

Punjab State Electricity Board

2.2 Performance of workshops

Highlights

The overall performance of workshops was deficient. The monitoring of the workshops performance was non existent as there was no system to monitor their economic viability vis-a-vis market rates.

The Board had to incur an extra expenditure of Rs. 15.43 crore up to March 2005; Rs.15.12 crore due to higher labour cost in the repair of transformers and Rs.31.24 lakh due to higher production costs in the manufacture of PCC poles.

(Paragraphs 2.2.8 and 2.2.16)

There was a consistent shortfall (ranging from 15.63 to 43.76 per cent) in the last five years in achievement of the norm for repair of failed transformers. The shortfall in preventive maintenance increased from 29.3 per cent (2000-01) to 58.6 per cent (2004-05).

(Paragraphs 2.2.12 and 2.2.18)

During 2000-05, the installed capacity of Mohali and Muktsar workshops was under utilised by 25.33 to 96.49 per cent and 1.87 to 42.03 per cent, respectively. Shortfall in production as compared to installed capacity resulted in idle establishment cost of Rs. 82.81 lakh (Mohali: Rs. 45.85 lakh, Muktsar: Rs. 36.96 lakh) and contributed towards higher cost of production.

(Paragraph 2.2.7)

Belated implementation (August 2000) of the decision (November 1998) of Whole Time Members of the Board for running the Mohali workshop on contract basis resulted in avoidable loss of Rs. 1.17 crore.

(Paragraph 2.2.9)

Cost of fabrication of fittings and accessories in Board's workshops was higher as compared to market price due to low labour productivity and high labour cost. This resulted in financial loss of Rs. 1.13 crore to the Board.

(Paragraph 2.2.21)

Unusual delay by the Board to review its decision regarding reuse of healthy coils of damaged transformers in the repair of failed transformers resulted in avoidable loss of Rs. 1.47 crore during 2000-03.

(Paragraph 2.2.15)

The Board failed to incorporate a clause in the contracts for use of 1.42 bags of cement per eight-metre pole as per revised mix design. This resulted in excess consumption of 19,583 bags of cement valuing Rs. 22.38 lakh.

(Paragraph 2.2.10)

Introduction

2.2.1 Punjab State Electricity Board (Board) set up 22 workshops with the objective of manufacturing pre-stressed cement concrete (PCC) poles, fittings and accessories and repairing of transformers. The detail of workshops is as under:

- Two^{*} pilot workshops for manufacturing PCC poles,
- Eleven[#] transformer repair workshops (TRWs) for repair of failed distribution transformers,
- Four[§] workshops for repair of failed power transformers,
- Three[^] workshops for fabrication of high/low voltage coils, and
- Two[@] central workshops for fabrication of fittings and accessories.

The Board is headed by a Chairman and the Chief Engineer is the Chief Executive of each workshop under the overall control of Member (Generation)/Member (Distribution). They are assisted by five Superintending Engineers and other subordinate officers.

*Mohali and Muktsar.

#TRW I, II & III Amritsar, Fatehgarh Churian, Patiala, Malerkotla, Kotkapura, Nakodar, Jagraon, Jalandhar and Doraha.

§Jamsher (Jalandhar), Lalton Kalan (Ludhiana), Malerkotla and Verpal (Amritsar).

^Patiala, Amritsar and Jagraon.

@ Amritsar and Patiala

Scope of Audit

2.2.2 The performance of workshops of the Board was last reviewed in the Report of the Comptroller & Auditor General of India for the year ended 31 March 1995 (Commercial) - Government of Punjab. The Committee on Public Undertakings (COPU) discussed the review in its meetings held during December 1999 and October 2001 and directed the Board to take corrective remedial measures. Necessary action taken in this regard had not been shown to Audit (July 2005). The present review conducted during November 2004 to February 2005 covers the performance of 17* out of 22 (77 per cent) workshops selected on the basis of their turnover during 2000-05.

