CHAPTER-II

Performance reviews relating to Government Companies

2.1 Performance Review on procurement and distribution of raw materials by Uttar Pradesh Small Industries Corporation Limited

Highlights

Uttar Pradesh Small Industries Corporation Limited was incorporated (June 1958) with the aim of promoting and assisting Small Scale Industries (SSI) units in the State. The Company passed on discount of Rs.3.18 crore to the MOU holders instead of SSI units in Agra and Ghaziabad area offices.

(Paragraphs 2.1.1 and 2.1.14)

The Company, during the year 2000-01 to 2002-03, supplied 25,599 MT of iron and steel to six closed/partially functioning units engaged in trading activities and irregularly availed SSI rebate of Rs.1.41 crore. The Company also supplied 69,858.65 MT of coal valuing Rs.14.80 crore and 50 MT of small arms crushed brass scrap valuing Rs.45 lakh to non SSI units.

(Paragraphs 2.1.16, 2.1.21 and 2.1.23)

While fixing the sale price of coal received under coal sponsorship scheme, the Company irregularly loaded handling and transportation charges, shortage at five per cent of the quantity transported through Railways. Besides, the Company loaded five per cent incidental charges while fixing the selling price of coal received under State quota. This resulted in undue benefit of Rs.77.70 lakh to the coordinators.

(Paragraphs 2.1.18 and 2.1.19)

Due to wrong fixation of selling price of scrap, the Company sustained loss of margin amounting to Rs.63.33 lakh in sale of burnt copper wire and steel scrap allotted by Irrigation Department and Rs.24.34 lakh in sale of brass scrap allocated by Ministry of Defence during the period 2002-03 to 2006-07.

(Paragraphs 2.1.24 and 2.1.25)

Introduction

2.1.1 Uttar Pradesh Small Industries Corporation Limited, Kanpur (UPSIC) was incorporated (June 1958) under Section 34 of the Companies Act, 1956 as a wholly owned Government Company with the objective of promoting and assisting Small Scale Industries (SSIs) in the State. The Government of India (GOI) has a scheme for routing the allocation of iron and steel from the main producers like SAIL, RINL and Tata steel to SSI units and other Government departments (up to 30 *per cent* of total allocation) through the State Small Scale Industries Corporations (SSICs). In the States where SSICs are either defunct or not in existence, iron and steel is routed through National Small Industries Corporation (NSIC). In order to ensure that SSI units obtain these raw materials at reasonable prices, the Government provides nominal handling charges (known as SSI rebate) to the Corporations so that the Corporations supply the steel material at the door step of the SSI units. In addition to the procurement and distribution of iron and steel item to SSI units, the Company is also procuring and distributing coal, ferrous and non-ferrous scraps to SSI units. The coal is procured in bulk from Coal India Limited (CIL) and its subsidiaries while small arms crushed brass scrap (brass scrap) is allocated by the Ministry of Defence (MoD), the copper and iron scrap are procured from different ammunition depots under MoD and Irrigation Department (ID) respectively.

The Management of the Company is vested in a Board of Directors (BODs) consisting of not less than three and not more than 12 Directors including Directors nominated by the State Government. At present (March 2007) there are six Directors including nominee Directors and Managing Director. The Managing Director is assisted by one Senior Manager (Finance), four Managers and one Superintending Engineer at the head office for managing day-to-day activities of the Company (Organisational chart of the Company is given in **Annexure-11**).

Scope of Audit

2.1.2 The performance review conducted during October 2006 to April 2007 covers the performance of the Company relating to procurement and distribution of iron and steel, coal, ferrous and non-ferrous scrap during the last five years up to 2006-07.

The Company has six Area Offices* and one coal dump at Varanasi. Out of six area offices, Area Offices at Kanpur, Agra and Ghaziabad were engaged in procurement and distribution of iron and steel during the period under review. Other area offices *viz.* Allahabad, Lucknow and Moradabad were engaged in marketing of miscellaneous items required by the Government departments as well as in construction, pollution control and consignment agency activities. The corporate office of the Company was engaged in the procurement of ferrous and non-ferrous scrap.

Audit examined the records of corporate office and area offices at Kanpur, Agra and Ghaziabad and coal dump, Varanasi having turnover of Rs.309.21 crore during the period of review.

Audit objectives

2.1.3 The Audit objectives of the performance review were to ascertain whether:

- the objective of the Company in promoting and assisting SSI units in the State was achieved;
- demand for iron and steel and coal was placed to Union Ministry of Steel (MOS) and to the Commissioner and Director of Industries (C&DI) of UP respectively;
- appointments of MOU holders and handling contractors/coordinators were made appropriately;
- distribution of raw materials was made to the targeted SSI units;
- storage of procured raw materials was made adequately and as per the norms laid down by the Company; and

* Allahabad, Kanpur, Agra, Ghaziabad, Lucknow and Moradabad.

- an adequate monitoring and internal control mechanism was in place to ensure proper distribution of raw materials.

Audit Criteria

2.1.4 Audit criteria considered for assessing the achievement of audit objectives were:

- assessment of demand made by the Company on the basis of installed capacity of SSI units ;
- allocation/allotment of iron and steel by MOS and coal by Coal Controller against the demand registered by the Company;
- procedure for procurement of raw materials against the allocation/allotment;
- provisions of Memorandum of Understanding (MOU) with SAIL and Long Term Contract (LTC) with RINL;
- terms and conditions of agreement/MOU executed with coordinators/MOU holders and handling contractors/coordinators of raw materials; and
- guidelines issued by the State Government/Management regarding storage and distribution of raw materials.

Audit Methodology

2.1.5 The methodology adopted for attaining audit objectives with reference to audit criteria was examination of:

- Government policies, guidelines, orders and directives for procurement and distribution of raw materials to small industrial units.
- agenda and minutes of meetings of the BODs and directives/circulars issued by the Management;
- scrutiny of MOU with SAIL and LTC with RINL for procurement of iron and steel and allocation/allotment of raw materials made by the Ministry/Government Departments and materials lifted by the Company there against.
- agreement executed with coordinators and handling contractors of raw materials.
- scrutiny of physical verification reports, annual reports, monthly progress reports and financial statements, and
- issue of audit enquiries and interaction with the Management.

Audit Findings

2.1.6 Audit findings as a result of Performance Review were reported (June 2007) to the Management/Government and were discussed (29 August 2007) in the meeting of Audit Review Committee for State Public Sector Enterprises (ARCPSE). The meeting was attended by the Special Secretary (Industries), Government of Uttar Pradesh cum Managing Director of the Company. Views expressed by the representatives of the Management/Government have been taken into consideration while finalising the review.

The audit findings are discussed in the succeeding paragraphs:

Achievement of objectives of the Company in promoting and assisting SSI units

2.1.7 The objective of the Company was to promote and assist SSI units of the State primarily by supplying raw materials *viz.* iron and steel, coal, ferrous and non-ferrous scrap to these units at reasonable rates. It was noticed that the Company failed to achieve its objectives as discussed below:

- The Company was required to supply raw materials to 2,85,220 SSI units located in rural and backward areas at their doorsteps at reasonable rates. The Company neither analysed the requirement of SSI units nor segregated these units on the basis of assessment of their requirement for steel and coal. The Company did not have relevant data of consumption of raw material by these SSI units. Hence, audit could not verify the correctness of allocation and consumption of raw materials by these SSI units. There were only four Raw Material Depots (RMDs) at Allahabad, Kanpur, Agra and Ghaziabad. Out of these RMDs, Allahabad was non-operational since 2001-02. As a result, 1,71,431 SSI units of the entire eastern region were deprived of the benefits of the scheme. Besides, the Company failed to utilise six other depots located in Lucknow, Noida, Varanasi, Khurja, Ferozabad and Moradabad. The result of third census (2001-02) of industries conducted by the Commissioner and Director of Industries, UP revealed that 9.34 *per cent* of registered SSI units were sick due to non-availability of raw materials.

- The instructions issued by the MOS (March 1972) provided that the Company should assess the requirement of iron and steel of various regions and operate a wide network of depots so that the SSI units are able to obtain the material from a nearby source without covering long distances. Scrutiny of records, however, revealed that iron and steel from RMDs at Ghaziabad and Agra were supplied to units located at Allahabad and Kanpur and *vice versa* and transportation cost borne by the SSI units.

- The Company could supply iron and steel to a negligible number of SSI units. As against 20,000 registered SSI units (2000-01) consuming iron and steel, it could provide iron and steel to only 179 units* (0.90 *per cent*). The verification (September 2001) carried out by the Regional Development Commissioner (Iron and Steel) revealed that supply of iron and steel was being supplied to closed/partly functioning units engaged in trading activities. Thus, failure of the Company in ensuring distribution of iron and steel to genuine SSI units resulted in undue benefit to units engaged in trading activities as discussed in paragraph 2.1.15.

- The SICs of West Bengal and Himachal Pradesh were passing on part of SSI rebate to its beneficiary SSI units for their promotion whereas the Company provided it to MOU holders in shape of incentive. Thus, the arrangement with MOU holders is not in tune with the spirit of the scheme of MOS as discussed in paragraph 2.1.13.

- Against the total sale of 76,247.870 MT of coal during the last five years up to 2006-07, the Company could sell only 6,389.220 MT (8.38 *per cent*) of coal to SSI units and the balance quantity of 69,858.65 MT (91.62 *per*

* 2002-03: 26, 2003-04: 8, 2004-05: 35 and 2005-06: 110.

cent) coal valuing Rs.14.80 crore was sold to non-SSI units in violation of the Government orders. Further, an inspection carried out (March 2001) by the officers of Trade Tax department at Allahabad revealed that the coal allotted for SSI units was being supplied to the traders and brick kiln owners. Thus, coal was sold to non-SSI units in violation of the Government order and intended objective of supply coal to SSI units at reasonable rates was defeated, as discussed in paragraph 2.1.20.

- The Company neither evolved any consistent policy for supplying scrap to SSI units at reasonable rates nor explored the possibility of procuring scraps from large scrap producers like Indian Railways, UPSRTC and UPPCL. Thus, the major SSI units were deprived of the scrap materials as discussed in paragraph 2.1.22.

2.1.8 The activities of procurement, lifting and distribution of raw materials to SSI units is performed by MOU holders in case of iron and steel and by the coordinators in case of coal and scrap. The various aspects relating to procurement, allocation, lifting, payment to MOU holders/coordinators and supply to SSI units of iron and steel, coal and scrap are discussed below:

Iron and steel

Allocation and lifting

Non-lifting of allocated quantities of Iron and Steel resulted in non-availment of SSI rebate.

2.1.9 The Company assesses the annual demand of iron and steel of SSI units on the basis of discussions held with the Area Managers and MOU holders working with Area Offices and pattern of lifting the materials during previous years. The procedure being followed by the Company for assessment of demand of iron and steel was inadequate, as it was not based on the requirement/capacity of SSI units of the State.

The Company procures iron and steel from the main producers (SAIL and RINL) against the demand placed by it and allocation made by MOS for supply of the same to SSI units of the State. Since the Company does not have the adequate infrastructure to conduct the function of procurement of iron and steel from the main producers and its distribution to SSI units, the same is being undertaken through MOU holders with whom the Company has MOU. For supply of Iron and Steel to SSI units, the Company started (2004-05) collecting the amount from MOU holders in advance. The appointment of MOU holders was not envisaged in the scheme of MOS under which the Company is getting SSI rebate of Rs.550 per MT from the main producers on the quantities lifted and delivered to SSI units. The salient features of the MOU are as follows:

- The MOU holder is required to make standing financial arrangements for lifting of materials.
- The MOU holder is to undertake and assure the Company that the customers introduced by MOU holders are wholly eligible SSI units and it was also expected of the MOU holders that they shall maintain consistency of lifting and expeditious dispatch of goods to SSI units in the State on whose behalf they are getting material.
- The payment made to MOU holders is from the discounts which are given by the main producers for passing on the same to SSI units.

2.1.10 The table below indicates year-wise demand registered by the Company, allocation made by MOS and iron and steel lifted by the Company during the last five years up to 2006-07:

(Quantity in MT)

Year	Demand registered by the Company with MOS	Allocation made by MOS	Percentage of allocation against demand	Lifting made by the Company against the allocation	Percentage of lifting		Unlifted quantity
					Against demand	Against allocation	
2002-03	72,000	18,760	26.06	1,934	2.69	10.31	16,826
2003-04	78,500	23,300	29.68	NIL	--	--	23,300
2004-05	52,600	35,760	67.98	12,740	24.22	35.63	23,020
2005-06	58,600	44,767	76.39	43,873	74.87	98.00	894
2006-07	72,700	51,973	71.49	43,116	59.31	82.96	8,857
Total	**3,34,400**	**1,74,560**	--	**1,01,663**			**72,897**

Source: Allotment orders of MOS and sale register.

The above table reveals that the Company could not lift the entire allocated quantity in any year. Percentage of quantity lifted against demand during 2002-03 to 2006-07 varied from 2.69 to 74.87 *per cent*. The percentage of lifting of Iron and Steel during 2002-03 to 2006-07 against allocated quantity varied from 10.31 to 98 *per cent.* Thus the demand registered was not based on demand from the SSI units. The Company was not in position to make the payment for quantities allocated due to non-payment by MOU holders for quantities lifted by them on credit basis. Thus the transactions between the Company and MOU holders is not free from doubt. As the Company defaulted in payment of SAIL dues amounting to Rs.9.34 crore as on 31 March 2001, SAIL stopped supply (April 2001) and insisted for advance payment.

The Company restarted lifting iron and steel from RINL and SAIL after making advance payment during 2004-05 and 2005-06 respectively. Non-lifting of allocated quantities resulted in non-availing of SSI rebate.

The deficiencies noticed in the MOU entered into with the MOU holders are discussed as under:

Company neither followed recommendations of the Committee nor adopted consistent policies which resulted in shortages of material.

2.1.11 As per the recommendations (August 2004) of the Committee constituted by the Company to review the terms and conditions of MOU holders, separate persons should be appointed as MOU holders and handling contractors for the purpose of lifting of iron and steel from Railway sidings/stock yards of main producers and transportation of the same to raw materials depot of area offices of the Company. The Company neither followed the recommendations of the Committee nor adopted consistent policies for appointment of MOU holders as discussed below:

- There was precedence (October 2000) of nexus between the MOU holder and handling contractor firms (appointed by the Company) belonging to two real brothers and non-delivery of 944.25 MT of iron and steel valuing Rs.1.35 crore by the latter to RMD Kanpur. Despite this, the Company appointed (2004-05) the same firms, as MOU holders and handling contractor firms in the Area Offices at Agra and Ghaziabad and extended the terms of agreement for subsequent years (2005 to 2007). Neither any investigations were made nor any action was taken against the erring officials.
- Two MOU holders (Devaraha Steels and D.V. Steels) at Ghaziabad were responsible for shortages of iron and steels in RMDs, Agra and

Ghaziabad during the year 2000-01 *i.e.* 5,591.310 MT valuing Rs.8.21 crore at Agra and 1,845.355 MT valuing Rs.2.78 crore at Ghaziabad. These shortages were made up by issuing bills for the quantities found short in the names of the SSI units in subsequent years. The Company, instead of penalising and blacklisting them, reappointed them during 2005-06 and 2006-07 in the Area Offices at Agra and Ghaziabad on unusual grounds that amount of shortages would be recovered in installments from them during the currency of current agreements. The amount recoverable from the MOU holders against the shortages was, however, lying undetermined (August 2007) and recoveries were yet (August 2007) to be made.

- As per prescribed procedure, the Area Offices appointed handling contractors for a period of one year. It was noticed that Area Office Ghaziabad, appointed (April 2004) Nikky Associates, Ghaziabad as handling contractors at the rate of Rs.88 per MT without mentioning the period of appointment. The Company, without any emergent need and sufficient reasons, invited (September 2004) mid term tender and reappointed Nikky Associates (being lowest of the three tenders received) at higher rate of Rs.110 per MT for remaining six months up to March 2005. This resulted in avoidable payment of Rs.1.49 lakh on total quantity of 6,770 MT of iron and steel lifted during October 2004 to March 2005.

Payment of incentive at higher rates

2.1.12 The Company introduced (May 1997) incentive scheme for iron and steel with the objective to augment its business of iron and steel. The BODs decided (March 1999) to stop the scheme retrospectively (July 1998) as it failed to yield the desired results.

Re-start of incentive scheme without prudent cause resulted in avoidable payment of Rs.50.54 lakh.

It was noticed (March 2007) that the MD of the Company decided (August 2004) to restart incentive scheme for MOU holders for the year 2004-05 without obtaining BOD's approval. The scheme provided for incentive at the rate of Rs.75 per MT. The BODs considering that the market conditions were grim decided (July 2005) to pay slab-based incentive* to MOU holders during the year 2005-06. In view of improved market conditions and increasing rates of iron and steel from August 2005 there was a need for reviewing the slab based incentive scheme, but the MD, instead of reviewing the slab-based incentive payment, decided (June 2006) to implement the same for subsequent year (2006-07). This resulted in avoidable payment of Rs.50.54 lakh to the MOU holders during the years 2005-06 and 2006-07 worked out on the basis of slab-wise rates of incentive on lifting of 41,444 MT of steel.

Payment of discount to MOU holders

Passing of marketing tools directly to MOU holders resulted into denial f benefit of Rs.3.18 crore to SSI units.

2.1.13 The Company supplies iron and steel to SSI units at invoice price of main producers plus allowable SSI rebate (Rs.550 per MT) under the scheme of MOS. In addition to this, various discounts known as marketing tools are allowed to the Company by the main producers. These discounts allowed by the main producers were to be passed on to the SSI units on back-to-back basis. Against this, the Company executed (2002 to 2007) agreements with MOU holders that, *inter-alia*, provided for passing on these discounts to the MOU holders in full. This resulted in denial of benefit of Rs.3.18 crore to SSI units for the supplies made by MOU holders of area offices at Agra and

* Rs.75 per MT for 2500 – 5000 MT, Rs.100 per MT; for 5001 – 7500 MT, Rs.125 per MT- for 7501 MT and above.

Ghaziabad during 2005 to 2007. So far as payment to MOU holders is concerned, they should be paid by the Company out of the SSI rebate it receives from the main producers as handling charges. The arrangement with the MOU holder is thus, not in tune with the spirit of the scheme of the MOS.

Payment of quantity based turnover discount

2.1.14 The Company avails quantity based annual commitment incentive known as long term contract bonus (LTC bonus) and turnover discount (TOD) on lifting of iron and steel from RINL and SAIL respectively. According to the policy of the Company, 90 *per cent* of the TOD/LTC bonus was to be passed on to the SSI units. The Company, however, executed agreements with the MOU holders that provided for passing on 90 *per cent* of the TOD/LTC bonus to them for the services provided by them. This resulted in undue benefits to MOU holders as discussed below:

- The Company availed LTC Bonus of Rs.21.73 lakh in respect of Area Offices, Agra and Ghaziabad during 2004-05 and 2005-06 respectively. But instead of passing it to SSI units, the Company paid 90 *per cent* of LTC Bonus (Rs.19.56 lakh) to MOU holders thereby extended undue benefit to them.

