnection of power supply under the Indian Electricity Act, 1910, this provision was seldom resorted to. It is suggested that the Department should automatically cut off power supply to any consumer whose payment is in arrears by more than three months which should be restored only on payment of the arrears plus a punitive fine and reconnection charges.

Energy tariff

Gap between cost and sale price

4.1.26 Though the average tariff had marginally increased over the review period, this was still insufficient to cover the gap between cost and sale price as shown in the table below:

Table 4.7

Year	Average cost (paise/ Kwh)	Average tariff (paise/ Kwh)	Gap (paise/ Kwh)	Recovery as per-centage of cost	Average cost of imported power (paise/ Kwh)	All India average tariff of electricity departments
1998-99	158.99	80.46	78.53	50.60	1.16	162.76
1999-00	189.85	88.50	101.35	46.61	1.29	181.16
2000-01	163.28	89.14	74.14	54.59	1.23	207.07
2001-02	183.66	89.14	94.52	48.53	1.20	205.72
2002-03	166.81	89.14	77.67	53.43	1.14	Nil

Source: Department's Tenth Plan document; Kwh: kilowatt hour.

The gap between the cost of supply and average tariff ranged between 74.14 to 101.35 paise during 1998-2003. The level of recovery accordingly ranged between 46.61 to 54.59 *per cent* only.

The average price at which energy was sold in the State was even lower than the price at which the Department imported power from outside the State to meet the shortfall. The differential ranged between 24.86 to 40.50 paise/Kwh. During 1998-2003 the Department purchased 399.79 Million Unit of power and due to this disparity between cost and sale price, the subvention foisted on the public exchequer on this account alone was to the tune of Rs.13.06 crore[14].

Furthermore, the Department's average tariff ranging between 80.46 to 89.14 paise/Kwh was also very low as compared to the all India average tariff of electricity departments which was between 162.76 to 207.07 paise/Kwh.

[14] Average difference of 32.68 paise/Kwh during 1998-2003X399.79 MU.

Operating deficits – contribution to fiscal deficit of the State

4.1.27 Electricity generation and supply should be self-supporting to meet its maintenance and operation cost. The Indian Electricity (Supply) Act, 1948 stipulates a minimum return of 3 *per cent* on capital employed is to be achieved. Not only was the Department not getting this return, the revenue earned through sale of power was insufficient to meet even its operating (revenue) expenditure as would be seen from the table below:

Table 4.8

(Rupees in crore)

Year	Revenue Expenditure	Revenue earned through sale of power as (percentage of revenue expenditure)	Operating surplus (+)/ deficit (-)	State's fiscal deficit
1998-99	20.14	6.76 (34)	(-) 13.38	146.86
1999-00	23.44	8.25(35)	(-) 15.19	92.55
2000-01	29.32	9.50(32)	(-) 19.82	50.51
2001-02	29.00	15.00 (52)	(-) 14.00	66.85
2002-03	34.00	22.00(64)	(-) 12.00	9.86

The revenue earned covered only between 32 (2000-01) to 64 *per cent* (2002-03) of revenue expenditure, a situation which resulted in operating deficits ranging from Rs.12 crore in 2002-03 to Rs.19.82 crore in 2000-01.

The operating deficit of the Department year after year accounted for 9 to 122[♥] *per cent* of the State's fiscal deficit during 1998-99 to 2002-03, a disquieting contribution by a single department of the Government.

Man Power Management

Number of employees vis-à-vis all India averages

4.1.28 The Department compared poorly on the following parameters when evaluated against the all India averages of the power sector.

Table 4.9

Year	1998-99	1999-00	2000-01	2001-02	2002-03
No. of employees*	1230	1230	1190	1281	1281
No. of employees per million Kwh sold*	12.16	11.62	11.48	10.39	8.01
No. of employees per thousand consumers*	23.36	22.47	21.11	22.09	21.35
All India average: No. of employees per million Kwh sold**	3.25	3.07	2.82	2.60	#
All India average: No. of employees per thousand consumers**	9.89	8.97	8.00	7.78	#

*Source: * Department figures ** Planning Commission; # Data not available.*

[♥] *State's fiscal deficit was less than opening deficit of the department during 2002-03.*

It would be seen that the number of employees per million Kwh sold varied from 8.01 to 12.16 compared to the all India average of 2.60 to 3.25.

The number of employees per thousand consumers was 21.11 to 23.36 as against the all India average between 7.78 and 9.89.

The excess staffing not only resulted in increasing the cost of power but also contributed to the operating losses incurred by the Department year after year.

Diversion of funds

4.1.29 The Department in 2002-03 received Rs.17.30 crore under the Accelerated Power Development Programme (APDP) from the Government of India. The programme guidelines stipulated that the money was scheme specific and any diversion would attract 10 *per cent* penal interest.

It was noticed that the Department expended Rs. 25.42 lakh in October 2002 and March 2003 for payment of arrears of pay of the departmental staff out of the APDP fund on the orders of the Secretary of the Department.
Approval of the Government of India or State Finance Department was not obtained for this action. The diversion was therefore, irregular and without any authority.

Conclusion and recommendations

4.1.30 Efforts should be initiated to minimise operating losses, launch an all out drive to collect the arrears of revenue, arrest the growing losses on account auxiliary consumption and T&D, better programme execution to cut down on time and cost overrun of projects and improvement of and use of MIS by management so that effective and systematic monitoring of all activities is carried out on a continuous basis.