Audit findings as a result of test check of records were reported to the Government/Board in May 2005 and discussed in the meeting of Audit Review Committee for State Public Sector Enterprises (ARCPSE) on 8 July 2005. The meeting was attended by the Secretary (Power), Government of Punjab, Member (Finance and Accounts), Chief Engineers (Workshops, Sub-Station and Civil Design and Construction) and Chief Auditor, PSEB and their views have been considered while finalising the review.

Audit objectives

2.2.3 The audit objectives of the review were to ascertain whether:

- there was optimum utilisation of installed capacity and manpower deployed in the workshops;
- the workshops met their objectives and achieved the production targets;
- the consumption of material was within the norm; and
- the workshops were functioning in an effective, efficient and economical manner.

Audit criteria

2.2.4 The following audit criteria were adopted:

- Optimum utilisation of installed capacity and labour employed in the

*-Two Pilot workshops at Mohali and Muktsar.

-Six TRWs at Amritsar I, II and III, Patiala, Kotkapura, Jagroan

-Four Power Transformer repair workshops at Lalton Kalan (Ludhiana), Jamsher (Jalandhar), Verpal (Amritsar) and Malerkotla

-Three Coil fabrication workshops at Patiala, Amritsar and Jagroan

-Two Central workshops at Amritsar and Patiala.

workshops.

- Fixation and achievement of annual targets by the workshops.
- Economic viability of the operations in the workshops.
- Compliance of norm/guidelines of the Board.

Audit methodology

2.2.5 In attempting the review, Audit followed mix methodology, i.e., analysis of Board's decisions/ Management Information Reports (MIRs), recommendations of various Committees formed by the Board for streamlining the working of workshops. It included basic data on consumption of material with reference to the norm prescribed by the Board, monthly progress reports with reference to production targets, purchase orders and work orders to ascertain the market rates and comparison thereof with the cost of manufacturing of poles, fabrication of fittings and accessories and repair of transformers to ascertain the economic viability.

Audit findings

2.2.6 The Board had set up workshops to manufacture PCC poles, repair failed transformers and fabricate fittings and accessories at competitive market rates. Performance of workshops was deficient in respect of the issues viz., fixation of norm, achievement of targets, repair cost of distribution transformers in workshops, fabrication of fittings and accessories and preventive maintenance of power transformers as discussed in the succeeding paragraphs:

Manufacture of PCC poles

Production performance

2.2.7 The Board established one workshop each at Mohali (October 1981) and Muktsar (January 1985) for manufacture of eight/nine metre long PCC poles. The

table below indicates the installed capacity, targets of production and actual production of poles in the workshops during 2000-05:

Year	Installed* capacity	Production targets	Actual production	Shortfall in actual production to			
				Installed capacity		Production targets	
				No. of poles	Per cent	No. of poles	Per cent
Mohali Workshop							
2000-01	87,100	20,000	3,060	84,040	96.49	16,940	84.70
2001-02	87,100	NA	9,716	77,384	88.85	-	-
2002-03	87,100	50,000	31,122	55,978	64.27	18,878	37.76
2003-04	87,100	50,000	33,636	53,464	61.38	16,364	32.73
2004-05	87,100	87,100	65,038	22,062	25.33	22,062	25.33
Muktsar workshop							
2000-01	53,600	45,000	52,600	1,000	1.87	-	-
2001-02	53,600	45,000	51,800	1,800	3.36	-	-
2002-03	53,600	45,000	34,980	18,620	34.74	10,020	22.27
2003-04	67,000	45,000	38,840	28,160	42.03	6,160	13.69
2004-05	67,000	67,000	51,820	15,180	22.66	15,180	22.66

The above table shows that during all the five years, installed capacity was under utilised by 25.33 to 96.49 *per cent* and 1.87 to 42.03 *per cent* in respect of Mohali and Muktsar workshops, respectively.

Shortfall in production as compared to installed capacity resulted in idle establishment cost of Rs. 82.81 lakh.

Shortfall in production as compared to installed capacity resulted in idle establishment cost of Rs. 82.81 lakh (Mohali[#]: Rs.45.85 lakh, Muktsar: Rs.36.96 lakh) and contributed towards higher cost of production.