- Under the tie-up scheme of wire rods, SAIL offered (2000-01) slab-wise TOD at the rate of Rs.200 per MT for quantities below 24,000 MT and Rs.250 per MT for quantity of 24,000 MT and above. To avail optimum benefit, the Company committed to lift 24,000 MT of wire rods during the year. The Company claimed (November 2005) Rs.59.63 lakh at the rate of Rs.250 per MT for 23,852.64 MT against which SAIL pointed out (February 2006) that the Company could lift only 23,122 MT of wire rods within stipulated time and allowed discount at the rate of Rs.200 per MT (instead of Rs.250 per MT as claimed by the Company) amounting to Rs.46.24 lakh. Thus, by short lifting a quantity of 878 MT the Company lost an opportunity to earn TOD at the rate of Rs.250 per MT amounting to Rs.13.76 lakh (24,000 MT X Rs.250 – 23,122 MT X Rs.200).

  Further, against the said discount of Rs.46.24 lakh, Area Office, Agra did not pass 90 *per cent* of the TOD (Rs.16.40 lakh) to SSI units (the TOD received by other Area Offices was pending for adjustment up to March 2007).

Supply of iron and steel to units engaged in trading activities

2.1.15 The office of the Regional Development Commissioner (RDC) of MoS came across (September 2001) cases where supplies were made to units other than SSI units. The details of the cases are discussed below:

The Company supplied iron and steel to units engaged in trading activities instead of genuine SSI units and wrongly availed SSI rebate of Rs.1.41 crore.

Out of total sale of 42,555.71 MT and 8,336.513 MT of iron and steel during the year 2000-01 and 2001-02, the Company sold 18,171 MT (43 *per cent* of total sale) and 6,542.96 MT (77 *per cent* of the total sale) respectively to six common units repeatedly during 2000 to 2002. The spot verification carried out (September 2001) by the RDC revealed that these units were closed/partly functioning and were engaged in trading activities. At the instance of the Deputy Development Commissioner of RDC, the Company blacklisted (December 2001) these firms. Against the said order, two blacklisted units (fabricator of steel almirah and grain storage tanks) made representations (February 2002) to RDC and succeeded (May 2002) in getting an *ad hoc* allocation of 100 MT of iron and steel. **The Company against the allocation of 100 MT supplied a total quantity of 349 MT of wire rods (used as fasteners and wire drawing) instead of HR/CR/GP sheets (which was the main raw material for fabrication of steel almirah and grain storage tanks) to these units.** The RDC asked (November 2002) the Company to obtain details relating to utilisation/sale of fabricated material and in case of failure, it directed the Company to put these units under black list. Though, both the units failed to submit the required details, the Company continued (up to February 2003) to supply material (total quantity of 885.025 MT including 349 MT of wire rods referred to above) to these almirah/grain storage manufacturing units. Thus, the Company wrongly supplied material to these SSI units for trading purposes rather than for manufacturing. The Company also availed SSI rebate amounting to Rs.1.41 crore though not entitled for, on the quantity of 25,598.985 MT wrongly supplied to these SSI units for trading rather than manufacturing purpose.

Coal

2.1.16 The Company never assessed the annual demand of coal as per requirement of SSI units of the State instead it requested the C&DI to make allocations of coal in its favour based on quantity allocated during the year 2000. The Company did not approach the UP Pollution Control Board in order to ascertain the number of coal consuming SSI units which could have given an idea as to the number of SSI units which needed the coal.

The Company procures coal from CIL and its subsidiaries against allocations made by C&DI within the limits of maximum permissible quantity (MPQ) for lifting of coal through Railways and quota for lifting through Road as fixed by CIL. The Company adds 10 *per cent* profit margin while working out sale price of coal, which is shared by the Company and coal coordinators on agreed ratio.

The details given below indicate allocation made by C&DI and CIL and quantities lifted by the Company during the last five years up to 2006-07:

(Quantities in MT)

Year	Allocation of coal by C&DI		Maximum permissible quota (MPQ) fixed by CIL		Actual lifting of coal		Short lifting	
	By rail	By road	By rail	By road	By rail	By road	By rail	By road
2002-03	13,48,790	16,80,000	57,768	2,40,000	20,078 (34.76)	6,438 (2.68)	37,690 (65.24)	2,33,562 (97.32)
2003-04	13,48,790	16,80,000	57,768	2,40,000	16,897 (29.25)	2,186 (0.91)	40,871 (70.75)	2,37,814 (99.09)
2004-05	13,48,790	16,80,000	57,768	2,40,000	5,833 (10.10)	9,237 (3.84)	51,935 (89.90)	2,30,763 (96.15)
2005-06	NIL	12,00,000	NIL	5,40,000	NIL (-)	1,403 (0.26)	Nil (-)	5,38,597 (99.74)
2006-07	NIL	12,00,000	NIL	4,32,000	NIL (-)	21,157 (4.90)	Nil (-)	4,10,843 (95.10)
Total	**40,46,370**	**74,40,000**	**1,73,304**	**16,92,000**	**42,808 (24.70)**	**40,421 (2.39)**	**1,30,496 (75.30)**	**16,51,579 (97.61)**

Source: Allocation orders of C&DI, letters of CIL and sale reports.
Note: Figures in brackets indicates percentage of lifting against MPQ.

It was noticed (December 2006) that:

- There was short lifting of coal by rail and road and it varied from 65.24 to 89.90 *per cent* as compared to the MPQ in case of lifting by rail and in case of lifting by road it ranged between 95.10 and 99.09 *per cent*. Against annual allocation of 13,48,790 MT of coal made by C&DI during three years up to 2004-05, the CIL fixed 83 box wagons* per month as MPQ

* One box wagon = 58 MT.

(due to limited availability of coal for non-core sector) for lifting of coal by the Company through Railways. The Company failed to lift the MPQ due to frequent changes in destination of rakes by the Company and availability of lesser number of rakes. The MPQ also lapsed due to late submission of programme to Railways and CIL. The coordinators also lifted short quantity because of non-extension of term of agreement of the existing coal coordinators and delay in appointment of new coordinator. Further, the main reason for shortfall in lifting during the year 2005-06 was non-participation by the Company in e-auction of coal being done by the CIL and its subsidiaries from January 2005.

- With a view to cater to the needs of tiny/small consumers of coal throughout the country, the GOI decided (April 2005) to release two million tonnes of coal per *annum* additionally to different State undertakings. These undertakings were in turn, required to distribute coal amongst various tiny/small consumers of their State. The Company was nominated by the State Government as nodal agency for distribution of coal under State Quota in January 2006. Thereafter, CIL, under this scheme, allocated (February 2006) 5.40 lakh MT of coal in favour of the Company for the year 2005-06 against which it could lift only 1,403 MT (0.26 *per cent*) of coal up to March 2006. As a result, coal could not be made available to tiny/small consumers of the State.
- The Company was also deprived of the potential margin of Rs.84.82 lakh for short lifted quantity of 1,30,496 MT transported by rail during the period 2002-03 to 2004-05. For the quantities of 16,51,579 MT short lifted by road, the margin could not be worked out as the details of cost breakup were not made available to audit.

Payment to coal coordinators

Irregular loading of handling and transportation charges in the price of coal resulted in undue benefit of Rs.77.70 lakh to the coordinator.

2.1.17 The Company was procuring and selling coal under coal sponsorship scheme through its own coal dump up to 1995-96 at the rates fixed as per the provision of clause 8(iii)(c) (applicable to coal depot holders selling the coal on retail* basis) of the Coal Control Order 1977 (order) issued by the State Government. The retail price includes purchase price of coal, local handling and transportation charges from railway sidings to coal depots at the rate fixed by the District Magistrate, wastage allowance and profit at 10 *per cent* of the landed cost of coal.

The Company started (September 1996) distribution of coal on whole sale basis through coal coordinators. The coal coordinators were made responsible for arranging funds, procuring coal from collieries of CIL against allotments issued by C&DI, storage of procured coal in their own dumps and selling the same to SSI units on behalf of the Company. The coordinators were given 40 *per cent* share in margin as per agreement entered into with them.

It was noticed (December 2006) that the Company while fixing its sale price, continued to take the basis of clause 8(iii)(c) (for retail sale) despite sale being made on whole sale basis**. The Company loaded incidental charges at the rate of Rs.67.50 per MT for handling and transportation of coal from railway sidings to coal dump of the coordinator and charged its profit at the rate of 10 *per cent* on the incidental charges also in accordance with the said clause. Thus, the Company irregularly fixed the selling price of coal as per clause 8

* Retail price means sale of coal 10 Quintals per day per consumer.

** Wholesale price means sale of coal exceeding 10 quintals per day to one consumer.

(iii) (c) instead of clause 8 (ii) (A) applicable to whole sale of coal. Due to fixation of sale price of coal in the above manner, the Company extended undue benefit of Rs.35.16 lakh (52,096 MT X Rs.67.50) to the coordinators. It was due to the fact that all the activities of procurement and distribution of coal were carried out by the coordinators on behalf of the Company after depositing the Company's share of margin with the Company. The coordinators effected the sale on whole sale basis and kept the handling and storage charges with them that would have been incurred, had the sale been made on retail basis.

2.1.18 As per the agreements executed with coal coordinators, the coordinator was responsible for getting the coal loaded from collieries till its sale to SSI units on behalf of the Company and also for the shortages.

It was noticed (December 2006) that the Company, while working out selling price of coal received through Railways, loaded wastage allowance at the rate of five *per cent* of the booked quantity to arrive at landed cost of coal whereas, in terms of the agreement, it was to be borne by the coordinators. The Company added its profit at the rate of 10 *per cent* on the cost of said shortage to work out its selling price. This resulted in undue burden on SSI units and extension of undue benefit to the coordinator amounting to Rs.42.54 lakh on sale of 52,096 MT of coal lifted during April 2001 to December 2004.

Distribution of coal to SSI units at higher rates

2.1.19 The State Government nominated (January 2006) the Company as Nodal agency for distribution of coal in the State under State Quota system. Under the scheme, the coal allotted by CIL was to be supplied to the small/tiny consumers having requirement not exceeding 500 MT *per annum*. The guidelines issued (May 2006) by CIL for distribution of coal under the State Quota system provided that sale price to be charged by the nominated State agencies from tiny/small consumers should not exceed 105 *per cent* of the base price[*] at which coal is received by it. Other charges like transportation, royalty *etc.* were to be charged separately from the consumers.

It was noticed (December 2006) that the Company loaded additional five *per cent* incidental charges while working out the sale price and further charged Trade Tax and Entry of Goods Tax on the said incidental charges. The Company, thereby, loaded additional Rs.87.67 per MT while fixing the sale price. This resulted in an extra burden of Rs.4.52 lakh on small and tiny consumers on total supply of 5,152.217 MT of coal made to them during October and November 2006.

Supply of coal to non-SSI units

2.1.20 As per instructions of C&DI, coal procured under coal sponsorship scheme should be distributed to SSI units of the State on the basis of permits/release orders issued by GM, DIC/Joint DI. The C&DI directed (February 2001) the Company that the procured coal should be distributed to SSI units within 30 days from the date of informing the sale price fixed by the Company to GM (DIC)/Joint Director of Industries. The unsold quantity of coal, if any, was allowed to be disposed off after expiry of 30 days as 'free sale'.

[*] Base price means floor price *plus* 20 *per cent*.

It was noticed (December 2006) that against the sale of 76,247.870 MT of coal during the last five years, the Company could sell only 6,389.220 MT of coal to SSI units (8.38 *per cent*) and the balance quantity of 69,858.65 MT of coal was sold to non-SSI units (traders and brick kiln owners) under free sale as detailed below:

(Value: Rs. in lakh)

Year	Total Qty sold (in MT)	Total value	Qty sold to SSIs (in MT)	Value	Qty. sold to non-SSIs (in MT)	Value
2002-03	7,552.325	134.56	1,882.90	32.06	5,669.425	102.50
2003-04	25,472.690	492.28	NIL	NIL	25,472.690	492.28
2004-05	19,254.790	397.40	NIL	NIL	19,254.790	397.40
2005-06	2,810.885	63.90	NIL	NIL	2,810.885	63.90
2006-07	21,157.180	547.84	4,506.32	124.30	16,650.860	423.54
Total	**76,247.870**	**1,635.98**	**6,389.22**	**156.36**	**69,858.65**	**1,479.62**

Source: Sale reports.

The sales were made to non-SSI units, in violation of the Government orders. Thus, the intended objectives of supplying coal to SSI units at reasonable rates could not be achieved.

Storage of coal

2.1.21 The procedure for procurement and distribution of coal as approved (May 1996) by the Company provided that the Coal shall be stored either in coordinators dump or in the dump of the Company under the custody of the coordinator. It also stipulated that all the functions would be carried out under the supervision of the Depot Manager.

It was noticed (December 2006) that:

- Contrary to the above procedure, the Company relied upon the written undertaking given by the coordinators and never ensured by surprise checks as to whether the coal was actually being stored in their coal dump or not. In one case, as per challan of the transporter, 406.64 MT of coal was transported in December 2006 from Mandmum colliery (Dhanbad) to Kanpur and accordingly payments were made to the transporter. The coordinator while submitting arrival reports of the coal, indicated receipt of the coal in his coal dump at Chandasi (Mugalsarai). This indicates *en-rout*e diversion of coal to the coordinator's coal dumps at Chandasi.
- During the period 2002-03 to 2005-06, the Company procured 62,073.03 MT coal. Against which it sold 55,090.690 MT (88.75 *per cent*) only. The balance quantity of 6,982.340 MT (value not ascertainable) was not available in stock records.
- The coal valuing Rs.21.63 lakh (3,460.493 MT of coal) pertaining to the years 1980-81 to 1992-93 lying at Kanpur (367.508 MT), Varanasi (1,149.680 MT), Agra (1,434.505 MT) and Ghaziabad (508.80 MT) is being shown as balances in stock statements of the respective Area Offices whereas no coal is physically available in the dumps which is indicative of lack of control over coal coordinators. No action has been taken by the Management to recover the shortages of coal from the coordinators.

Scrap

Procurement and sale of small arms crushed brass scrap

2.1.22 The Company procures scrap on the basis of allocations made by Ministry of Defence (MoD) and Irrigation Department, Government of Uttar Pradesh from time to time. The allotment orders of brass scrap issued by the MoD provided that the scrap should be sold to SSI units only. It was noticed (February 2007) that the Company, in violation of the terms and conditions of allotment order and also against the objective of the Company, sold 50 MT of brass scrap valuing Rs.45 lakh to a non-SSI unit during the year 2002-03. As a result, the MoD imposed (August 2003) ban on lifting of brass scrap by the Company for three months. Further, the Company is only dependent on MoD and ID for procurement of scrap and did not explore the possibility of procuring scraps from other large scrap producers like Indian Railways, UPSRTC and UPPCL.

Fixation of sale price of scrap

2.1.23 For the scrap (burnt copper wire and steel) procured from ID, rates are fixed by ID on the basis of daily average of last month of preceding quarter published in Economic Times (ET) *less* 10 *per cent*.

The Company suffered loss of Rs.63.33 lakh due to wrong fixation of sale price of scrap.

It was noticed (February 2007) that the Company neither evolved any consistent pricing policy for fixation of sale price of scrap nor fixed the price on the basis of average rates published in ET instead the sale price was fixed on the basis of rates suggested by the coordinators. Had the Company fixed sale price at the average rates published in ET, it could have earned additional margin of Rs.63.33 lakh from sale of 3,603.758 MT of scraps allotted by ID during the last four years up to 2006-07.

2.1.24 The Company procures small arms crushed brass scrap (known as bullet scrap) at the rate of Bharat scrap (which is lower than the rate of bullet scrap) published in ET on the date of issue of release order. As the rates of bullet scrap were not published in ET, the sale price of the bullet scrap was to be determined by price fixation committee of the Company. In order to arrive at the sale price of the bullet scrap, the Committee recommended that Rs.3 to Rs.3.50 per kg. should be added to the price of brass sheet cutting (which was generally higher by Rs.10 per kg. as compared to the price of Bharat scrap) which was published in ET up to April 2004.

It was noticed (March 2007) that the Company, however, fixed sale price of brass scrap by taking rate of Bharat scrap after adding profit margin at the rate of two *per cent* each for the Company and coordinator. Thus, wrong fixation of sale price resulted in loss of margin amounting to Rs.24.34 lakh for the period 2004-05 to 2006-07.

Internal control and Internal audit

2.1.25 Internal control is a process designed to provide reasonable assurance for efficiency of operation, reliability of financial reporting and compliance with applicable laws and statutes for achieving intended objectives and safeguarding against errors, frauds and misappropriations. In this regard, the following deficiencies were observed (March 2007):

- As per instructions issued (June 2006) by the Management, the Area Offices were required to maintain the records pertaining to specific demand of iron and steel, indent letters received from SSIs and master register of allotments for ensuring distribution of iron and steel to eligible units, no such records were, however, maintained by the Area Offices.

- The instructions further stipulated that the Area Managers should conduct occasional inspection of SSI units to ascertain whether iron and steel had actually been provided to the SSI units. As per records made available to Audit no such inspection was carried out by the Area Managers during the period from June 2006 to March 2007.
- No records were maintained to show receipt and issue of iron and steel. The weighbridges installed in all the RMDs were non-operational. Iron and steel was being issued by the RMDs to MOU holders for onward delivery to SSI units on the basis of invoice weight. Thus, in the absence of records and non-functioning of weighbridges, actual receipt and issue could not be vouchsafed in Audit.

It was noticed that the Company irregularly availed and utilised the rebate of Rs.22.54 lakh on the above quantities of iron and steel found short and not distributed to SSI units.

Internal Audit

2.1.26 Internal Audit is the system designed to ensure proper functioning as well as effectiveness of internal control systems and detection of errors and frauds. The Company has not established any internal audit wing. As a result, it failed to ensure compliance with the prescribed rules and regulations resulting in improper maintenance of records, shortages of materials, irregular appointment of coordinators and handling contractors and excess payments made to them, inconsistencies in fixation of sale price and distribution of raw materials to non-SSI units.

Acknowledgement

2.1.27 Audit acknowledges the cooperation and assistance extended by different level of officers of the Company at various stages of conducting the performance audit.

The above audit findings were reported to the Management/Government in June 2007; replies are awaited (October 2007).