Shortfall in production of poles in Mohali workshop was mainly due to:

- Lower output by departmental labour. The Whole Time Members (WTM) of the Board decided (November 1998) to switch over the working of the workshop on contract basis. So, the workshop was closed from 17 August 2000 and restarted on contract basis from 26 December 2001. Even after change of working pattern, there was shortfall in production as compared to installed capacity (25.33 to 64.27 *per cent*) and targeted production (25.33 to 37.76 *per cent*) during 2002-05.
- Suspension of manufacturing in different time spells for 208 days (for eight metre poles) and 380 days (for nine metre poles) between 26 December 2001 and 31 March 2005 for which no reasons were on record.

The shortfall in production of poles in Muktsar workshop was mainly due to suspension of manufacturing activity for 179 days during 2002-05 on account of space problem for stacking of poles (53 days), delay in finalisation of annual contract (118 days) and non-availability of material (8 days).

* Installed capacity is based on 335 working days *per annum* fixed by the Chief Engineer (Civil Design & Construction).

[#] Establishment cost during 2000-02 not taken into account as the workshop remained closed.

The management/Government stated (June 2005) that manufacturing of poles was dependent upon the actual requirement in the field. The reply was not tenable because the Board had placed purchase orders on private firms for procurement of 6.34 lakh poles during 2000-05 to meet the shortfall.

Higher cost of manufacture of poles

2.2.8 The Board, at the time of setting up the workshops, had envisaged (February 1979/ September 1983) that the cost of manufacture of poles would be less by 38 *per cent* (Mohali) and 18 *per cent* (Muktsar) than the average market rate. However, the Board did not evolve any system to monitor the performance of workshops vis-à-vis market rates for watching the economic viability of workshops. The cost of production including transportation charges, market price and loss suffered by the workshops in the manufacture of eight and nine metre poles during 2000-05 is given in ***Annexure 8***.

The ***Annexure*** reveals that against anticipated lower cost of production by 38 and 18 *per cent*, with respect to market rates, the cost of production was below the market price ranging between three and 18 *per cent* (Mohali workshop) during 2002-03 and 2004-05 and between five and 20 *per cent* (Muktsar workshop) during 2000-01 and 2004-05. The cost of production exceeded market price during 2003-04 (Mohali workshop) and 2001-04 (Muktsar workshop). Higher cost of production resulted in extra expenditure of Rs. 31.24 lakh on the production of 1,46,831 poles.

Higher cost of poles resulted in extra expenditure of Rs. 31.24 lakh.

The manufacturing cost was higher mainly due to under utilization of installed capacity and excess consumption of material as discussed in the paragraphs 2.2.7 and 2.2.10. The management admitted the facts (July 2005).

Loss due to delay in implementation of decision

2.2.9 The WTM decided (November 1998) to run Mohali workshop through contractors in view of low output by departmental workers. The workshop was, however, closed on 17 August 2000. Inordinate delay in implementing the decision of WTM taken in November 1998 for running the Mohali workshop on contract basis resulted in loss of Rs. 81.31 lakh on production of 17,137 poles during April 1999-August 2000 (after allowing 4 months for implementation of decision of WTM) due to higher cost of production. The workshop was restarted on 26 December 2001 on contract basis. The closure of Mohali workshop during September 2000–November 2001 also resulted in payment of idle wages of Rs. 35.70 lakh.

Delay in running workshop on contract basis resulted in loss of Rs. 81.31 lakh besides idle wages payment of Rs. 35.70 lakh due to closure of workshop.

The management/Government stated (June 2005) that the delay in implementing the decision was due to resistance of departmental labour/unions. The reply was not tenable as timely settlement could avoid the loss.

Excess consumption of cement

Non-adoption of revised concrete mix design resulted in excess consumption of cement valuing Rs. 22.38 lakh.

2.2.10 Giani Zail Singh Engineering College, Bathinda, on a reference by the Board recommended (October 2000) usage of 1.42 bags of cement per eight metre pole against prevailing usage of 1.55 bags. The contractor, despite instruction of the Board (December 2000), continued using 1.55 bags of cement per pole. This resulted in excess consumption of 19,583 bags of cement valuing Rs.22.38 lakh on the manufacture of 1,50,640 poles during August 2001 - 31 March 2005.

The management/Government stated (June 2005) that the contract agreement with the contractor provided for use of 1.55 bags of cement per pole. The Board could not force him to use 1.42 bags of cement per pole due to binding in the contract. The reply was not tenable as the Board failed to incorporate clause for use of 1.42 bags even in the subsequent contracts made during 2002-05 and revised mix design was also not got approved for Mohali workshop. The Board agreed (July 2005) to revise the norm for future contracts for both the workshops.

Distribution transformer repair workshop

2.2.11 The Board created facilities for repair of failed distribution transformers in 11 Transformer Repair Workshops (TRWs). The Board fixed norm for the incidence of damage (failure) to transformers every year. The percentage of failure of distribution transformers as worked out by the Board, vis-a-vis, norm fixed during 2000-05 are given in ***Annexure 9***.

Audit observed that the failure rate worked out by the Board was lower because it was worked out by taking the number of transformers installed at the end of December instead of average number of transformers installed during the year. The transformers failed (8,699 numbers) within warranty period and those (1,554 numbers) rendered unserviceable due to theft of parts were not considered failed for calculating failure rate.

The failure rate of distribution transformers worked out by the Board was understated and incidence of failure to transformers repaired in Board's workshops was higher than those repaired by outside firms.

The actual failure rate as worked out in Audit was 10.7, 10.8, 11.0, 13.4 and 13.6 *per cent* during 2000-05 as detailed in ***Annexure*** against the failure rate of 10.2, 9.5, 9.5, 11.8 and 11.7 *per cent*, respectively, worked out by the Board.

The failure rate was not only higher as compared to norm fixed by the Board (except during 2001-02), it progressively increased from 10.7 *per cent* in 2000-01 to 13.6 *per cent* in 2004-05.

The incidence of failure of transformers repaired in Board's workshops was higher ranging between 15.6 and 22.6 *per cent* as against 13.0 and 14.7 *per cent* in respect of transformers repaired by outside firms and 6.2 to 7.7 *per cent* in respect of new transformers.

As per Board's analysis, higher failure rate was mainly on account of:

- over loading of transformers due to unauthorized load;
- system faults such as short circuiting of LT lines and cables;
- internal/manufacturing defects such as improper locking of core assembly, loose joints/ improper soldering, insulation failure etc.;
- mishandling in the field such as unauthorized opening of the transformer top;
- damage during transportation, low oil level, poor dielectric strength of oil; and
- poor quality of repair done in workshops.

Audit observed that though the Board was aware of the reasons for higher failure rate of transformers yet it failed to take remedial measures.

Targets and achievements

2.2.12 A Committee constituted (November 1991), recommended (May 1993) repair of 15,000 failed transformers *per annum* with specified manpower requirement for the workshops. The report also envisaged that each repaired transformer would have the same warranty as was available for the new transformer. The WTM adopted (July 1993) the report for implementation.

Number of transformers received for repair, targets fixed for repair, vis-à-vis, actual repair in the workshops during 2000-05 are given in ***Annexure 10***.

Targets fixed were always less than the norm. There was shortfall in achieving even the modest targets ranged between 8.23 and 18.69 per cent during 2000-03.

The ***Annexure*** shows that the targets fixed by the Chief Engineer (Workshops) were always less than the norm of repair prescribed by the Board. The shortfall in achieving the norm ranged between 15.63 and 43.76 *per cent* during 2000-05. Even the lower targets fixed by the Chief Engineer (Workshops) were not achieved and the shortfall ranged between 8.23 and 18.69 *per cent* during 2000-03.

The management/Government stated (June 2005) that the targets fixed during 2000-03 were not achieved due to paucity of fund and non-availability of material. The reply was not tenable as it was for the management to organise its resources for the efficient running of its workshops.