Conclusion

The Company did not evolve any system for assessing the demands of raw materials by SSI units. It failed to lift the allocated materials resulting in non-distribution of the same to SSI units. The Company committed irregularity in appointment of MOU holders, handling contractors and coordinators and extended undue benefit to them. The Company also failed to supply raw materials to SSI units at reasonable rates. It failed to pass on rebate/discounts allowed by the main producers of iron and steel to eligible SSI units, fixed higher selling price for coal, and sustained loss of margin in the business of scrap due to wrong fixation of prices. There was ineffective control over stores at different RMDs, resulting in loss of materials.

Recommendations

- **The Company should evolve an appropriate system for realistic assessment of demand of raw materials;**
- **The Company should adopt such a system that its dependence on MOU holders/coordinators is reduced to the minimum;**
- **The Company should not pass on the benefits to MOU holders that were to be given to the SSI units;**
- **The Company should exercise adequate control over its RMDs and coal dumps to avoid trading and supply of raw materials to non-eligible industrial units;**
- **The Company should evolve an adequate monitoring system to ensure that the raw materials being supplied by the Company is reaching to the intended beneficiaries and the desired objectives are achieved.**

2.2 Performance Review on Efficiency in Billing and Collection of Revenue in Paschimanchal and Madhyanchal Vidyut Vitran Nigam Limited

Highlights

PVVNL and MVVNL could not recover even cost of energy from the consumers, as a result loss of the Companies accumulated to Rs.3902.21 crore in PVVNL and Rs.1458.69 crore in MVVNL during the last four years ending March 2007.

(Paragraph 2.2.7)

Failure of both the Companies in ensuring the accuracy of meters of consumers resulted in under billing of consumers to the extent of Rs.1.30 crore.

(Paragraph 2.2.9)

Failure of MVVNL to apply correct tariff and non-issue of bills, resulted in non-realisation of revenue aggregating Rs.5.60 crore.

(Paragraph 2.2.10)

MVVNL suffered loss of revenue due to short levy of minimum charges, non-levy for protective load and irregular allowance of load factor rebate aggregating Rs.1.12 crore.

(Paragraphs 2.2.13, 2.2.15 and 2.2.17)

Failure in management of capacitor banks at the consumers end resulted in loss of revenue aggregating Rs.4.82 crore in both the Companies..

(Paragraph 2.2.18)

Both the Companies failed to realise revenue arrears from the consumers. This resulted in increase in arrears from Rs.1906.35 crore and Rs.1152.21 crore as at the end of March 2005 to Rs.2242.91 crore and Rs.1535.81 crore at the end of March 2007 in case of PVVNL and MVVNL respectively.

(Paragraph 2.2.25)

MVVNL entrusted collection of revenue to 'e-Suvidha'. Despite delayed transfer of cash into division's account by three to eight days, in violation of terms of MOU, e-Suvidha was extended undue favour to retain the collected revenue of Rs.6.84 crore approximately for four days from the date of collection.

(Paragraph 2.2.27)

Introduction

2.2.1 Paschimanchal Vidyut Vitran Nigam Limited, Meerut (PVVNL) and Madhyanchal Vidyut Vitran Nigam Limited, Lucknow (MVVNL) were incorporated under the Companies Act, 1956 on 1 May 2003 after the division of Uttar Pradesh Power Corporation Limited (UPPCL) into four Distribution Companies as subsidiaries of UPPCL. PVVNL and MVVNL are engaged in the business of distribution and supply of electricity to the consumers in various districts under their jurisdiction. These Companies commenced business operations in August 2003.

The main activities of the PVVNL and MVVNL are:

- purchase of electricity from licensee;
- development and maintenance of infrastructure for electricity sub-transmission and distribution system;
- distribution and retail supply of energy;
- billing of energy consumed by different categories of consumers; and
- collection and accountal of revenue.

The governance of both the Companies is vested in a Board of Directors (BOD) comprising maximum of seven Directors including a Chairman and a Managing Director (MD). There were three and two Directors as on 31 March 2007 in PVVNL and MVVNL respectively. The MD is the overall in charge in both the Companies and is assisted by three Chief Engineers (CEs)/ General Managers (GMs) and 13 Superintending Engineers (SEs)/ Deputy General Managers (DGMs) at Headquarters as well as three CEs/GMs and 16 SEs/DGMs in the field in PVVNL and by a Chief General Manager (HRD), GM (Technical), GM (Commercial), GM (Finance) and seven DGMs at Headquarters with four CEs (zone) and 19 DGMs in Field Offices in case of MVVNL. Organisational chart of both the Companies are detailed in **Annexures-12 and 13.**

The Performance Review on the activities of Lucknow Electricity Supply Administration (LESA) Zone, now a part of MVVNL featured in the Report of the Comptroller and Auditor General of India (Commercial), Government of Uttar Pradesh for the year ended 31 March 2003. The Review has not been discussed by the Committee on Public Undertakings, so far (August 2007).

Scope of Audit

2.2.2 The present Performance review conducted during October 2006 to May 2007 covers examination of overall efficiency of the Companies in billing of all categories of consumers for energy sold, collection of revenue and it's accountal during 2003-04 (August 2003) to 2006-07. For this, records of headquarters office of both the Companies (PVVNL & MVVNL) alongwith records of 12 divisions[*] of PVVNL and eight divisions[**] of MVVNL were test checked.

Annexure-14 indicates the category-wise number of consumers, connected load and revenue assessed. The sample selected in audit was based on connected load and selected consumers and assessment of revenue thereagainst under various categories as on 31 March 2006 which represented more than 25 *per cent* of the total revenue assessed. As on 31 March 2006 the total consumers in PVVNL and MVVNL were 24.98 lakh and 22.12 lakh respectively.

Apart from the above, overall performance in respect of all the categories of consumers with reference to outstanding arrear, non-disconnection of supply

[*] 1. EDD –II Meerut 2. EUDD –II Meerut 3.. EUDD –III Meerut 4.. EUDD –II Ghaziabad 5. EUDD –III Ghaziabad 6. EUDD –II Noida 7. EUDD –II Moradabad 8.EDD Gajraula 9. EDD –II Saharanpur 10. EDD Baraut 11. .EUDD – I Muzzafarnagar 12. EDD-I Bulandshahar.(25% of the total revenue).

[**] 1. EUDD Indira Nagar, 2.. EUDD Chowk 3.. EDD-I Raebareli 4. EDD-I Sitapur 5. EDD Barabanki 6. EDD Sultanpur 7. EDD –I Faizabad. 8. EUTD – III Lucknow .(25% of the total revenue).

of defaulting consumers and delay in finalisation of permanent disconnection of supply of consumers were also examined.

Audit Objectives

2.2.3 The audit objectives were to ascertain whether:

- billing operations were carried out efficiently and as per tariff provisions;
- the collection of revenue was effective and prompt;
- accountal of revenue collected was accurate and the same was remitted into the bank promptly;
- effective efforts were made to realise/reduce the revenue arrears; and
- internal control system was efficient and effective.

Audit Criteria

2.2.4 The audit criteria adopted for assessing the achievement of the audit objectives were:

- billing schedule, tariff, distribution code and commercial revenue manuals issued by UPERC/UPPCL;
- directives, rules and regulations framed by UPERC/UPPCL/ distribution Companies regarding billing and collection of revenue of all categories of consumers; and
- directives, instructions issued by the Government/UPERC/UPPCL from time to time for taking action against the defaulting consumers.

Audit Methodology

2.2.5 The following mix of audit methodologies was adopted for achieving the audit objectives of the performance review:

- study of Regulations/Orders/Distribution Codes issued by UPERC and Commercial and Revenue Manual/Orders of UPPCL as adopted by both the Companies and relevant provisions of the Electricity Act, 2003;
- examination of annual reports, agenda and minutes of BODs meetings, performance reports of the Companies;
- scrutiny of agreements executed with consumers, records relating to meter readings, sealing certificates, billing files, correspondence files along with ledger, revenue collection statements and other reports;
- analysis of targets and achievements of revenue and effectiveness in realisation of revenue; and
- issue of audit queries and interaction with the Management.

Audit Findings

2.2.6 Audit findings as a result of the Performance Review on Efficiency in Billing and Collection of Revenue in PVVNL and MVVNL were reported to the respective Managements/ Government in June 2007 and were discussed in the meeting of Audit Review Committee on Public Sector Enterprises (ARCPSE) held on 30 August 2007. The MDs of both the Companies attended the meeting. The replies of the Managements and views expressed by the members present in the meeting have been taken into consideration while finalising the review. Audit findings are discussed in the succeeding paragraphs:

Billing Operations

PVVNL and MVVNL could not recover the cost of energy from consumers resulting in accumulation of deficit of Rs.3902.21 crore and 1458.69 crore respectively during four years up to March 2007.

2.2.7 As per procedure prescribed in the Commercial and Revenue Manual, the Companies are required to take the reading of energy consumption of each consumer at the end of the notified billing cycle. After obtaining the meter readings, the Companies issue bill to the consumers for consumption of energy recorded in the meters installed at their premises. Billing of domestic, commercial and small and medium power consumers were computerised, while in other categories of consumers* the billing was done manually. Billing of all the consumers were being done at division level. Domestic consumers was being billed bi-monthly (except LESA, where it was being done monthly), while other consumers were billed monthly.

The efficiency in billing of the energy lies in distribution/sale of maximum energy by the Companies to its consumers by minimising the distribution losses and realise the revenue therefrom.

The position of energy required, purchased, sold and the distribution losses of PVVNL and MVVNL during the years 2003-04 (12 August 2003 to 31 March 2004) to 2006-07 are shown in **Annexure-15**. The quantum of energy purchased by PVVNL and MVVNL during 2006-07 was 15086.010 MU and 7940.040 MU. The value of energy purchased in respect of MVVNL was Rs.1857.97 crore (value in respect of PVVNL was not available). PVVNL and MVVNL sold energy of 11053.970 MU (73.27 *per cent*) and 6258.69 MU (78.82 *per cent*) valuing Rs.3060.02 crore and Rs.1494.05 crore and realised Rs.2852.24 crore and Rs.1302.02 crore respectively. The outstanding liability on purchase of power at the end of 31 March 2006 was Rs.5393.69 crore and Rs.3050.43 crore in PVVNL and MVVNL respectively. It would be seen from Annexure that both the Companies could not recover the cost of energy from the consumers. As a result losses of the Companies accumulated to Rs.3902.21 crore in PVVNL and Rs.1458.69 crore in MVVNL at the end of March 2007.

The Management of PVVNL stated (August 2007) that the shortfall in recovery was attributable to fixed tariff of PTWs and rural unmetered connections, which was on lower side. The reply is not tenable as in tariff fixation the losses due to lower rates in one category were cross subsidised by the higher rates in other categories.

The main reasons for deficit in both the Companies as analysed by Audit were short billing of the energy procured affecting the billing efficiency, billing on provisional basis instead of recorded consumption, inaccurate meters leading to short assessment, incorrect application of tariff, non/short levy of low power factor surcharge and inadequate efforts to check the theft of electricity *etc*. as discussed in the succeeding paragraphs**:**

* Large and heavy power, street light, public water works & State Tube well.

Adhoc billing

2.2.8 As per provisions of Uttar Pradesh Electricity Supply Code (Code) 2002 and 2005, the billing of each consumer should be done in time, based on meter readings and no consumer should be left unbilled. Further, clauses 5.6 (c) (ii) and 5.7 (c) of the Code, 2005 provides that in case the meter is found defective it should be replaced within 15 days. As on 31 March 2006, there were 24.98 lakh and 22.12 lakh consumers in PVVNL and MVVNL respectively.

In MVVNL, out of 22.12 lakh consumers, 1.28 lakh (5.79 *per cent*) unmetered consumers, 0.58 lakh (2.62 *per cent*) metered consumers were not billed and 3.28 lakh (14.83 *per cent*) metered consumers were billed on adhoc basis. Therefore, the billing was deficient to this extent.

In PVVNL, it was noticed in five[1] divisions that out of 1.25 lakh metered consumers 0.26 lakh consumers were billed on adhoc basis. Further, in three divisions[2] 2,172 meters installed at the premises of consumers were lying defective at the end of February 2007. These meters were not replaced within the prescribed time limit of 15 days and had been lying defective for the last 1 to 95 months. Due to non- replacement of defective meters within the prescribed time, the consumers could not be billed for actual consumption of energy and were billed on provisional basis. Thus, in respect of 5.4 lakh consumers, these Companies had not been able to stop the adhoc billing rendering the billing operation inefficient.

The Management stated (August 2007) that efforts were being made to replace the defective meters at the earliest. The fact remains that defective meters were awaiting replacement for a period of 1 to 95 months and all out efforts need to be made to replace them.

Non-ensuring the accuracy of meters

2.2.9 Code[3] 2005 provides that the licensee shall have the right to test the meter and in case the meter is found defective, the meter shall be replaced and bills for the defective period shall be raised on the basis of average consumption of previous three billing cycles, prior to the month in which the defect has been noticed. Further, Rate Schedule of December 2004 provides that in case the consumption of past three billing cycles prior to the date when meter became defective is either not available or partially available, the consumption of three billing cycles subsequent to the installation of repaired/replaced meter shall be taken for estimating the consumption.

Due to non-ensuring the accuracy of meters of consumers, the Companies suffered loss of revenue of Rs.1.30 crore.

Due to non-ensuring the accuracy of the meter of the consumers, PVVNL and MVVNL under-billed the consumers to the extent of Rs.1.30 crore as discussed below:

- In respect of PVVNL, it was noticed that in EUDD-III, Ghaziabad (Division), Sunita Trading Corporation was having contracted load of 3200 KVA and its electricity consumption ranged between 7.77 to 11.39 lakh KVAh (April 2005 to September 2005). The consumption started declining (October 2005) and ranged between 5.02 lakh to 6.09 lakh KVAh (October 2005 to January 2006). Despite the Division being aware about the fact that the consumer was heavy industrial user,

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[1] EDD I, Bulandshahar, EDD, Baraut, EDD II, Saharanpur, EDD II, Moradabad and EDD, Gajraula.
[2] EDD, Baraut, EDD-II, Meerut, EUDD-I, Muzaffarnagar.
[3] Para 5.6 and 5.7 of Supply Code, 2005.

it neither analysed the reasons for low consumption nor checked the accuracy of the meter, though the load survey report (27 November to 27 December 2005) indicated regular tampering in the meter of the consumer.

In this connection the division:

- did not protect its commercial interest by not taking cognizance of the fluctuations in the consumption;
- did not ascertain the accuracy of meters; and
- also overlooked the load survey report which indicated that tempering in the meter was done during 27 November to 27 December 2005.

Consequently the division under-billed the consumer for 21,81,565 KVAh valuing Rs.73.08 lakh (at the rate of Rs.3.35 per KVAh) during the period October 2005 to January 2006 in comparison to average consumption of previous three months (July to September 2005).

- The EE, EUDD, Indira Nagar, Lucknow of MVVNL, persistently pointed out (January to April 2005) to the Electricity Urban Test Division (EUTD) –II, Lucknow that the meter installed at Hindustan Aeronautics Limited (HAL) (contracted load of 5000 KVA at 11KV) was recording lower consumption. Despite the fact that the Division was aware that the consumer was a heavy industrial user, it did not ascertain the accuracy of the meter. Subsequently, the EE, EUTD checked (June 2006) the metering and reported mismatch in the phases of incoming 11 KV cable to transformer. Considering 11 February 2006 (the date on which 11 KV cable was replaced by the division) as the commencement of defect, the Division revised the bills from 11 February 2006 to 14 June 2006 on the basis of average consumption of corresponding period of previous year (January to May 2005), instead of consumption of subsequent billing period of three months (July to September 2006). This was in contravention of the Code, 2005 and resulted in short assessment of Rs.56.98 lakh.

The Management stated (August 2007) that the revised bill was raised; recovery of which was awaited (October 2007). In such cases, the Management needs to take prompt action whenever fault is noticed so that revenue is correctly assessed.

Incorrect Application of Tariff

Incorrect application of tariff and non-issue of bills resulted in non-realisation of revenue of Rs.5.60 crore.

2.2.10 As per tariff applicable to LMV-3 consumers (public lamps) effective from 1 September 2003, billing of un-metered street light consumers was to be done at the rate of Rs.775 per KW per month.

- It was noticed that six consumers (total load: 179 KW) of EDD, Gola (MVVNL) were getting unmetered supply. As such the consumers were required to be billed for fixed charges at the rate of Rs.775 *per* KW *per* month but the Division billed the consumers for assessed units in contravention of tariff. Thus negligence on the part of the Management to apply the tariff correctly resulted in undercharge of revenue of Rs.24.22 lakh (to be billed: Rs.46.61 lakh – billed: Rs.22.39 lakh) during January 2004 to April 2006.

The Management stated (August 2007) that revised bills had been raised; but the recovery is awaited (October 2007).

Similarly, Rate Schedule LMV-8 applicable to all State Tubewells (STW) including World Bank Tubewells (WBT) effective from 1 December 2004 provides that in case of unmetered supply, the consumers shall be billed at the rate of Rs.500 per BHP per month

- It was noticed in respect of Electricity Distribution Division I, Badaun of MVVNL that EE, Tubewell Division I, Badaun (consumer) having total contracted load of 5977 BHP was being billed under un-metered category of Schedule LMV-8 at the rate of Rs.400 per BHP per month instead of Rs.500 per BHP per month (January 2004 to December 2005) and bills were not issued to the consumer (January to December 2006). This resulted in loss of revenue of Rs.4.83 crore due to undercharge of revenue aggregating Rs.85.61 lakh (energy charges of Rs.77.83 lakh and shunt capacitor surcharge of Rs.7.78 lakh) for total load of 77825 BHP (December 2004 to December 2005) and loss of revenue of Rs.3.97 crore (energy charges of Rs.3.61 crore *plus* shunt capacitor surcharge of Rs.36.12 lakh) due to non-raising of bills (January to December 2006).

- Scrutiny of records of Electricity Distribution Division-I, Bareilly of MVVNL revealed that 470 STWs/WBTs[1] having connected load of 6505 BHP in favour of the EE, Tube-well division I&II, Bareilly (consumer) were getting supply of energy for Tubewells without installation of shunt capacitors of appropriate ratings and being billed for energy charge at the rate of Rs.400 per BHP per month instead of revised rate of Rs.500 per BHP per month (December 2004 to March 2006). The consumer was being correctly billed after March 2006. Thus incorrect billing of energy charges resulted in under charge of revenue of Rs.53.10 lakh at the differential rate of Rs.100 per BHP per month including 10 *per cent* shunt capacitor surcharge thereon from the consumers from December 2004 to March 2006.

On being pointed out by Audit, both the divisions raised the bills (January 2007) but the recovery of the same is awaited (October 2007).

Under Assessment of revenue

2.2.11 According to clause 7 of Rate Schedule HV-2 effective from 1 December 2004 read with clause 5.21 of Code 2002, in case the meter of a consumer is found defective, the consumer shall be billed for the period on the basis of average consumption of previous three billing cycles prior to the date of meter becoming defective.