With the introduction of production incentive bonus for 2003-04 and 2004-05 (approved by the Board in May 2004), the actual achievement though below norm was in excess of the targets for these years. Audit observed that during these two years, though the performance was high in numbers yet low in quality as the failure rate of transformers repaired in workshops increased to 22.6 *per cent* in

2003-04 and 21.9 per cent in 2004-05 from 16.7 per cent in 2002-03 as indicated in *Annexure 9*.

Further analysis of six TRWs revealed the following:

Repaired transformers failed within warranty period

Repaired transformers failed within warranty period which resulted in additional expenditure of Rs. 56.65 lakh.

2.2.13 Audit observed at three TRWs (Kotkapura, Jagraon and Patiala) that 260 (five per cent) transformers (out of 5,245 transformers) repaired during 2000-03 failed between one day and 11 months (within the warranty period) after installation and an additional expenditure of Rs. 56.65 lakh was incurred on their repairs. The Board neither investigated the reasons for failure of transformers within warranty period nor the matter was ever put up to the WTM for decision.

The management/Government stated (June 2005) that the transformers, whether new or repaired by firms/workshops failed in the field mostly due to worst field conditions, i.e., overloading of the local distribution system and poor maintenance of transformers. The reply was not tenable as Audit observed that the rate of failure of transformers repaired by private firms was substantially lower than those repaired by Board's workshops during 2000-05. Evidently, the quality of repair in workshops was not of desired level and needed improvement.

Excess consumption of press board sheets

Excess consumption of press board sheets resulted in additional expenditure of Rs.1.29 crore.

2.2.14 The actual consumption of press board sheets in all TRWs was in excess of the norm of two kg per transformer. In the repair of 27,544 transformers during 2000-05, the TRWs consumed 1,65,190 kg of press board sheets as against norm of 55,088 Kg. The excess consumption ranged between 122 per cent (TRW Patiala) and 269 per cent (TRW III Amritsar). Excess consumption of 1,10,102 Kg of press board sheets resulted in additional expenditure of Rs.1.29 crore.

The Chief Engineer (Workshops) stated (June 2005) that the norm for consumption approved by the Board was not on realistic basis. The reply was not tenable because in case it was felt that the approved norm was not realistic, the Chief Engineer should have approached the Board for revision of norm.

Delay in taking action for recovery of healthy coils from failed transformers

2.2.15 Prior to July 1993, failed transformers of all capacities were being repaired in Board's workshops by replacing only defective coils. The Board reviewed (July 1993) the repair techniques and decided to replace all HT/LT coils during repair of 25 KVA to 200 KVA transformers.

Audit observed that the decision of the Board to replace all HT/LT coils of failed transformers even if one of them was found failed was not financially prudent. This is supported by the fact that in July 2000, Member (Operation) and Member (Finance & Accounts) of the Board advocated reuse of old healthy coils extracted from failed transformers of all ratings on the ground of financial prudence. In

Delay by the Board in reviewing its decision regarding reuse of healthy coils of damaged transformers resulted in loss of Rs. 1.47 crore.

May 2002, Member (Transmission) allowed reuse of healthy coils from failed transformers of 200 KVA also. It was only in March 2003 that full Board reviewed decision of July 1993 and allowed the workshops to reuse technically healthy HT/LT coils extracted from failed distribution transformers of 25 KVA, 63 KVA and 100 KVA ratings on the ground that it would save crores of rupees. Unusual delay by the Board to review its decision resulted in non extraction of healthy coils from failed transformers and their non-utilisation in the repair of failed transformers by the TRWs during 2000-03 entailing loss of Rs.1.47 crore*.

The management/Government stated (June 2005) that this was a policy decision (March 2003) of the Board. The reply was not tenable in view of unusual delay caused by the Board in reviewing its earlier decision (July 1993) despite recommendations made by Member (Operation) and Member (Finance & Accounts) in July 2000.

Uneconomical running of workshops

2.2.16 The Board did not evolve any system to monitor economic viability of workshops at regular intervals. A comparative study of labour cost of transformers repaired in the Board workshops, vis-à-vis, outside firms during 2001-05 is given below:

Year	Capacity of transformer KVA	Number of transformers repaired		Labour cost per transformer				Total extra cost (Rs. in lakh)	
		Board's workshops	Outside firms	Board's workshops (Rs.)	Outside firms (Rs.)	Extra cost per transformer			
						Rs.	Percentage		
2001-02	25	1,977	NA [#]	4,721	2,100	2,621	124.81	51.82	
	63	3,734	NA	7,082	2,550	4,532	177.73	169.22	
	100	2,725	NA	9,442	2,900	6,542	225.59	178.27	
	Total	8,436	8,486						399.31
2002-03	25	1,943	NA	4,313	2,100	2,213	105.38	43.00	
	63	4,546	NA	6,470	2,550	3,920	153.73	178.20	
	100	2,550	NA	8,626	2,900	5,726	197.45	146.01	
	Total	9,039	6,910						367.21
2003-04	25	3,291	NA	3,966	2,000	1,966	98.3	64.70	
	63	4,268	NA	5,949	2,450	3,499	142.82	149.34	
	100	3,417	NA	7,932	2,800	5,132	183.29	175.36	
	Total	10,976	2,079						389.40
2004-05	25	1,129	NA	3,487	2,200	1,287	58.5	14.53	
	63	4,997	NA	5,231	2,450	2,781	113.51	138.97	
	100	4,850	NA	6,974	2,800	4,174	149.07	202.44	
	Total	10,976	7,022	-	-	-	-	-	355.94
	Grand Total	39,427	24,497	-	-	-	-	-	1,511.86

Above table shows that the labour cost per transformer was higher in the Board's

* Calculated on the basis of 12.8 per cent transformers repaired with old healthy coils during 2003-04 as per test check of four workshops (TRW I& III Amritsar, Kotkapura and Patiala).

Capacity wise detail of transformers repaired by outside firms was not available in MIRs.

Uneconomic operation of workshops resulted in extra expenditure of Rs. 15.12 crore .

workshops as compared to private firms. The extra cost *per* transformer ranged between 58.5 and 225.59 *per cent* during 2001-05. Resultantly, the workshops incurred an extra expenditure of Rs.15.12 crore in the repair of 39,427 transformers.

The management/Government while admitting the above facts stated (June 2005) that private firms were charging lower rates because of competition provided by the Board's workshops and the work culture of private firms could not be expected in Board's workshops. The management further stated that private firms did not repair the allocated transformers fully. The reply was not tenable as almost all the transformers allocated were lifted by the firms. Moreover, it was the responsibility of the management to get the transformers back duly repaired by firms, or to take appropriate action against them.

Power transformer repair workshops

2.2.17 Power generated is received and distributed through power transformers. The Board did not fix norm for failure rate of power transformers though the Board did it in the case of distribution transformers. Audit observed that failure rate of power transformers ranged between 1.45 and 2.52 *per cent* during 2000-05. The management stated (June 2005) that the norm would be fixed now.

Preventive maintenance

2.2.18 The condition of insulation and oil in the transformer deteriorates with the passage of time. Suppliers of power transformers recommended preventive maintenance after every five years for power transformers up to 3 MVA capacity and seven to 10 years for transformers above 3 MVA capacity. Power transformers installed as at the end of the year and position of preventive maintenance during 2000-05 was as under:

Particulars	2000-01	2001-02	2002-03	2003-04	2004-05
	(Transformers in numbers)				
Transformers installed as at the end of year	989	1,018	1,045	1,072	1,107
Transformers due [#] for maintenance	99	102	105	107	111
Actual maintenance done	70	69	59	54	46
Shortfall	29	33	46	53	65
Percentage of shortfall	29.3	32.4	43.8	49.5	58.6

Preventive maintenance of power transformers was not planned as per recommendations of the suppliers.

Above table shows that the Board failed to carry out preventive maintenance of power transformers. Percentage of shortfall increased from 29.3 *per cent* (2000-01) to 58.6 *per cent* (2004-05).

[#] Calculated by taking the maximum periodicity of preventive maintenance as 10 years.