In PVVNL it was noticed that meters installed at the premises of the three HV-2 consumers under EDD-II, Saharanpur became defective from time to time. But the divisions billed the consumers either incorrectly or billed for lesser

[1] 1. Tube-well divisionI, Bareilly-76 WBTs (Load 970 BHP) and 384 STWs (Load 5382.50)
2. Tube-well divisionII, Bareilly-10 STWs (Load 152.50 BHP)

period. This resulted in loss of revenue to the extent of Rs.16.61 lakh as detailed in **Annexure-16**.

On being pointed out by Audit, the Management raised the bills (April 2007). The recovery is awaited (October 2007).

Non-levy of compounding charges for theft of electricity

2.2.12 As per Section 152 (1) and (2) of the Electricity Act, 2003, in case of theft of electricity, the consumer is punishable under the Code of Criminal Procedure, 1973. The offender may, however, pay for compounding of offence at the specified rates applicable on various categories of consumers in lieu of criminal proceedings.

It was noticed that Electricity Distribution Division, Baghpat of PVVNL, during raid of the premises of Goga Foods Ltd. (HV-2 consumer having a contracted load of 200 KV) on 1 June 2006, it was found that the consumer was indulging in theft of energy through by-passing the meter. The consumer, refused (June 2006) to pay compounding charges. In spite of refusal by the consumer to pay compounding charges, the Division, neither lodged FIR with the police against the consumer nor levied compounding charges amounting to Rs.40 lakh in lieu of initiating criminal proceedings.

Thus, the Company did not protect its commercial interest and instead extended undue favour to the consumer by not initiating criminal proceedings or realising compounding charges of Rs.40 lakh.

Short levy of minimum charges

2.2.13 Rate Schedule HV-4 effective form 1 September 2003 and 1 December 2004 applicable to medium and large pump canal, having load of more than 100 BHP (75 KW) provides for assessment for demand and energy charges subject to minimum charges* at the rates provided in 'Rate of charge' for full contracted load.

It was noticed that no meter was installed at the premises of pump canal of Lift Irrigation Division, Faizabad (consumer) falling under EDD Balrampur, (MVVNL). The Division billed the consumer for minimum charges of 1875 KVA (75 *per cent* of the contracted load) instead of for the contracted load of 2500 KVA during September 2003 to July 2006. This resulted in undercharge of minimum charges to the extent of Rs.73.74 lakh during the above period. On being pointed out by Audit, Company raised (August 2007) the bills; the recovery of which is awaited (October 2007).

The fact remains that minimum charges were undercharged over a period of almost three years and the Company did not have any internal mechanism by which the wrong billing could be brought to the knowledge of the Management.

Non-levy of penal charges for exceeding contracted demand

2.2.14 Clause 9 (ii) of Rate Schedule HV-4 applicable to medium and large pumped canals having load of more than 100 BHP (75 KW), effective from 1 December 2004 provides that if the maximum demand in any month exceeds the contracted demand, such excess demand shall be levied at twice the normal rate.

* *w.e.f* 1 September 2003 to 30 November 2004 at the rate of Rs.220 *per* KVA and w.e.f 1 December 2004 at the rate of Rs.425 *per* KVA.

In the Electricity Distribution Division II, Rae-Bareli of MVVNL, it was noticed that energy to 33 KV Head side Pump Canal, Dalmau, having contracted demand of 4000 KVA was being supplied at 33 KV voltage. The actual maximum demand of the Pump Canal exceeded the contracted demand which ranged between 5700 KVA to 5740 KVA during the period August to December 2006 (except November 2006). The division neither charged the consumers for the excess demand drawn over the contracted demand aggregating to 6050 KVA in these four months at the rate of Rs.340 (twice the normal rate) per KVA nor took any action including disconnection of supply to restrain the consumer from exceeding his contracted demand. Non-levy of penal charges for excess demand resulted in non-realisation of revenue amounting to Rs.20.57 lakh.

On being pointed out by Audit, the Division issued (January 2007) the bill. The recovery is awaited (October 2007).

Undue benefit of protective load to the consumer

2.2.15 As per Rate Schedule effective form 1 December 2004 consumer getting supply on independent feeder at 11 KV and above emanating from grid sub-station (132 KV and above) may opt for facility of protective load to avail supply during the period of scheduled rostering imposed by the licensee, except under emergency rostering. An additional charge at the rate of 100 *per cent* of bare demand charges fixed per month was leviable on the contracted protective load each month.

In MVVNL, Uttar Pradesh Sahakari Katai Mill, Baheri (consumer) having contracted load of 1700 KVA was given the facility to avail uninterrupted power supply and was exempted from scheduled rostering. During the period December 2005 to May 2006, the Division neither executed an agreement with the consumer for protective load nor charged for protective load of 1700 KVA. This resulted in loss of revenue amounting to Rs.18.36 lakh during the above period.

On being pointed out by Audit, the Company raised (August 2007) the bill; the recovery is awaited (October 2007).

Irregular off-season benefit to the consumers

2.2.16 As per Rate Schedule effective from 1 December 2004, the benefit of seasonal industries can be given only to the consumers who restrict their demand of power to 30 *per cent* of the contracted demand during each month for off-season period. If the demand of the consumer exceeds 30 *per cent* of the contracted load in any month during off-season period, then the benefit of seasonal industries during that season is not to be given and consumer is to be charged as per normal tariff.

In MVVNL, ten consumers having trivector meters (Cold storage) of HV-2 category with contracted load of 97 KVA to 132 KVA under EDD II Badaun were extended the benefit for off season discount of Rs.14.17 lakh (November 2004 to February 2005) without ascertaining the maximum demand during off season period. In ARCPSE meeting, Management assured (August 2007) to examine the case and to issue the bills.

Irregular allowance for load factor rebate

2.2.17 As per Rate Schedules*, if consumption of energy exceeded certain defined KVAh per KVA of maximum recorded demand (contracted demand *w.e.f* 1 September 2003 to 30 November 2004), a graded rebate is provided to the concerned consumer on the energy charges for such excess consumption on monthly basis. Further, the consumers with arrears were not to be given this rebate. In case the consumer had obtained an order of stay from a Court or any other statutory authority, the amount of load factor rebate for which the consumer is eligible in respect of the amount of bill shall be calculated but the same shall accrue to the consumer. The actual benefit thereof, however, is to be given to the consumer in his monthly bill when the case relating to the dispute regarding arrear is finally decided by the competent court/ statutory authority.

It was noticed that against a consumer (Uttar Pradesh State Spinning Mill No.1 and No.2) in EDD Barabanki of MVVNL arrear amounting Rs.7.09 lakh (late payment surcharge) relating to delayed payment of independent feeder surcharge for the period December 2003 to August 2005 was outstanding till September 2006. In contravention of the above provisions, the Division allowed inadmissible rebate of Rs.20.32 lakh during September 2005 to August 2006. In ARCPSE meeting Management accepted (August 2007) the fact and assured to raise the bill.

Failure in management of capacitors banks at the consumers end

2.2.18 UPERC made obligatory (December 2004) for consumers of all categories to maintain average power factor of 0.85. In this respect, the following provisions were made:

- In order to measure the power factor, no new connection of 25 KW and above for light, fan and power and of 25 BHP and above for motive power loads is to be given without installation of static Tri-vector meter (TVM).
- No new connection of motive power load above three BHP is to be given without installation of shunt capacitor of appropriate ratings.
- In case where static TVMs are installed, a surcharge of five *per cent* and 10 *per cent* is leviable if the power factor falls below 0.85 and 0.80 respectively.
- If the power factor falls below 0.70, the supply is to be disconnected temporarily till the corrective measures are taken by the consumer.
- In the case of consumers without static TVM, if shunt capacitors of appropriate ratings are found missing or in-operational, a surcharge of 10 *per cent* of the amount of the bill is to be levied.

Non-short levy of shunt capacitor and low power factor surcharge by PVVNL and MVVNL resulted in loss of revenue of Rs.4.82 crore.

Non/short levy of shunt capacitor surcharge and low power factor surcharge in PVVNL/MVVNL resulted in loss of revenue of Rs.4.82 crore as discussed below:

- In two** divisions of PVVNL and MVVNL, power factor of 30 consumers of different categories ranged below the prescribed limit (December 2004 to January 2007) but the divisions did not levy low

* Clause 8 (i) and 10 (ii) of the Rate Schedules HV-2 effective from 1 September 2003 and 1 December 2004.
** EUDD II, Ghaziabad and EUDD, Chowk, Lucknow.

power factor surcharge amounting to Rs.74.39 lakh as detailed in **Annexure-17.** These divisions also failed to disconnect the supply of the consumers whose power factor was below 0.70. The Management assured (August 2007) that the bills would be raised and the amount would be recovered.

- In test check of four[1] divisions of PVVNL and nine[2] divisions of MVVNL, it was noticed that neither TVMs nor shunt capacitors were installed at the consumers' installations but these divisions had either not levied or short levied shunt capacitor surcharge of Rs.4.08 crore as detailed in **Annexures-18 and 19**. The Management assured (August 2007) to raise the bills and recover the amount from the concerned consumers.

Loss due to inaction against consumers running with low power factor

2.2.19 As per tariff schedule, in case a consumer is billed on KWh basis and its power factor falls below 0.90, the consumer pays for less energy than the energy actually supplied to him. To compensate this loss the tariff makes it obligatory on the part of the consumer to maintain an average power factor of more than 0.85. It further empowers the licensee to disconnect the supply if the power factor falls below 0.70 to avoid energy loss.

In EUDD II, Noida (10 consumers[3]), and EDD-II Meerut (one consumer[4]) of PVVNL it was noticed that power factor of 11 consumers ranged continuously between 0.23 to 0.70 (December 2004 to March 2007). The Divisions, although levied the low power factor surcharge at the prescribed rate but did not issue notices to the consumers for improving the power factor nor disconnected the supply. Thus, due to continuance of supply at low power factor maintained by the consumers, the Company suffered energy loss of 9, 88,596 KWh (KVAh recorded x 0.85 *minus* KWh billed) valuing Rs.20.88 lakh during the above period.

The Management stated (August 2007) that the power factor of five consumers had improved now and remaining consumers were being pursued for improvement in power factor.

Non-levy of late payment surcharge

2.2.20 Tariff Order-2004-05 issued (November 2004) by UPERC provides levy of Late Payment Surcharge (LPS) at the rate of 1.25 *per cent* for first three months and at the rate of 1.5 *per cent* thereafter on the amount of bill remaining unpaid. The above clause was, however, not incorporated in the Rate Schedule LMV-3 (effective from 1 December 2004) circulated (November 2004) by UPPCL. The UPPCL, however, in its notification stated (March 2005) that in case of any discrepancy found in the Rate Schedule and Tariff Order issued by UPERC, the provisions of the Tariff Order issued by the UPERC shall prevail.

It was observed in EUDD-II, Meerut of PVVNL that due to non-incorporation of the above clause in the Rate Schedule circulated by UPPCL, late payment

[1] EUDD II, Meerut, EDD I, Bulandshahar, EDD, Baraut and EDD, Khurja.
[2] EUDD II. Bareilly, EDD II, Badaun, EDD I, Bareilly, EDD I and II, Faizabad, EDD, Akabarpur, EDD, Balarampur, EDD, Barabanki and EUDD, Chowk, Lucknow.
[3] Government Employees Welfare Housing Society, IDDSAS, IISAS, Central Government Employees Welfare Housing Society, Air Force Naval Housing Society, Government Public S E Corporate, FDD Sahkari Avas Samiti, Shiva SAS, President-Ram Vihar Colony, Public Sector Co-Housing Society.
[4] Project Manager, Cropping System.

surcharge of Rs.65.74 lakh could not be levied on LMV-3 consumers by EUDD II Meerut, for late payment/non payment of bills during December 2004 to October 2006.

The Management stated (August 2007) that since the bills for LMV-3 (street light) consumers were being got verified by the concerned Municipal Authorities on monthly basis and sent to UPPCL for receiving centralised payment as such LPS was not being charged by the Division. Reply is not relevant, as the divisions did not levy LPS as the same was not included in the Rate Schedule for LMV-3, so far as reason cited by the Management for non-levy of LPS is concerned, it was the lacuna in the system which needed to be removed so that LPS was levied wherever payments were received late.

Revision of bills

2.2.21 As per para 4.36 of Code 2002, electricity supply is to be disconnected temporarily if payment of energy bill was not made by the consumer within seven days from the due date of payment. Further, if consumer fails to pay the energy bills continuously for six months, the supply is to be disconnected permanently (PD) and bills finalised accordingly.

For finalisation of PD, the date of temporary disconnection was a key factor and if not available, was to be decided by the committee comprising of Assistant Engineer (AE)/Junior Engineer (JE) of the area in case of LMV-1, LMV-2 and LMV-5 consumers and by the committee of EE/AE in case of LMV-6 with the approval of the concerned EE and their decision would be final as per provision of Para 1.5 of above Code. The above para further provides that the committee should obtain information from the neighbours to decide the date of temporary disconnections, test report of meter lab showing status of meter and date of removal of cable for finalisation of PD in each case.

A test check of the records of four[*] divisions of MVVNL revealed that against 90 consumers of different categories, Rs.1.10 crore was outstanding for recovery. The Company while finalising PDs during 2005-06 and 2006-07, however, revised these bills to Rs.23.71 lakh and waived off Rs.86.21 lakh as fictitious arrear without completion of the above formalities, which was irregular and resulted in loss of Rs.86.21 lakh.

Under charge of Initial Security

2.2.22 As per order issued (7 March 1994) by UPPCL the initial security to be deposited by various consumers for getting electricity connection is as under:

Category of Consumers	Rate
Private Tubewell	Rs.200 per BHP
Industrial consumers	Rs.300 per HP or twice the Minimum monthly charges
Commercial	Rs.300 per KW
Public water works	Rs.1000 per KW

Source: Rate schedules and notifications.

It was noticed that initial security amounting to Rs.29.58 lakh from 2313 consumers of MVVNL (9 Industrial and 2263 Private Tubewells) in EDD Barabanki and Rs.4.42 lakh from 41 consumers (35 Industrial, one Commercial and five Water works in EDD –I, Sitapur) were under charged due to incorrect application of rates.

[*] EUDDs Aishbagh, Hussainganj of Lucknow, EDD- I Sitapur and EDD – I Raebareli.

Non-levy of Additional Security

2.2.23 As per para 4.20 of the Code 2005, a security deposit to cover the estimated power consumption for two months was to be determined at the time of release of connections and to be reviewed every year. After review, the Company was to give notice to the concerned consumer for additional deposit if the security deposit fell short of the estimated power consumption bills for two months based on the average monthly consumption of the preceding financial year. The additional security deposit was to be paid by the consumer within 15 days of the notice. In case the consumer fails to deposit the additional security, the supply of the defaulting consumers was to be disconnected.

A test check of records of the distribution divisions (EDD-I Bareilly and EDD-I Faizabad) of MVVNL revealed that the additional security to be recovered from 16 consumers amounting to Rs.1.42 crore was not assessed in compliance of the above codal provision.

Non-assessment/non-realisation of the additional security resulted in avoidable payment of interest liability of Rs.20.23 lakh, as the Company is running on borrowed funds and paying interest at the average rate of 14.25 *per cent per annum*.

Non-levy of electricity duty

2.2.24 As per Clause 3.9 of the Code, 2005, electricity duty at the rate of Rs.0.03 per unit and Rs.0.09 per unit is to be levied on consumption of electricity by various departments/offices of the State Government and consumers other than Government consumers respectively having metered supply. In case of unmetered supply, the electricity duty shall be levied at the rate of 20 *per cent* of the fixed tariff rate.

It was noticed that electricity duty amounting to Rs.3.60 lakh and Rs.11.27 lakh for the energy supplied to residential colonies of PAC and Cantonement was not/short levied by EUDD-II Moradabad and EUDD-III Merrut of PVVNL. Further, EDD Bahariach of MVVNL also did not levy electricity duty of Rs.34.88 lakh. This resulted in under charge of electricity duty of Rs.49.75 lakh during August 2003 to January 2007.

On being pointed out, the Management (PVVNL) raised (August 2007) the bills; the recovery of which is awaited (October 2007).

Collection of Revenue

2.2.25 As revenue from the sale of energy is the main source of income of Discoms, prompt collection of revenue assumes great importance. According to the procedure laid down in Code 2002 and 2005, the consumers may make payment of the bills by cash, cheques or by demand draft. **Annexure-20** indicates balances outstanding at the beginning of the year, revenue assessed *vis-à-vis* revenue collected and amount waived off by PVVNL and MVVNL during 2003-04 (from 12 August 2003) to 2006-07.

In the case of PVVNL and MVVNL arrears amounting to Rs.1906.35 crore and Rs.1152.21 crore at the end of March 2005 increased to Rs.2242.91 crore (117.65 *per cent*) and Rs.1535.81 crore (133.29 *per cent*) at the end of March 2007 respectively. Realisation targets with reference to total arrears ranged between 52.39 and 55.99 *per cent* in PVVNL during 2004-05 to 2006-07 and

53.05 to 60.66 *per cent* in MVVNL during the three years up to 31 January 2007, which indicated poor recovery of old arrears.

It was further noticed that the main reasons for low collection of revenue and huge arrears were inadequate arrangement for distribution of bills, non-disconnection of supply of defaulting consumers with heavy arrears, delayed/non-issue of Recovery Certificates (RCs) and non-persuance of issued RCs.

Inadequate arrangements for distribution of bills

2.2.26 For prompt realisation of revenue, proper and timely distribution of electricity bills is essential. It was noticed that in all the zones (except LESA Zone) of MVVNL, bills of domestic, commercial and small and medium power consumers were got generated by Computerised Billing Service Centre (CBSC) through private contractors (Computronics India and Sai Computers) at a cost of Rs.96.38 lakh for the period of May 2005 to November 2006. These bills were sent to divisions concerned located in 20 districts for distribution to consumers. Test check of records of four Distribution Divisions[*] revealed that electricity bills were distributed through private contractors at different intervals and the system for distribution of these bills in rural areas was ineffective. Divisions concerned were not monitoring distribution of bills. Thus, lack of proper system of distribution of bills resulted in non-realisation of revenue and accumulation of heavy arrears. In the ARCPSE meeting, the Management accepted (August 2007) that they were experiencing difficulty in distribution of electricity bills and stated that even postal authorities were not distributing electricity bills properly specially in rural areas.

Collection of Revenue through Contractor (e-Suvidha)

2.2.27 An MOU was signed (July 2006) between MVVNL and e-Suvidha (a society constituted under Department of Information Technology and Electronics, Government of Uttar Pradesh as a Government society under the Societies Registration Act, 1860) to hand over the On Line Billing (OLB) System of LESA to e-Suvidha. Consequently, OLB was handed over to e-Suvidha on 8 August 2006. As per agreement, e-Suvidha was required to maintain the existing hardware and networking equipment of OLB and to ensure its effective working; to plan for upgradation/ migration to the new billing application with new hardware at LESA data centre and to deposit a single consolidated banker’s cheque for cash collected along with cheques or demand drafts received in the name of the division concerned, in the division’s account in the bank on the next working day.

The MOU with 'e-Suvidha' was detrimental to the interest of MVVNL as would be evident from the following facts:

- The status of the person who signed the MOU as coordinator on behalf of 'e-Suvidha' was not disclosed;
- e-Suvidha did not fulfill the provisions of agreement;
- OLB system often remained out of order (August 2006 to January 2007) causing serious problems in revenue collection;

[*] EDD-I Raebareli, EDD Barabanki, EDD Sultanpur and EDD-I Sitapur.

- In respect of EUDD Indira Nagar and Chowk, Lucknow e-Suvidha delayed transfer of cash collected into account of these divisions in ICICI bank by three to eight days in violation of terms of agreement;
- The CE (LESA) ordered (March 2007) that all cheques of revenue should be drawn by the consumers in the name of e-Suvidha instead of in the name of the division concerned. The order further provided that e-Suvidha would transfer this amount on fourth day in the division's bank account;

Thus, undue favour was being extended to e-Suvidha by getting the cheques in the name of e-Suvidha and allowing e-Suvidha to keep the collected revenue of approximately Rs.6.84 crore (collections being at the rate of Rs.1.71 crore approximately per day) for four days from the date of collection. The Management stated (September 2007) that work was given to e-Suvidha at the behest of the State Government. In ARCPSE meeting, the Management agreed (August 2007) to get the cheques drawn in the name of concerned divisions instead of e-Suvidha.

Loss of interest due to delay in transfer of fund

2.2.28 UPPCL, instructed (December 2005) all the field units to remit the amount of System Loading Charges, Service Connection Charges and Deposit Works to the respective headquarters of the Companies. This amount was to be remitted on seventh and 20th of each month.

During the audit of EDD-I Badaun (Division), it was noticed (January 2007) that the division did not transfer the amount so received to headquarters of the Company in accordance with the above instructions. As a result the minimum balance retained in the Bank by the division ranged from Rs.5.58 lakh (August 2005) to Rs.1.62 crore (December 2006). This resulted in loss of interest amounting to Rs.17.92 lakh worked out at the rate of 14.25 *per cent* per *annum* on the minimum monthly balance retained in the Bank during the above period.

Non-disconnection of supply of consumers with heavy arrears

2.2.29 As per Code[1] 2002 and 2005, in case the electricity dues are not deposited by the consumer within due date indicated in the bill, the supply shall be disconnected temporarily. It was noticed (March 2007) that, in nine[2] divisions of PVVNL, 411 consumers having arrears of more than Rupees one lakh each, did not make payment of electricity dues for 6 to 253 months but their supply was not disconnected as per the above provisions. Non-disconnection of supply of 411 defaulting consumers, resulted in accumulation of arrears to Rs.10.78 crore (February 2007).

In MVVNL, three[3] cases relating to failure in timely disconnection of supply of consumers were noticed, resulting in accumulation of arrears of Rs.4.10 crore. The arrears in such cases have accumulated due to utter inaction on the part of the Management in taking action as per codal provisions for recovery of dues over a period of 6 to 253 months.

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[1] Clause 4.66.1 and 4.36 of the U.P. Electricity Supply Code 2002 and 2005.

[2] EDD Gajraula, EUDD-II and III Meerut, EUDD-III Ghaziabad, EUDD-II Noida, EDD-II Saharanpur, EDD Baraut EDD-II Meerut and EDD-I, Muzaffarnagar.

[3] The Indian Turpentine and Rosin Company Limited, EUDD_II, Bareilly, U.P. Sahkari Katai Mill, Baheri, EDD-I, Bareilly and Indian Telephone Industry, EDD-I, Rae-Bareli.

Delay in Permanent Disconnection (PD), its finalisation and issue of Recovery Certificates (RC)

2.2.30 As per Clause 4.38 of Code 2005, where the supply of a consumer was temporarily disconnected it should be followed by permanent disconnection, if the dues are not deposited within six months and bills finalised accordingly. If there was any arrear after adjusting security deposit *etc*., a notice intimating the amount due for recovery was to be issued to the consumer. In case of failure of the consumer to deposit the amount of notice, recovery certificate under Section 5 of the UP Government Electrical Undertakings (Dues Recovery) Act, 1958 is to be issued for recovery of arrears.

Failure/delay in finalisation of PD caused non-realisation of Rs.9.43 crore in PVVNL as discussed below:

Failure to finalise Permanent Disconnection cases

2.2.31 In eight[*] divisions of PVVNL, as shown in **Annexure-21,** 254 consumers having arrear of more than Rupees one lakh did not deposit their dues for 7 to 150 months. The supply of these consumers was disconnected temporarily and billing was stopped. The Company neither disconnected supply permanently nor finalised the accounts of these consumers. This resulted in non-realisation of arrears amounting to Rs.8.43 crore (October 2007).

Inaction on the part of Management to finalise the permanent disconnection cases results in accumulation of arrears besides theft of energy by the defaulting consumers can not be ruled out as neither meter nor cable is removed in cases where electricity supply is temporarily disconnected.

Delay/non-issue of RC

2.2.32 Supply of 231 consumers in six divisions[**] of PVVNL, having aggregate arrears of Rupees one crore was disconnected permanently after a lapse of 1 to 179 months (January 1992 to February 2007) after the temporary disconnection. The accounts of the consumers were finalised after a lapse of 1 to 89 months after permanent disconnection. Consequently, the RCs could be issued after a delay of 3 to 138 months (June 1995 to December 2006) from the date of temporary disconnection (after allowing six months time for finalisation of PD). Thus, due to delay/non issuance of RC, the chances of recovery of the arrear amounting to Rupees one crore are remote.

The Management stated (August 2007) that efforts were being made to finalise the PDs.

Accountal of Revenue

2.2.33 Accountal of revenue realised is of utmost importance as it ensures correct accountal of revenue in the Books of the Companies and in Bank Accounts. For proper control on collection of revenue, its accountal and reconciliation of remittances with the bank, the Company had prescribed procedure for day to day collection of revenue and its deposit into banks on the following working day. Commercial and Revenue Manual of UPPCL provides that Assistant Engineer (AE) and Divisional Accountant, Revenue

[*] EDD, Gajraula, EUDD III, Meerut, EUDD II, Noida, EDD II, Saharanpur, EDD, Baraut, EDD II, Meerut and EUDD I, Muzaffarnagar.

[**] EUDD - I Muzaffarnagar, EUDD – II Nodia, EUDD – III Ghaziabad, EDD – II Saharanpur, EDD – II Merrut and EDD Baraut.

(DAR), posted in Distribution Division shall ensure that revenue realised was collected and accounted for in the books of accounts of the Companies and in bank accounts immediately on collection. In case of non-realisation of cheques within seven days, the consumer is to be assessed for late payment surcharge. For subsequent dishonour of the cheques, in addition to disconnection of supply, facility of further payment of bills through cheques is to be stopped. In this connection, following points were noticed:

Non-preparation of bank reconciliation statements

2.2.34 The DAR posted in the division was to prepare a Bank Reconciliation Statement (BRS) in each month to reconcile the differences between balances as per revenue cash book and bank statement. In eight[1] divisions of PVVNL, BRS had not been prepared and the balances have not been reconciled for the last 2 to 33 months at the end of March 2007. Similarly in six divisions[2] of MVVNL, BRS of receipt account had not been prepared and reconciled for the last 3 to 31 months at the end of March 2007. Delay in preparation of BRS was fraught with the risk of misappropriation, delay in credit of funds in the account of the Companies *etc.*

The Management of PVVNL stated (August 2007) that efforts are being made to update the bank reconciliation.

Un-cashed cheques

2.2.35 In six[3] divisions of MVVNL, cheques worth Rs.2.35 crore deposited (December 2001 to March 2006) in banks were not credited into the accounts of the Company by the concerned banks. The divisions neither had details of consumers, their billing months *etc.* against payment of these cheques nor prepared any bank reconciliation statements for 3 to 31 months. Due to delay beyond six months, cheques became time barred and the proceeds of the same amounting to Rs.2.35 crore could not be realised.

Dishonoured cheques

2.2.36 As per Clause 6.21 of Code 2005, the consumers whose cheques are dishonoured, should be informed immediately so that the payment may be made by them in cash against such dishonoured cheques within seven days.

EDD Sultanpur (MVVNL) deposited (June 2005 to September 2006) cheques worth Rs.9.59 lakh received from the consumers in the bank for collection without accounting the same in its books of account, which were subsequently dishonoured. Apart from the foregoing, in four[4] divisions of MVVNL, 94 cheques worth Rs.36.63 lakh deposited (March 2003 to December 2006) by consumers were dishonoured by banks.

No action was taken against such consumers for levy of late payment surcharge, withdrawal of further facility of payment through cheques, disconnection of supply and imposition of penalty for dishonour of cheques and recovery of the bank charges paid, if any.

Non/delayed preparation of cash book

2.2.37 It was noticed that EDD-I, Sitapur of MVVNL did not record (May 2006 to February 2007) the receipts and payment of cash in the works,

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[1] EUDD - I Muzaffarnagar, EUDD – II Nodia, EUDD – III Ghaziabad, EDD – II Saharanpur, EUDD – II, Merrut, EDD II, Meerut and EUDD II, Moradabad and EDD, Gajraula.

[2] EUDDII Bareilly, EDD II Bareilly, EDD II Badaun, EDDI Raebareli, EUDD Chowk, EDDI Faizabad.

[3] EUDD – II, Bareilly, EDD I, Bareilly, EDD I, Raebareli, EDD, Badaun, EUDD II, Chowk, Lucknow and EDD I, Faizabad.

[4] EDD I, Raebareili, EDD Sitapur, EUDD, Indira Nagar Lucknoe and EUDD, Chowk, Lucknow.

revenue and capital receipt cash books of the Division. On being pointed out the same were recorded belatedly (March 2007) in the cash books. It was further noticed that the cash count certificates were recorded belatedly at the end of each month for the above period even though the cash was not actually counted. Thus, due to non-recording of cash entries in the cash books immediately on its receipt or payment, chances of misappropriation and embezzlement could not be ruled out.

Misappropriation/ embezzlement of money

2.2.38 In MVVNL, Internal Audit pointed out (March 2006) embezzlement of Rs.0.80 lakh, doubtful payment of Rs.1.33 lakh and possibilities of financial irregularities amounting to Rs.8.25 lakh in the MD office. Due to this, the concerned cashier was placed under suspension and an FIR was lodged (March 2006) against him. The cashier moved (3 April 2006) the High Court who ordered (25 May 2006) the Company to expedite enquiry within a period of four months. It was observed that the Company failed to conduct the enquiry to bring out the clear facts of embezzlement and financial mis-appropriation to establish clear-cut responsibility of the employee within the period of four months as per the directions of the High Court. Instead of holding the enquiry for fixing responsibility of the concerned official for recovery of misappropriated/embezzled amount, the MD office, MVVNL started writing a new cash book on the basis of bank statement as on 9 March 2006.

The Management stated (August 2007) that necessary action would be taken in this regard.

Non-return of used revenue receipt books

2.2.39 As per the orders (July 1970) of erstwhile Electricity Board, used revenue receipt books should be returned to the divisional office for record as soon as all its leaflets are used or on transfer of the employee engaged in collection of revenue. The submission of used revenue receipt books are to be watched through a register for posting of details of used and returned books. Immediately on their receipt, the same are to be examined by DAR/AE(R) of the Divisions and kept in safe custody. Register of revenue receipt books is to be closed at the end of each month and balance of revenue receipts books needs to be verified physically.

In test check of three[*] Divisions of PVVNL and eight[**] divisions of MVVNL it was noticed (February 2007) that revenue receipts books were issued without ensuring return of 1218 and 1582 used receipt books respectively (issued during May 2002 to December 2006). Non return of revenue receipt books by the cash collectors for such a long period was irregular besides giving rise to chances of misappropriation/temporary embezzlement of revenue.

Non-encashment of Fixed Deposit Receipts (FDRs)

2.2.40 It was noticed (January 2007) that CESS Division of MVVNL was having Rs.2.13 crore in FDRs (44 numbers), Kisan Vikas Patra (290 numbers) and REC Bonds (107 numbers). The division did not have records to show the period during which these investments were made. Besides, an amount of Rs.1.38 crore had been lying in saving account of various branches of many

[*] EUDD-I, Muzaffarnagar (139), EDD-II, Merut (987), EDD-II, Saharanpur (92)

[**] E.D.D. Barabanki (149), EDDII Badaun (28), EDD I Bareily (878), E.D.D. I Raibareily (70), E.U.D.D. Indira Nagar (60), E.D.D.Sultanpur (89), EDD - I Sitapur (213), EDD -I Faizabad (95)

banks including co-operative Banks. Some of the branches of these banks, had either been closed or merged with other branches. In the absence of details, no action was taken by the Management to realise the FDRs and bonds which would have matured by now (August 2007). Moreover, this amount had not been taken into monthly accounts of the division. The Management stated (August 2007) that the division was taken over by the erstwhile Electricity Board in March 1997 and the Company has yet to acquire its assets and liabilities. As a period of more than 10 years had lapsed, the Company should have pursued the matter for obtaining the details of FDRs so as to get them encashed and use the funds in the operational activities of the Company.

Efforts for Recovery

2.2.41 Clause 6.15 of the Code 2005 provides that the payment dues to the licensee shall be recovered as arrears of land revenue as per provisions of UP Government Electricals Undertakings (Dues Recovery) Act, 1958 (as amended from time to time).

The position of issue of RCs and realisation made thereagainst during 2003-04 to 2006-07 (February 2007) by PVVNL and 2004-05 to 2006-07 (August 2006) by MVVNL is indicated in **Annexure-22.** From the details in the **Annexure-22**, it would be seen that the realisation of revenue through RCs was very poor as only Rs.50.61 crore was realised by PVVNL during 2003-04 to 2006-07 (February 2007) against RCs issued for Rs.440.84 crore and Rs.12.46 crore was realised by MVVNL during 2004-05 to 2006-07 against RCs of Rs.74.12 crore. 71469 RCs for Rs.241.23 crore of PVVNL and 18036 RCs for Rs.42.09 crore of MVVNL were returned by the District Authorities without realisation, due to delay in issue of RCs, incorrect identification and non return of RCs by the management after necessary corrections. Both the Companies did not maintain consumer-wise systematic detail of issue of RCs, return of RCs and realisation made thereagainst**.**

From the **Annexure-22** it would be seen that PVVNL and MVVNL were not reconciling the position of RCs outstanding properly as indicated by the difference between the closing balance of previous year and the opening balance of current year.

The Management (PVVNL) stated (August 2007) that the Divisions had been directed to reconcile the position of RCs and to pursue district authorities for its recovery.

Performance of Raid Teams

Despite having line losses and increase in arrears of revenue, checking of consumer's premises by the raid teams of the Company was negligible.

2.2.42 In order to minimise the cases of pilferage/loss of energy and to save the Company from sustaining heavy financial losses on this account, Section 163 of Electricity Act 2003, provides that the licensee may enter in the premises of a consumer for inspection and testing the apparatus. Vigilance wing of UPPCL, headed by the Officer of the rank of Inspector General of Police at its Headquarters, was entrusted with the work of conducting raids/checking the premises of the consumers with the assistance of AE and other departmental officers of the Discoms concerned. Executive Engineers of the concerned divisions were supposed to prepare work plan to conduct raids by identifying such consumers/ areas where large scale theft was suspected. Due to lack of coordination between the vigilance wing and the concerned divisions, raids did not yield the desired results.

Following is the position of raids conducted during 2005-06 (except for the period April to May 2005 and September to November 2005) and 2006-07 in MVVNL.

(Rs. in lakh)

Sl. No.	Year	Total number of consumers as on 31st March	No. of consumers checked	Assessed amount (Rs.)	Realised amount (Rs.)	Unrealised amount (Rs.)	Percentage of checking to total nos. of consumer
1.	2005-06	2198786	394497	7603.13	5992.35	1609.78 (21.17)	17.94
2.	2006-07	2246012	261349	6946.83	5611.88	1334.95 (19.22)	11.63

Source: Commercial statements.
Note: Figures in bracket indicates percentage of unrealised amount.

Though the percentage of unrealised amount against the amount assessed during the raids decreased from 21.17 in 2005-06 to 19.22 in 2006-07 but, at the same time the percentage of checking of number of consumers also decreased. This shows that there was need to conduct more raids to drastically reduce theft of energy.

Leasing of LT poles to Cable TV Operators

2.2.43 In order to explore new areas for increasing the revenue, UPPCL directed (August 2001) the Companies to lease out its LT Poles for laying of cable for TV network on the pattern of Delhi Vidyut Board (DVB). Cable TV operators were already using LT poles. MVVNL neither conducted any survey to identify the number of poles being used by them nor taken initiative to negotiate with the cable operators for leasing out these poles. It was observed that MVVNL had 1935 kms. over head LT lines with 21285 LT poles in LESA Zone alone (which covers the urban areas of Lucknow). Had these poles been leased out to Cable TV operators, MVVNL could have generated additional revenue of Rs.4.25 crore during the last five years ending March 2007 (calculated at the rate of Rs.500 per pole per year as was being charged by DVB). For leasing these poles no extra expenditure was involved.

Similarly, the Company could have fetched additional revenue of Rs.182.49 crore during last four years ending March 2007 by leasing out the LT poles from other three zones (Faizabad, Lucknow and Bareilly). In reply, the Management stated (September 2007) that action was being taken to identify poles and to give them on lease.

Internal Control and Internal Audit

Internal Control

2.2.44 Internal control is a process designed for providing reasonable assurance for efficiency of operation of an organisation, reliability of financial reporting and compliance with the applicable laws and statutes. A built in internal control system and strict adherence to statute, codes and manuals minimizes the risk of errors and irregularities. An evaluation of the system of internal control in vogue in the PVVNL and MVVNL revealed the following weaknesses:

- Companies failed to arrest line losses due to non-formulation of any control system to prevent line losses and to carry out periodical checking of meters;

- Companies could not evolve system for timely recovery of its dues so as to reduce arrears of revenue;
- password of on line billing of EUDD, Residency Division was hacked for giving undue benefit to consumers;
- bank transactions were not being reconciled with bank statements;
- both the Companies failed to ensure return of used Revenue Receipt Books;
- UPPCL ordered (April 2006) to recover the amount of compensation paid to the victims of electrical accidents from officers/employees concerned, who were held responsible for occurrence of accidents by the Director General, Electrical Safety or any other agency. PVVNL paid Rs.34.13 lakh during 2003-04 to 2005-06 and MVVNL paid Rs.14.02 lakh in 2006-07 (up to August 2006) towards compensation for electrical accidents. The Companies, however, did not recover any amount from the concerned officials/officers (March 2007); and
- MVVNL failed to obtain the approval of UPERC for enforceability of Special Tariff which was made applicable to H.A.L. (E.D.D, Jagdishpur) with effect from the year 1983, though General Tariff was revised several times, last revision was made in December 2004. This caused loss to the Company to the extent of Rs.82.87 lakh.