The management/Government stated (June 2005) that the targets of preventive maintenance could not be achieved due to non-availability of spare power transformers and fresh power transformer oil on account of poor financial health of the Board. The reply was not tenable because there were always 11 to 26 transformers lying unrepaired during 2000-05 and the workshops took one to three years in repairing them. Had the workshops repaired these transformers in time the problem of non-availability of spare transformers could have been minimised.

Repair of power transformers

2.2.19 The transformers failed, targets for repair, actually repaired and declared irrepairable during 2000-05 were as under:

Particulars	2000-01	2001-02	2002-03	2003-04	2004-05
	(Transformers in number)				
Opening balance of failed transformers	29	22	26	23	23
Addition during the year	19	22	19	27	16
Declared irrepairable	19	8	9	14	16
Balance	29	36	36	36	23
Target for repair	16	8	10	20	15
Actually repaired	7	10	13	13	12
Closing balance	22	26	23	23	11
Percentage of shortfall to targets	56	-	-	35	20

Above table reveals that the targets and achievement in repair of failed power transformers were low as compared to failed transformers lying in the workshops for repair. The age-wise break-up of transformers lying (March 2005) unrepaired was as under:

- Less than one year : Five
- One to three years : Six

As regards transformers lying unrepaired for more than one year, the management stated in the ARCPSE meeting that most of the firms which had supplied these transformers had been closed and efforts were being made to get them repaired.

Central workshops

2.2.20 With a view to fabricate 13 items of fittings and accessories for use in distribution system, the Board established two Central workshops at Amritsar and Patiala. The Central workshop at Patiala was closed (January 2003) due to

uneconomic operation. The workshop was revived in June 2004 with the premise that the fabrication of items would be done on contract labour basis. The workshop was yet to commence its production (March 2005).

Cost of fabrication of fittings and accessories

2.2.21 The Central workshops fabricated fittings and accessories at a total cost of Rs.33.16 crore (Amritsar: Rs.21.72 crore and Patiala: Rs.11.44 crore) during 2000-05. The Board did not ascertain the economic viability of the workshops by comparing the cost of items fabricated in workshops with the prevailing market rates for those items. A comparison carried out in Audit (January and February 2005) of market rates available for six[#] items in 2001-02, one item (GO switch) in 2003-04 and five items (except GO switch) in 2004-05, revealed that the cost of fabrication of these items in the workshops was higher than their respective market rates by 4.11 to 52 *per cent*. The total cost for fabrication of these items in workshops was Rs.7.78 crore as against the market price of Rs.6.65 crore. This resulted in financial loss of Rs.1.13 crore to the Board.

Cost of fabrication of various items in excess of market price resulted in loss of Rs. 1.13 crore.

The management/Government, while admitting the facts, cited (June 2005) low productivity and high labour cost as main reasons for higher cost.

2.2.22 Audit observed that the fabrication cost of fittings and accessories was high mainly due to low output by workers (*Annexure 11*) and excess consumption of material (*Annexure 12*) resulting in avoidable extra financial burden of Rs. 1.30 crore during 2000-05.

Conclusion

All the workshops run by the Board had underperformed in terms of production of poles, repair and preventive maintenance of transformers. The Board did not review and analyse the reasons for the deficient performance of its workshops so as to take preventive and corrective measures. The cost of production of PCC poles, cost of repair of distribution transformers and cost of fabrication of various items in the workshops were higher than market prices. The quality of repair of transformers in Board's workshops was deficient as compared to outside repair.

Recommendations

- **There is urgent need for the Board to monitor the economic viability of workshops and take suitable steps to minimise cost of production.**

[#] G.O.switch, D-straps, LT Stay sets, Earth Rod, V-Shaper X-Arms, Top hampers.

- **Quality of repair of transformers needs to be improved to match market standards.**
- **The Board should rationalise its policy for booking of consumption of material and to bring about convergence between normative and actual consumption.**
- **In the overall functioning of the Board and its workshops, the shortfall in preventive maintenance (as high as 58 per cent) should be eliminated urgently.**