Internal Audit

2.2.45 Internal audit is a system designed to ensure proper functioning as well as effectiveness of the internal control system and detection of errors and frauds in an business entity. It should, as an independent entity, examine and evaluate the level of compliance to the financial rules and procedures. It was noticed (March 2007) that:

- there was no internal audit manual in both the Companies indicating the scope and coverage of internal audit;
- no annual audit plan for regular internal audit indicating period and duration of audit, supervision *etc.* was drawn up during 2003-04 to 2006-07;
- in PVVNL, 69 audits of 47 distribution divisions were conducted by the internal audit wing during the period August 2003 to March 2007 against 169 audits falling due. MVVNL did not maintain records of periodicity of audit;
- position of outstanding paragraphs at the end of March 2007 was not available in both the Companies. No pursuance of internal audit objections was being done by the concerned officers.

Acknowledgement

2.2.46 Audit acknowledges the cooperation and assistance extended by different level of officers of both the Companies at various stages of conducting the performance audit.

The above audit findings were reported to the Government in June 2007; the reply is awaited (October 2007).

Conclusion

Billing and collection procedures were deficient as these Companies could not recover even cost of energy by reducing distribution losses which were mainly due to adhoc billing, non-ensuring accuracy of meters, incorrect application of tariff, non-levy of compounding charges, short levy of minimum charges, non-levy of penal charges for exceeding demand, failure in management of capacitor banks at consumer end and poor performance of raid teams. Both the Companies fixed low targets of revenue realisation resulting in poor realisation of revenue. The MOU executed with e-Suvidha for collection of revenue was detrimental to the interest of MVVNL. Both the Companies failed to take adequate and timely action against the defaulting consumers which resulted in accumulation of arrears. The internal control systems in both the Companies was weak as Companies failed to arrest line losses due to non-formation of any control system, prevent hacking of password of on-line billing system and prepare bank reconciliation statements in time.

Recommendations

- **Both the Companies should take effective steps to minimise the distribution losses;**
- **Companies should watch the accuracy of meters of all the categories of consumers at regular intervals and ensure timely replacement of defective meters to avoid revenue loss;**
- **Companies should bill the consumers strictly as per Rate Schedules without compromising;**
- **Companies should improve their collection mechanism for prompt realisation of its dues;**
- **MVVNL should ensure that entire revenue collected by 'e-Suvidha', is deposited by next day in the Company's account only; and**
- **The Internal Control system needs to be strengthened.**

2.3 Performance Review on "Procurement, performance, maintenance and repair of transformers" in Power Sector Companies

Highlights

Mismatch of sub-power transformation capacity, distribution transformation capacity and connected load resulted in overloading of transformers. The capacity of distribution transformation was in excess of the sub-power transformation capacity in each year and ranged from 5,392 to 17,375 MW during the period 2002 to 2007.

(Paragraph 2.3.9)

Non-excercising option to increase/decrease 50 per cent of tendered quantity and purchase of transformers at higher rates resulted in extra expenditure of Rs.9.62 crore.

(Paragraph 2.3.11)

The damage rate of distribution transformers was abnormally high and percentage of excess failure than the prescribed norms ranged between 17.20 to 21.27 per cent. Due to this, the Companies had to bear a heavy financial burden of Rs.377.79 crore on repair of 3,43,448 distribution transformers that failed in excess of the norms during the period of five year ending 31 March 2007.

(Paragraph 2.3.16)

The Companies had incurred extra expenditure of Rs.8.98 crore on repair of 12,001 transformers from outside agencies due to underutilisation/idling of the capacity of its own repair workshops.

(Paragraph 2.3.22)

Non-disposal of 193 uneconomical power transformers deprived the Companies to realise at least Rs.5.18 crore, taking 20 per cent of the cost of transformers as the disposable value.

(Paragraph 2.3.26)

Introduction

2.3.1 Transformer is a static equipment installed in the transmission and distribution network for stepping up or stepping down of voltage. Power is usually generated at a very low voltage (11 KV to 15.75 KV) and then stepped up to 132 KV, 220 KV and 400 KV through power transformers for transmission to load despatch centres. At load despatch centres it is stepped down to 132 KV, 66 KV, 33 KV, 11 KV and 0.400 KV for supplying electricity to various consumers. The transformers used at the generating stations and transmission systems are called Power Transformers (PTs) and those used in distribution system are called Distribution Transformers (DTs). Uttar Pradesh Power Corporation Limited (UPPCL) was responsible for procurement, performance, maintenance and repair of power and distribution transformers. After the formation of four Distribution Companies (Discoms) namely, Purvanchal Vidyut Vitran Nigam Limited (PuVVNL), Varanasi; Madhyanchal Vidyut Vitran Nigam Limited (MVVNL), Lucknow; Pashchimanchal Vidyut Vitran Nigam Limited (PVVNL), Meerut and

Dakshinanchal Vidyut Vitran Nigam Limited (DVVNL), Agra on 1 May 2003 the procurement, performance, maintenance and repair of distribution transformers is being done by the Discoms concerned. The procurement, performance, maintenance and repair of power transformers is, however, with the UPPCL.

UPPCL's Board comprises of a Chairman, one full time Managing Director {(MD) (both appointed by the State Government)} and four other Directors one each for Finance, Technical, Commercial and Personnel Management and distribution functions. Discom's Board comprises of one full time Managing Director and two other Directors one each for Finance and Technical functions. The Organisational set up of UPPCL and four Discoms relating to procurement, performance, maintenance and repairs of transformers is detailed in **Annexure-23**.

Scope of Audit

2.3.2 The last review on this topic was included in the Report of the Comptroller and Auditor General of India (Commercial) for the year ended 31 March 2000, which has been partially discussed by the Committee on Public Undertakings (COPU). The present review on procurement, performance, maintenance and repair of transformers in UPPCL and four Discoms for the period from 2002-2003 to 2006-2007 was conducted during November 2006 to April 2007. A test check of records of Headquarters office of UPPCL, records of procurement of transformers by the four Discoms and their six workshop divisions (out of 10) and six store divisions (out of 14) was carried out.

Audit Objectives

2.3.3 Performance review on procurement, performance, maintenance and repair of transformers in Power Sector Companies was conducted to assess whether:

- procurement of transformers was made conforming to growth plan in accordance with the prescribed procedure and in a transparent, effective, efficient and economical manner;
- there existed an effective system for monitoring the performance of procured transformers with reference to functional manual and its standard life;
- the Companies had framed policy for maintenance of transformers and ensured its adherence;
- damaged transformers were got repaired in time; and
- the internal control mechanism was efficient and effective.

Audit Criteria

2.3.4 Audit criteria considered for assessing the achievement of audit objectives was to check the extent of adherence to:

- growth plan of UPPCL and Discoms;
- UPPCL's procedure for procurement, storage and accounting of the transformers;
- terms and conditions of tendering and the purchase orders;

- policy for maintenance of transformers;
- performance parameters fixed under Statutes and by the UPPCL; and
- findings of Uttar Pradesh Electricity Regulatory Commission (UPERC) on the system network.

Audit Methodology

2.3.5 The following mix of audit methodologies was adopted for attaining the audit objectives:

- analysis of assessment of requirement of transformers with reference to the growth plan;
- scrutiny of tenders and agreements executed with the suppliers for procurement of transformers;
- verification of maintenance programmes, cause-wise reasons for failures, time taken to repair the failed transformers;
- analysis of cost of repair in UPPCL/Discom's Workshops and outside agencies;
- examination of agenda, minutes of the meetings of the Board of Directors (BODs) and performance reports of the Companies;
- issue of audit enquiries and interaction with the Management.

Audit Findings

2.3.6 Audit findings as a result of the Performance Review were issued (June 2007) to the Managements/Government and discussed in the meeting of Audit Review Commiittee on Public Sector Enterprises (ARCPSE) held on 30 August 2007. The representatives of UPPCL and four Discoms attended the meeting. The replies of the Managements and views expressed by the members present in the meeting have been taken into consideration while finalising the review. The Audit findings on procurement, performance, maintenance and repair of transformers in Power Sector Companies are discussed in succeeding paragraphs:

Assessment of requirement/procurement of transformers

2.3.7 Assessment of requirement is a prerequisite before purchase and is essential to safeguard financial interest of an organisation. On the basis of requirements indicated by the field offices, procurement of transformers (10 KVA to 10 MVA) was made by the Chief Engineer and Controller of Stores (CE & CoS) of UPPCL up to 2003-04 and thereafter (after the formation of Discoms) by the CE (Material Management) of Discoms concerned on the basis of the requirement for Rural Electrification (RE) Works and for Non-Rural Electrification Works as indicated in the annual plan. In the case of power transformers (20 MVA and above), the requirement is assessed by the CE (Transmission) of UPPCL considering the construction of new sub-stations/augmentation of existing sub-stations. The procurement is made by two Electricity Sub-Station Design Circles (ESDC) I and II of UPPCL through tenders. On receipt of recommendations for procurement of transformers from the competent authorities, as stated above, approval for purchases up to Rupees two crore is accorded by the MD Purchase Committee (MDPC) at Discoms headed by the MD of Discoms concerned. The approval for purchases above Rupees two crore is accorded by a Corporate Store Purchase Committee (CSPC) headed by the Chairman, UPPCL.

2.3.8 The table below exhibits the assessed requirement of transformers and their procurement in all the five Companies for the five years ending 31 March 2007:

Year	Power transformers (Transmission) (Capacity ranging from 20 to 160 MVA)			Distribution transformers (Capacity ranging from 10 to 630 KVA)		
	Requirement (Nos)	Procured (Nos)	Value (Rs.in Lakh)	Requirement (Nos)	Procured (Nos)	Value (Rs.in Lakh)
2002-03	9	9	2790.00	30574	29624	8026.12
2003-04	23	23	2570.58	1000	1000	515.49
2004-05	Nil	Nil	Nil	12033	11333	2575.69
2005-06	114	88	18630.90	29222	26447	13674.09
2006-07	68	68	21361.71	31538	31538	17482.99
Total	**214**	**188**	**45353.19**	**104367**	**99942**	**42274.38**

Source: Procurement orders of the Companies.

It may be seen from the above table that the procurement of transformers was much below the requirement during 2005-06 in respect of power transformers and during 2002-03, 2004-05 and 2005-06 in respect of distribution transformers. The wide variation in requirement and procurement of transformers was due to improper assessment of requirement and its procurement. Quantity of adhoc requirement placed by the field units was frequently changed and arbitrarily reduced resulting in mismatch of transformation capacity at different transformation ends.

The DVVNL Management stated (September 2007) that in future, procurement of transformers would be made keeping in view the points raised in the para.

Mismatch of transformation capacity

2.3.9 Each segment of transformation system *viz.*, power transformation, sub-power transformation, distribution transformation and connected load should match with each other in order to ensure that neither any segment remains idle nor gets overloaded. Mismatch of transformation capacity at different transformation ends during the preceeding five years ending 31 March 2007 is detailed in **Annexure-24.** The following variances with respect to transformation capacity were noticed:

- The capacity of distribution transformation was in excess of the sub-power transformation capacity in each year and ranged from 5392 to 17375 MW during the period 2002-03 to 2006-07. As such distribution transformation capacity to the extent of 32.85 to 54.26 *per cent* could not be utilised as flow of energy to the carrying capacity of distribution was not available from sub-transmission;

- The situation of mismatch further aggravated when the distribution transformation capacity was linked with the connected load. The connected load was in excess of distribution capacity and it ranged between 3 and 14.13 *per cent* during the period 2002-03 to 2005-06. This resulted in overloading of distribution transformers and rostering; leading to failure of large number of transformers.

In the meeting of ARCPSE (August 2007), the Management accepted the fact of mismatch. Thus due to mismatch transformer capacity was not fully utilised and the system was exposed to overloading and transformer failure and the connected financial implications.

Inordinate delay in finalisation of tender

2.3.10 As per clause 1.4 of the "Instructions to Tenderers" the tender is to remain valid for a period of six months from the date of opening of tender or any extended date of opening. As per policy of the power sector Companies, the orders for procurement of transformers are to be placed at L-1 rate on the qualified tenderers after approval from the competent authority. Part I of tender document deals with the technical requirement and Part II deals with the financial bid. Non-observance of above procedure was noticed in the tender[1] of PuVVNL for purchase of 10 power transformers of 8 MVA during opening of Part-I bids on 28 May 2004. The details of the case are given below:

Though the Company knew that the validity period of rates offered by the tenderers was six months yet it opened the Part II (financial bid) on 28 February 2005 *i.e.* nine months after opening of Part I of the tender. The lowest rate of Rs.17.50 lakh per transformer was offered by Technical Associates, Lucknow (on base date 1 April 2004). On refusal by Technical Associates to extend its validity period, the CSPC decided (April 2005) to purchase five transformers on L-1 rate from L-2 and L-3 firms, but the firms did not accept the offer. Hence tender was cancelled (02 June 2005). The Company again invited (November 2005) and finalised (March 2006) tender[2] for purchase of six transformers of 8 MVA at the rate of Rs.31.45 lakh on base date of 01 December 2005.

Thus due to delays attributable to the Management the tender could not be finalised within the validity period resulting in avoidable extra-expenditure of Rs.83.70 lakh (Rs.31.45 lakh *minus* Rs.17.50 lakh X 6).

In ARCPSE meeting, the Management accepted (August 2007) the fact.

Purchase of Transformers

2.3.11 As per the terms of the contract, the Company has the option to increase or decrease 50 *per cent* of the tendered quantity during the validity period of the contract to its advantage. Cases of non-observance of the above procedure resulted in extra expenditure of Rs.9.62 crore are discussed below:

Non-excercising option to increase/decrease 50 *per cent* of tendered quantity and purchase of transformers at higher rates resulted in expenditure of Rs.9.62 crore.

- ESDC-II of UPPCL invited (October 2004) tender[3] for supply of 22 transformers of 40 MVA. The lowest computed rate of Rs.1.53 crore for each transformer was offered by Accurate Transformers Limited, Noida. It was noticed that four firms were ready to supply 18 transformers, but CSPC reduced (April 2005) the quantity of transformers from 18 to nine. During the same financial year 2005-06, another tender[4] was floated (July 2005) for supply of 42 transformers of 40 MVA to meet future requirement. The lowest computed rate of this tender for each transformer was Rs.2.13 crore, which was approved by CSPC on 18 August 2005 (with base date of rate on 1 June 2005). On updating the price of transformers under previous tender[5] on base date of 1 June 2005, the price worked out to Rs.1.89 crore. Thus, the approved rate of new tender was higher by Rs.24 lakh (Rs.2.13 crore *minus* Rs.1.89 crore) per

[1] No. EAV-11/04-05 (April 2004)
[2] No.EAV-25/05-06
[3] No.ESD-194
[4] No.ESD-209
[5] No.ESD-194

transformer resulting in extra expenditure of Rs.2.16 crore (Rs.24 lakh x 9) on procurement of nine transformers.

- Tender[1] was invited (February 2001) for supply of five transformers of 10 MVA. The orders were placed at the lowest rate of Rs.27.48 lakh per transformer with delivery schedule up to April 2002. Another tender[2] was floated (December 2001) for supply of 20 transformers of 10 MVA with opening of bids on 12 February 2002 (Part-II). L-1 rate of Rs.23.07 lakh per transformer approved by CSPC under this specification was lower by Rs.4.41 lakh per transformer from the earlier tender. It was noticed (November 2006) that despite receipt of lower rates of Rs.23.07 lakh (12 February 2002), ESPC-I placed order (1 July 2002) for additional quantity of 11 transformers at higher rate of Rs.27.48 lakh allowed under previous tender of February 2001. This has resulted in extra expenditure of Rs.48.51 lakh (Rs.27.48 - Rs.23.07 X 11) on procurement of 11 transformers.
- During the currency of supply period (up to December 2003) of tender[3] for supply of 100 transformers of 5 MVA at Rs.10.48 lakh per transformer, another tender[4] for 5 MVA transformers was floated (September 2002) for 125 transformers. L-1 rate of Rs.11.16 lakh received under this tender was approved (January 2003) by CSPC. This price was higher by Rs.0.68 lakh (Rs.11.16 lakh *minus* Rs.10.48 lakh) per transformer as compared to price of earlier tender. It was noticed (November 2006) that instead of invoking the condition to increase/decrease the ordered quantity by 50 *per cent* (as per terms of the contract against previous tender), ESPC-I placed order for another 50 transformers at higher rate of Rs.11.16 lakh each received under this tender causing extra expenditure of Rs.34 lakh (50 x Rs.68,000) on their procurement.
- ESPC-I invited tender[5] (February 2001) for purchase of 800 transformers of 250 KVA. It was noticed (November 2006) that CSPC arbitrarily (*i.e.* without assigning any reason) finalised (November 2001) purchase of transformers at L-2 rates of Rs.0.83 lakh per transformer (inclusive of excise duty and freight) by ignoring L-1 rates of Rs.0.72 lakh per transformer (inclusive of excise duty and freight) in violation of the standing orders of the State Government to place order at L-1 rate of the offers received. Thus, the Company suffered loss of Rs.88 lakh on placement of order at L-2 rate of Rs.0.83 lakh instead of L-1 rate of Rs.0.72 lakh per transformer on the purchase of 800 transformers of 250 KVA.
- ESDC-II invited (August 2003) tender[6] for purchase of 19 transformers of 40 MVA. Date of opening of Part-I was 30 September 2003 and Part-II was 3 February 2004. It was noticed that the Part-II of the tender of Accurate Transformers Limited (firm) was not opened due to non-conducting of type test[7]. The firm represented (17 November 2003) that

[1] No.ESPC-I/1102/2001
[2] No.ESPC-I/1125/2001
[3] No.ESPC-I/1104/2001
[4] No.ESPC-I/1133/2002
[5] No.ESPC-I/1100/2001
[6] No.ESD-189
[7] The test of a proto type transformer done by CPRI/BHEL/Government Test House in the presence of a representative of the Company.

Part-II of its offer may be opened subject to conducting of type test. The approval of opening of Part-II of the tender of the firm was accorded (29 November 2003) by the CMD on the basis of a case in the past where Part-II of tender[1] of Technical Associates, Lucknow was opened without conducting of type test. The lowest evaluated rate of Rs.2.24 crore per transformer (FOR destination price Rs.1.01 crore) was received from the firm which was considered (11 February 2004) to be too low by CSPC in comparison to the evaluated rate of Rs.2.46 crore received in response to an earlier tender[2] and the CSPC felt that other firms would not be supplying the transformer at the rate of the firm. Thereafter, an educational order was placed on the firm at their rates and the evaluated rate of Rs.2.63 crore (FOR destination price Rs.1.33 crore) of the second lowest firm (Kanohar Electricals Limited) was considered to be workeable and orders at this rate were placed for 18 transformers on different firms. No documents were produced to audit to show the basis on which rate of the firm was considered to be unworkeable. In response to the audit query (15 December 2006), ESDC-II stated (April 2006) that there did not exist any system to prepare cost analysis on the basis of material required for manufacture of transformer. Thus, in the absence of any documentary evidence, placement of order at the rate of second lowest tenderer was not justified and it resulted in extra expenditure of Rs.5.76 crore (Rs.1.33 crore - Rs.1.01 crore X 18)

Extension in delivery schedule

2.3.12 Clause 26 of "General Conditions of Contract–Form B" of the tender document provides that extension of reasonable time shall be granted in case of situation beyond the reasonable control of the contractor such as–strikes, lockout, fire, accidents, defective materials and delay in approval of drawings. Further, Clause 32 of the tender documents of Form A provides that if the contractor fails in the due performance of his contract within the time limit fixed in the contract or any extension thereof, the contractor shall accept a reduction of the contract price by half *per cent* per week which shall not in any case exceed 10 *per cent* of the contract value. Cases of non-observance of above provisions are discussed below:

Name of Company /division	Specification No.	Numbers and particulars of transformers	Original delivery schedule	Extended delivery schedule	Extra expenditure (Rs. in lakh)	Remarks
UPPCL/ ESPC-I	1133/2002	8 transformers of 5 MVA	March 2005	September 2005	11.28[3]	The delivery schedule was extended by the Company though conditions as mentioned in clause 26 during the period of extension were not existing. The applicable multiplier for Price Variation on the original delivery period (April 2005) increased from 1.4743974 to 1.6311157 (April 2006)
PVVNL, Meerut	PVVNL/MT -204/2004	4 transformers of 8 MVA	April 2005	April 2006	17.44[4]	In this case, contractor showed his inability to complete the delivery by the scheduled delivery period and requested for grant of extension of delivery schedule. The extension in delivery schedule was granted along with price variation which facilitated payment of multiplier applicable on the revised delivery period (1.700179) instead of original delivery period (1.382000).
Total					**28.72**	

Source: Purchase order files.

[1] No.ESD-143
[2] No.ESD-170
[3] 1.6311157 - 1.4743974 X Rs.9 lakh X 8.
[4] 1.700179 - 1.382000 X Rs.13.70 lakh X 4.

It may be seen from the above that Companies had to incur an extra expenditure of Rs.28.72 lakh on account of price variations allowed during extended delivery period.

Scrutiny of records of six* ESDs revealed that during March 2001 to February 2007, penalty of Rs.1.47 crore in 353 cases for delayed supplies was waived off against 46 suppliers on grounds of delay in inspection, non-issue of despatch instruction and non-completion of its installations by the Companies. All these reasons for delay were under the control of the Company and not covered in Clause 32 of General Conditions of the Contract.

The Companies suffered a loss of Rs.1.47 crore due to their own failure and irregular waival of penalty for delayed supply by the suppliers.

Thus, the Companies suffered loss of Rs.1.47 crore on account of their own failure and irregular waiver of penalty for delayed supplies.

The DVVNL Management stated (September 2007) that extension of delivery schedule in respect of ESD, Agra was allowed mainly due to non-completion of civil works for installation of the transformer, delayed payment against previous orders. The reply is not tenable as the reasons for delay as cited by the Management were not covered under the General Conditions of the Contract.

Non-allotment of surplus transformer

2.3.13 The SE (Stores) is empowered to allot those power transformers which had become surplus on augmentation of existing 33/11 KV sub-station. It was noticed (April 2007) that 19 transformers (12 in respect of PVVNL and seven in respect of DVVNL) of 0.75 to 8 MVA, valuing Rs.1.96 crore, had been lying unutilised at different 33/11 KV sub-stations for indefinite period of time on augmentation of existing 33/11 KV sub-station. Due to non-maintenance of history cards indicating the date of purchase, its installation and damage of surplus transformers by the Companies the basis on which purchases and repairs were made, could not be analysed in audit. Thus, due to laxity on the part of SEs (Stores), Companies failed to make optimal use of these transformers.

The DVVNL Management stated (September 2007) that out of five transformers relating to the Company, one transformer had been utilised and action for utilisation of remaining four transformers was in progress.

Performance of Transformers

Quality assurance of transformers

2.3.14 With a view to ensure quality of transformers, the Companies provide in the specifications for purchase of transformers, that the supplier would manufacture a proto-type transformer against each order to conduct short circuit test, impulse test (known as type test) to verify losses. These tests are got done through the Central Power Research Institute/Bharat Heavy Electricals Limited/ Government Test House in the presence of a representative of the Companies. Besides, the routine test, inspection by random sampling is also conducted before issue of despatch instructions. Further, the Companies also reserve the right to get type test conducted on a transformer randomly selected during currency of the contract and in such cases type test charges are reimbursed to the supplier. Since history cards indicating make, date of purchase, date of commissioning/installation, date of damage and its repair, *etc.* had not been

* Lucknow, Meerut, Agra, Allahabad, Gorakhpur and Varanasi.

maintained by the Companies, the examination was restricted to the records maintained/available. The deficiencies noticed in this regard are discussed in succeeding paragraphs:

Maintenance of Transformers

2.3.15 The erstwhile UPSEB fixed (May 1982) permissible limit for failure of transformers as two *per cent* of the transformers installed. To achieve this norm, the Companies were required to:

- carry out detailed monitoring including ascertaining reasons for damages;
- maintain history cards in respect of each transformer;
- use drop out fuses at 11 KVA rating;
- connect LT terminals with crimping tools and copper lugs; and
- avoid overloading of LT terminals *etc.*

Further, the Central Corporation of Irrigation and Power (CCIP) in their Technical Report (July 1974) recommended that the Insulation Resistance (IR) value of distribution transformers should be measured half yearly so as to avoid damage of transformers on account of defective insulation.

Position of damaged distribution transformers

2.3.16 The table below indicates position of damaged distribution transformers during the last five years ending 31 March 2007:

Year	Distribution transformers				Percentage of excess failure over prescribed norms of the installed transformers
	Installed at the beginning of the year (Nos)	Actual failure (Nos)	Failure as per norms at the rate of 2 *per cent* (Nos)	Failure in excess of the norms (Nos)	
2002-03	336095	64521	6722	57799	17.20
2003-04	357062	76996	7141	69855	19.56
2004-05	363923	71511	7278	64233	17.65
2005-06	370363	75661	7407	68254	18.43
2006-07	391641	91140	7833	83307	21.27
Total		**379829**	**36381**	**343448**	

Source: Technical diaries.

Non-installation of adequate protection system at HV and LV side, non-adherence to/non-preparation of preventive maintenance schedule and over loading of distribution transformers were the main reasons for excessive damage of transformers;

It can be seen from the above table that:

- percentage of damaged transformers exceeded the norms of two *per cent* and it ranged between 17.20 and 21.27 *per cent* indicating poor maintenance of distribution transformers consequently leading to overloading of transformers and poor supply of energy to consumers till replacement of damaged transformers;
- in the absence of regular and preventive maintenance, the rate of damaged transformers was much in excess of the norms on which Companies had to

bear heavy financial burden of Rs.377.79 crore (worked out at the average repairing cost of Rs.0.11 lakh per transformer as per the tender No. 1116 & 1117/01 of ESPC-I) on repair of 3,43,448 distribution transformers which failed in excess of the norms during the period of five years ending 31 March 2007;

Due to non-installation of protective equipment and negligence in maintenance, Companies incurred avoidable expenditure of Rs.1.16 crore on maintenance of damaged transformers.

- UP Electricity Regulatory Commission (UPERC) had also observed (November 2004) that the entire distribution network was operating virtually without any protection equipment. It was noticed (March/April 2007) that 19 transformers of capacities of three to eight MVA got damaged during the period 2003-04 to 2006-07 under ESDs, Gorakhpur (16) of PuVVNL and Agra (3) of DVVNL due to non-installation of protection equipments (such as fuse sets, lightening arrestors *etc.*) and negligence in maintenance, resulting in avoidable expenditure of Rs.1.16 crore on repair of these 19 transformers. It consequently also led to safety hazards.

In ARCPSE meeting the Management of Companies stated (August 2007) that it was not possible to bring down the percentage of failure drastically but efforts would be made to reduce the loss.

Repair of Transformers

2.3.17 The damaged transformers whose cost of repair is not above 40 *per cent* of the cost of a new transformer (rate of latest supply received) of the same capacity, are considered as repairable. Otherwise, these are treated as uneconomical and to be disposed off by auction.

The work of repair of transformers was generally carried out by the 10 departmental transformer repair workshops (TRWs) named as Electricity Workshop Divisions. The Companies had not fixed the capacity of their TRWs. Due to inadequate facility for repair of transformers at TRWs, the damaged transformers were repaired through outside agencies. Repair through outside agencies was carried out by inviting open tenders and entering into a running contract with various firms. The major terms and conditions of the repair contract are as follows:

- Clauses 11.2.3 and 11.2.4 of repair contract provided that in case; repaired transformers are damaged within guarantee period, the same shall be re-repaired and returned by the firm within two months from the date of intimation to firm. In case, firm fails to re-repair, the concerned store division shall withhold payment equivalent to the cost of transformer from pending/future bill of the repairer. Further, clause 11.2.6 provides that in case of non-repair within four months from the date of intimation, it shall be got re-repaired from other repairer and the re-repair charges alongwith transportation cost involved and penalty shall be recovered from the firm's pending/future bill and security.

- In case of supply of new transformer, the same shall be guaranteed for 12 months from actual date of commissioning or 18 months from the date of receipt of transformer at site. In the event of failure within guarantee period, the supplier shall carry out repairs free of charge. In case the repair work/replacement of transformer is not effected within three months from the date of intimation, the consignee is to ensure deduction of amount equal to the price of new transformer from pending bills/security of the firm. The cases of non-adherence to above clauses are discussed below:

Transformers damaged within guarantee period

2.3.18 The table below indicates the position of transformers (new/repaired) damaged within guarantee period alongwith status (closed/working) of the firms which supplied/repaired the transformers:

Divisions	Transformers		Capacities (KVA)	Period of damage	Value (Rs. in lakh)	Status of Firms	
	New/ Repaired	Nos.				Closed/ working	Nos.
ESD, Kanpur	Repaired	31	25 to 5000	N.A.	31.58	Closed	1
ESD, Lucknow	New	9	25 to 1000	May 1996 to October 2006	13.30	Closed	6
	Repaired	1	25	N.A.	0.45	Closed	1
	New	36	10 to 400	July 1999 to December 2006	33.95	Working	12
	Repaired	102	25 to 630	February 2000 to December 2006	88.40	Working	10
ESD, Meerut	New	21	16 to 400	August 2003 to October 2006	14.87	Working	11
	Repaired	41	25 to 400	January 2004 to November 2006	25.11	Working	8
ESD, Allahabad	New	11	25 to 400	April 2003 to July 2006	8.61	Working	7
ESD, Gorakhpur	New	40	10 to 400	August 2003 to November 2006	18.05	Working	8
	Repaired	75	25 to 630	February 2000 to February 2007	61.20	Working	7
ESD, Varanasi	Repaired	30	25 to 400	December 2003 to September 2006	16.38	Working	5
Total					**311.90**		

Source: Testing reports of damaged transformers.

It would be seen from the above table that:

- Nine new transformers (25 KVA to 1000 KVA capacities) and 32 repaired transformers (25 KVA to 5000 KVA capacities) got damaged within the guarantee period, pertaining to the eight manufacturer firms which had closed their business, but concerned store division failed to recover the cost of the transformers as per the aforesaid provisions of the contract. This resulted in doubtful recovery of Rs.45.33 lakh (worked out on the basis of stock issue rate of 2005-06).
- 108 new transformers (10 KVA to 400 KVA capacities) supplied by 38 manufacturers and 248 repaired transformers (25 KVA to 630 KVA capacities) repaired by 30 repairer firms got damaged within guarantee period, but the concerned ESDs failed to take action as per the aforesaid provisions of the contracts. This resulted in non-recovery of Rs.75.48 lakh against new transformers and Rs.1.91 crore against repaired transformers. These transformers continued to remain unutilised and the Discoms purchased new transformers in place of these transformers.

The DVVNL Management stated (September 2007) that in respect of ESD, Kanpur recovery of Rs.15.54 lakh was pending, for which efforts were being made. The MVVNL Management stated (September 2007) that in respect of

ESD, Lucknow, out of 45 transformers of capacity ranging from 10 to 400 KVA, 19 transformers valuing Rs.16.43 lakh had been received back from the repairers firms and amount of Rs.21.66 lakh had been recovered from the pending bills of repairer firms. The fact remains that transformers which were damaged during guarantee period were not got repaired from the repairing firms at their cost.

Uneconomical repair of transformers

2.3.19 During scrutiny of records of four* ESDs, it was noticed that 69 damaged power transformers were got repaired in violation of the laid down policy of repair of transformers as the damaged transformers were repaired at a cost which was more than 40 *per cent* of the cost of new transformer. This resulted in excess expenditure of Rs.49 lakh (actual expenditure Rs.3.20 crore minus value of Rs.2.71 crore) over the 40 *per cent* economical limit as detailed below:

Sl. No.	Name of divisions	Period of payment	No. of firms	No. of cases	Total amount of actual payment (Rs. in lakh)	Total amount of economical limit (40 *per cent* of the cost of new transformer) (Rs. in lakh)	Payment in excess of economical limit (Rs. in lakh)
1	ESD, Allahabad	July 2003 to June 2006	5	24	117.86	94.42	23.44
2	ESD, Gorakhpur	April 2002 to October 2006	6	14	53.67	49.11	4.56
3	ESD, Lucknow	July 2003 to July 2006	9	27	126.88	109.31	17.56
4	ESD, Meerut	November 2003 to January 2006	3	04	21.76	18.12	3.64
Total			**23**	**69**	**320.17**	**270.96**	**49.20**

Source: Files of repaired transformers.

Non-dismantling of damaged/ uneconomical transformers

2.3.20 As per procedure, transformers declared unserviceable/beyond economical repairs are stripped off at EWD to ascertain the exact quantity of core, coil and transformer oil available in the transformers and thereafter these are handed over to stores division for auction. Test check of records of four** EWDs revealed that 229 damaged and unserviceable uneconomical transformers of the capacities ranging between 25 and 630 KVA had been lying at different workshops for the last five years ending March 2007. Thus, due to failure on the part of EWDs to transfer damaged/uneconomical transformers to ESDs, no action could be taken for dismantling and disposal of these transformers by ESDs and fund of the Companies to the extent of Rs.64.81 lakh (calculated at the rate of 20 *per cent* of the original cost of the transformers) remained blocked during the said period as detailed below:

(Rs. in lakh)

Divisions	Capacity range (KVA)	No. of transformers	Original cost	20 *per cent* of total value
EWD, Gorakhpur	10-100	31	15.32	3.06
EWD, Varansi	25-630	54	30.30	6.06
EWD, Lucknow	25-500	128	270.46	54.09
EWD, Meerut	25-100	16	7.96	1.59
Total		**229**	**324.04**	**64.80**

Source: Files of repaired transformers.

Improper rate finalisation

2.3.21 The main input used to manufacture the transformer are core, HV/LV coils and transformer oil tank. To repair the damaged transformer, repairer

* Allahabad, Gorakhpur, Lucknow and Meerut.

** Lucknow, Meerut, Gorakhpur and Varanasi.

firm has to provide new HV/LV coils and new transformer oil and retain the burnt/damaged HV/LV coils after giving the necessary credits. In this connection it was noticed that:

- ESPC-I, Lucknow finalised (August 2002) the rates for repair of damaged power transformers under specification No. ESPC-I/1128/01 and the ESDs made the payments accordingly. In this case, although L-1 rate for new HV/LV coil was Rs.182/kg offered by Laxmi Transformers, Agra but CSPC approved (August 2002) the rate of Rs.224.39/Kg offered by Marsons Electricals (L-5) on the grounds that the firm was new. In case of burnt/damaged HV/LV coil, although the highest rate was Rs.126/kg offered by Marsons Electricals, Agra but CSPC approved (August 2002) the rate of Rs100/Kg offered by Associated Electricals Private Limited, Ghaziabad (H-3) on the contention that H-1 rates were not practical though the firm was well established.
- In accordance with the decision of ESPC-I six[1] ESDs made payments against replacement of 3,31,544.40 kgs of HV/LV coils on which the Companies suffered a loss of Rs.2.27 crore (excess payment for purchase of new coils: Rs.1.41 crore and less receipt for sale of burnt/damaged coils: Rs.0.86 crore) on account of improper rates approved by CSPC.

The basis on which L-1 and H-1 rates were rejected was not in order. So far as the firms which offered the lowest rates for new HV/LV coils, though new in the field of repair of transformers but these were well established in the field of manufacture and supply of transformers. Similarly rejection of the offer of H-1 firm for damaged HV/LV coils was not proper as the firm was well established.

Failure in full utilisation of capacity of their own workshops resulted in incurring of extra expenditure of Rs.8.98 crore on repair of transformers from out side agencies.

Under utilisation of capacity in departmental workshops

2.3.22 The departmental transformer repair workshops (TRWs) were more than 15 years old, but, the Companies had not assessed and fixed the annual capacity of each of five[2] TRWs. The extent of repairs carried out by the TRWs during the last five years ending 31 March 2006 is given in **Annexure-25**. It will be seen from the **Annexure-25** that a maximum of 2593 distribution transformers at Allahabad, 5039 at Meerut, 4579 at Varanasi, 2189 at Gorakhpur and 1968 at Agra were repaired in a year during the last five years ending 31 March 2006[3]. Thus, considering the maximum distribution transformers repaired in a year at each of the TRWs as their base capacity, the Companies could have repaired 81840 distribution transformers in the last five years against which only 69839 distribution transformers were repaired, leaving a shortfall of 12001 distribution transformers. The average cost of repairs through outside agencies was Rs.0.11 lakh (only labour cost) per distribution transformer whereas TRW wise average labour cost on repairs per distribution transformer during the five years ending 31 March 2006 was Rs.0.05 lakh in Allahabad, Rs.0.02 lakh in Meerut, Rs.0.03 lakh in Varanasi, Rs.0.04 lakh in Gorakhpur and Rs.0.05 lakh in Agra. Thus, the Companies had incurred extra expenditure of Rs.8.98 crore on 12,001 distribution

[1] Gorakhpur, Allahabad, Meerut, Agra, Varanasi and Lucknow.
[2] Allahabad, Meerut, Varanasi, Gorakhpur and Agra.
[3] Information of 2006-07 was not made available to audit.

transformers, which were got repaired through outside agencies due to underutilisation/ idling of the capacity of TRWs.

Missing Transformers

2.3.23 As per para 13 of procedure for accounting and issue of replacement of damaged transformers, the transformer is to be issued only through stores and those transformers which are repaired by workshop division or any other agency are to be first transferred to the store organisation from where these are to be issued in accordance with the laid down procedure.

It was noticed that EWD, Lucknow came to know (November 2004) of about 280 missing damaged transformers (25 to 1000 KVA capacities) valuing Rs.95.95 lakh at Workshop Centre, Sitapur. This fact came to the notice of the division after a lapse of eight years of the incident due to the following:

- These transformers were issued during the period July 1993 to June 1996 directly from Workshop to repairer firms without observing the procedure stated above.
- The Junior Engineer who was responsible for issuing these transformers, though relieved on 30 June 1994 on his transfer to another division, submitted stock account belatedly in 1996 that too without handing over the daily and monthly stock statements.
- AE, Workshop Centre, Sitapur neither reported the matter to the Divisional Officer EWD, Lucknow nor physical verification was conducted to ascertain the exact number of transformers available at store centre, Sitapur.

Laxity on the part of the division to monitor the stock accounts and physical verification of stock resulted in loss of Rs.95.95 lakh.

Thus, due to laxity on the part of the division to monitor the stock accounts and conduct physical verification of the stocks at the Workshop Centre, Sitapur, the Company suffered a loss of Rs.95.95 lakh.

In ARCPSE meeting the Management accepted (August 2007) the audit observation and stated that action had been initiated against Junior Engineer concerned.

Short retrieval of burnt transformer oil

The Companies failed to recover 5707.579 KL of burnt/dirty transformer oil valuing Rs.10.93 crore from damaged transformers.

2.3.24 As per norms fixed (September 1995 valid till May 2006) by UPPCL recovery of burnt and dirty transformer oil from the damaged transformers brought to the Damaged Transformer Collection (DTC) Centre, was not to be less than 70 *per cent* of the capacity of oil tank of the transformer. Thereafter the recovery percentage was lowered (June 2006) to 60 *per cent* of the oil tank capacity. In case, the recovery of oil falls below the prescribed limits, the reasons for shortage are to be recorded and investigated for taking action against the defaulting officials. In case of NIL recovery, Divisional officer of Distribution wing has to record detailed justification on the prescribed document.

The cases where recovery of burnt transformer oil was less than the prescribed limits are discussed in succeeding paragraphs:

- Scrutiny of the records of five* EWDs revealed that the recovery of burnt and dirty transformer oil was less than the norms and ranged from 8.92 to 64.01 *per cent* only during February 2002 to March 2007, resulting in

* Meerut, Gorakhpur, Varanasi, Allahabad and Lucknow.

short recovery of 5631.084 KL transformer oil valued at Rs.10.78 crore (at the rate ranging from Rs.17480 to Rs.20719 per KL). Table below shows the position of retrieval of burnt transformer oil:

Divisions	Capacity of transformer (KVA)	Total nos.	Retrievable oil as per norms (Ltrs.)	Actual recovery (Ltrs.)	Difference (Ltrs.)	Rate (Rs.)	Value (Rs.in lakh)	Recovery percentage
EWD, Meerut	25 to 750	26379	2206657	873733	1332924	17.48	233.00	20.23 to 41.11
EWD Gorakhpur	25to 1000	22367	1313927	1151094	162833	18.20	29.64	30.70 to 64.01
EWD Varanasi	25to 1000	66798	3948144	2829946	1118198	20.00	223.64	47.83 to 54.39
EWD, Allahabad	25to 1000	32607	2052643	514028	1538615	18.52	284.95	11.80 to 26.22
EWD, Lucknow	25to 1000	27048	1776757	298243	1478514	20.72	306.35	8.92 to 16.08
Total		**175199**	**11298128**	**5667044**	**5631084**		**1077.58**	

Source: Files of recovery of burnt transformer oil.

Reasons for short recovery and remedial action taken were not on record.

- Scrutiny of records of five* EWDs relating to recovery of burnt and dirty transformer oil revealed that recovery of burnt and dirty transformer oil was NIL during the period from 2001-02 to 2005-06 in 792 damaged transformers test checked resulting in non-recovery of 76.495 KL of transformer oil valuing Rs.14.63 lakh as detailed below:

Name of Division	T/f capacity range (KVA)	No. of cases	Quantity. to be recovered (Litres)	Average Auction Price (Rs.per litre)	Value of non-recovery (Rs. In lakh)
EWD, Gorakhpur	25 to 630	208	16492	18.20	3.00
EWD, Varanasi	25 to 400	151	10950	20.00	2.19
EWD, Allahabad	25 to 400	121	8805	18.52	1.63
EWD, Meerut	25 to 1000	165	18392	17.48	3.22
EWD, Agra	25 to 1000	147	21856	21.00	4.59
Total		**792**	**76495**		**14.63**

Source: Files of recovery of burnt transformer oil.

It was observed that no detailed justification in case of NIL recovery was recorded by the Divisional officer of Distribution wing in the prescribed form.

Short- Recovery of Aluminium & Copper Scrap

2.3.25 ESPC-I, Lucknow finalised a contract** (February 2002) according to which capacity wise recovery of aluminium/ copper scrap from the damaged distribution transformers brought to the TRWs was to be made as per the norms given below:

Aluminium wounded (sp.no.1116/01)		Copper wounded (sp.no.1117/01)	
25 KVA	26 kgs.	400 KVA	245 kgs
63 KVA	50 Kgs	630 KVA	330 kgs
100 KVA	69 kgs	1000 KVA	460 kgs
160 KVA	82 kgs	-	-
250 KVA	115 kgs	-	-

Source: Norms of UPPCL.

- The scrutiny of records of EWDs Agra and Meerut revealed that 14,440 damaged transformers were sent to repairers during 2001-02 to 2006-07. Against recoverable quantity of 29,53,236 kgs. of Aluminium (Al) and 4,56,108 kgs of Copper (Cu) Scrap, actual recovery was 27,01,301 kgs

* Gorakhpur, Varanasi, Allahabad, Meerut and Agra.

** Tender specification No. 1116/01 & 1117/01.

of Al and 4,10,150 kgs. of Cu Scrap. This resulted in short recovery of Al and Cu scrap valuing Rs.4.92 crore as per details given below:

(Rs. in lakh)

Division	Period	Aluminium (Kg.)					Copper (Kg.)				
		Recoverable	Actual Recovered	Difference	Rate	Amount	Recoverable	Actual Recovery	Diff	Rate	Amount
EWD, Meerut	3/02 to10/06	2334272	2134800	199472	149	297.21	273308	237488	35820	375	134.33
EWD, Agra	2/02 to 3/07	618964	566501	52463	61 to 82.50	37.78	182800	172662	10138	110 to 261	22.62
Total		**2953236**	**2701301**	**251935**		**334.99**	**456108**	**410150**	**45958**		**156.95**

Source: Inspection reports of damaged transformers and stock account of JEs.

Short recovery of 2,51,935 kg of Aluminum coils and 45,958 kg of copper coils from damaged transformers resulted in short recovery of aluminum and copper scraps valuing Rs.4.92 crore.

The DVVNL Management stated (September 2007) that as per joint verification report (2006-07) of transformers of different capacities in Agra Workshop, the percentage of Super Enameled winding wire type and DPC winding wire type transformers was 23 to 54 *per cent* and 46 to 77 *per cent*. The quantity of every HV/ LV coils in Super Enameled winding wire type became lesser by 12 to 16 *per cent* than DPC winding wire type transformers. It was further stated that in case of fire some quantity of aluminium and insulation in the coil was burnt. The reply of the Management is not tenable as the norm of recovery of minimum quantity of HV/LV coils was fixed after considering all these factors for all types of transformers and the working of the Audit was based on the norms fixed by the Management.

Non-disposal of power transformers

2.3.26 Disposal of all uneconomical power transformers and the transformers becoming surplus due to change of ratio from 37.5/11 KV to 33/11 KV and 132/37.5 KV to 132/33 KV is to be made immediately through auction.

It was noticed (April 2007) that 193 transformers (1.5 to 12.5 MVA) had been lying at various 33/11 KV substations* since March 1985 to February 2007 as these transformers could not be put to use due to abandoning of 37.5/11 KV and 132/37.5 KV system and also due to declaration of some transformers as uneconomical. No action was, however, taken to dispose off these transformers. This resulted in depriving the Companies to realise at least Rs.5.18 crore by taking 20 *per cent* of the cost of the transformer as the disposable value.

The DVVNL Management stated (September 2007) that tenders for repair of three transformers of 5 MVA capacity had been invited. The facts remains that the Companies are not paying due attention for disposing of unusable transformers which could generate revenue for these Companies.

Internal Control and Internal Audit

2.3.27 Internal control is a management tool used to provide reasonable assurance that organisation's objectives are achieved in an effective, efficient and economical manner.

It was noticed (April 2007) that the internal control system in the power sector Companies was deficient as discussed below:

* Meerut, Ghaziabad, Agra, Varanasi *etc.*

- each segment of transformation system *viz.*, power transformation, sub-transformation, distribution transformation and connected load was found mismatched;
- procurement of transformers was made on *adhoc* basis without proper assessment of requirement. The Companies did not devise any standard procedure for periodical receipts of indents from field offices for placement of purchase orders;
- basic records such as census of transformers, transformers' history cards, serial numbers of transformers sent for repairs to TRWs and outside firms, log books of transformers in transmission/distribution sub/stations and registers relating to trippings, voltage fluctuations, outages, *etc.* were not being maintained either in the field units or at the headquarters;
- no guidelines were laid for timely disposal of scrapped transformers.

Internal Audit

2.3.28 Internal audit is a system designed to ensure proper functioning as well as effectiveness of the internal control system and detection of errors and frauds. It should, as an independent entity, examine and evaluate the level of compliance to the financial rules and procedures. It was noticed (April 2007) that UPPCL and four Discoms had not prepared the Internal Audit Manual. The Statutory Auditors of the UPPCL observed (October 2007) that the internal audit system of the UPPCL needs further strengthening and improvement in terms of areas covered and reporting frequencies.

In ARCPSE meeting the Management of the Companies accepted (August 2007) that Internal control mechanism was there but it was not working properly due to some circumstances and complications.

Acknowledgement

2.3.29 Audit acknowledges the co-operation and assistance extended by different levels of officers of the Company at various stages of conducting the performance audit.

The above audit findings were reported to the Management/Government in June 2007; replies of PVVNL/PuVVNL/Government are awaited (October 2007).

Conclusion

Performance of power sector Companies with regard to procurement, maintenance and repair of transformers was found to be deficient due to non-standardisation of procedures, non-fixation of norms and absence of controls. No census of transformers procured, issued and commissioned was ever undertaken by the Companies. Periodical maintenance of power and distribution transformers was not carried out resulting in high failure rate of distribution transformers. The Companies had not assessed and fixed the annual capacity of their transformer repair workshops. Further, the Companies had also not adhered to the procedure to conduct auction of the damaged/uneconomical transformers lying at store centres.

Recommendations

The power sector Companies need to:

- **prepare annual plans and cost analysis for procurement of transformers;**
- **conduct census of transformers and maintain history cards to ensure their efficient performance;**
- **prescribe a maintenance schedule for transformers and ensure its adherence to avoid premature failure;**
- **evolve a monitoring mechanism in respect of repair of transformers and cost analysis thereof for cost effective repairs;**
- **strengthen the internal control mechanism.**

2.4 Performance Review on Information Technology Support System for revenue billing in Allahabad and Varanasi towns of Purvanchal Vidyut Vitaran Nigam Limited, Varanasi

Highlights

Geographical Information System (GIS) mapping, meant for giving minutest details of the network and the connected consumers in a digital form was not available for monitoring despite incurring an expenditure of Rs.27.44 lakh.

(Paragraph 2.4.8)

Non updating of the master databank resulted in non-inclusion of 64 per cent cases of Varanasi town. Further, it had many duplicate service connection numbers, duplicate meters numbers and duplicate consumers, without prescribed fields values, vital fields as zero and consumers of higher tariff finding place in the lower tariff etc. which could not be corrected in the master databank.

(Paragraphs 2.4.10, 2.4.11, 2.4.12 and 2.4.15)

Before outsourcing the activity, the Company did not ensure participation of staff in trial run and monitoring of output to ensure error free generation of bills. For defective meters, the field of past three month's average consumption was not available. Thirty one per cent meters were defective since last 216 months. In 380 cases short assessment of Rs.36.14 lakh was noticed. In case of defective meters of domestic light and fan consumers, electricity charges were not charged for fixed units as done in other category of consumers resulting in short assessment of Rs.7.06 crore.

(Paragraphs 2.4.16, 2.4.17, 2.4.18 and 2.4.25)

The agreement with the Agency did not provide for obtaining system configuration details, staff skills, security features, IT audit by the Company or external agencies. Inadequate system configuration, security, storage capacity, efficiency and staff skills were noticed on physical verification. Further, the Company did not put in place its disaster recovery and business continuity plan.

(Paragraphs 2 4.21, 2.4.22, 2.4.23, 2.4.24 and 2.4.26)

Introduction

2.4.1 Purvanchal Vidyut Vitaran Nigam Limited, Varanasi (PuVVNL), a subsidiary of Uttar Pradesh Power Corporation Limited, Lucknow (UPPCL), was incorporated in May 2003 for distribution of energy in 21 districts of Eastern Uttar Pradesh. The Company serves about 24 lakh consumers having a connected load of 808.40 MW and energy sale of about 142.33 crore units with the basic objective of improving quality of electricity supply and services, increase consumer satisfaction, maximize revenue realisation and thereby make it commercially viable. To attain this objective, UPPCL felt the need for an information technology (IT) support system for maintaining a comprehensive databank of distribution network/consumers, accurate and speedy bill generation, bill distribution and collection of revenue.

UPPCL outsourced the billing and collection activity (through cheques) in 19 towns of the State during 2004-05. It included Allahabad and Varanasi towns under the jurisdiction of PuVVNL where the outsourcing was entrusted to KLG Systel Limited (Agency) in November 2004 at a contract value of Rs.7.36 crore[1]. The work comprised door-to-door survey of each consumer, indexing and allotment of unique identification number, updation and creation of master databank, development of geographical area road map, meter reading, bill generation, bill distribution, collection of revenue through cheques at consumers' doors, disconnection and reconnection of consumers *etc.*

Organisational set up

2.4.2 The Board of Directors of PuVVNL (Company) comprises of a full time Managing Director and two other Directors. The Company does not have any structured staff composition for IT support services from the corporate management to the base level for ensuring efficiency and effectiveness of the IT based services. The Deputy General Manager in-charge of a Circle of the respective towns are generally the Chief Executive Officer responsible for making payments to the outsourced agencies. Executive Engineer and his staff at the Urban Distribution Divisions are responsible for monitoring and control of activity of bill generation, revenue collection and other related works outsourced to the agency.

Scope of Audit

2.4.3 Scope of Audit included analytical review of the data bank of six[2] divisions of Varanasi and two[3] divisions of Allahabad towns for the latest billing cycle (reading of March 2007 billed in May 2007) to ascertain authenticity, accuracy and completeness of the databank for error free bill generation. For detailed scrutiny of related activities, one division each from Allahabad[4] and Varanasi[5] towns was selected. The correspondence files with the Agency, the new connection registers, permanent disconnection registers *etc.* maintained at the divisions were also test checked.

Audit objectives

2.4.4 Review of 'Information Technology Support System' as maintained by the outsourced agency for revenue billing and collection in eight selected divisions of Varanasi and Allahabad towns was conducted to assess whether:

- the objective for having the GIS[6] mapping for the electrical network trial runs were undertaken to ensures/consumers fulfilled;
- the master databank was regularly updated to ensure billing of all the consumers;
- Business Continuity and Disaster Recovery Plan was in place to save it from the risk of disruption of the billing and collection activity;

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[1] Allahabad: Rs.3.26 crore and Varanasi: Rs.4.10 crore
[2] Bhelupur, Machhodari, Ashapur, Chetmani, Chaukaghat and Orderly Bazar.
[3] Mayohall and Rambagh.
[4] Electricity Urban Distribution Division, Mayohall, Allahabad.
[5] Electricity Urban Distribution Division, Machhodari,Varanasi.
[6] Geographical Information System.

- adequate correct generation of bills;
- adequate control mechanism exists to ensure generation of correct energy bills and to prevent, detect and correct the errors/irregularities.

Audit criteria

2.4.5 The following audit criteria were used to ascertain whether the objectives stated as above were fulfilled:

- Comprehensiveness of the agreement entered into between the Company and the outsourced agency for safeguarding financial interests;
- Availability of IT skills and tools with the outsourced agency
- Existence of a system to verify outsourced agency's system configuration, security, controls and other inputs.
- Existence of a systematic approach to identify system weaknesses through an internal control mechanism.

Audit methodology

2.4.6 The data relating to revenue billing were analysed in June 2007 using computer assisted auditing tool *viz.* IDEA* for examining the correctness, completeness and integrity of the data. Besides examining the above data, the existence and adequacy of IT skills, PuVVNL staff participation, efficiency and effectiveness of IT support system was also assessed.

Audit Findings

2.4.7 Audit findings, arising from the performance review of information technology support system of outsourced agency for revenue billing in eight divisions of Varanasi and Allahabad towns of PuVVNL were issued to the Government (June 2007). These findings were further discussed in meetings with Chief Engineer (Commercial) in August 2007. Assessment of the outside Agency's system configuration and staff skills were also carried out in association with PuVVNL. The Review was also discussed in the Audit Review Committee for State Sector Public Enterprises (ARCPSE) held on 31 August 2007. The views expressed by the Management and members present in the meeting have been taken into consideration while finalising the review.

Non utilisation of GIS mapping

Company was not able to make use of GIS mapping rendering the expenditure incurred on it as unfruitful.

2.4.8 According to clause 4.1 to 4.3 of the agreement executed (November 2004) with KLG Systel Limited, the agency was to develop geographical area route maps of circles including mapping, documentation and indexing of sub-transmission and distribution networks on geographical area map for all the 33/11 KV sub-stations up to low tension lines and consumers and plotting the same on GIS maps at a cost of Rs.27.44 lakh. Further, as per clause 11 of the agreement, the agency was required to make the maps using legally procured digital satellite imagery of National Remote Sensing Agency (NRSA), Hyderabad and submit proof thereof. The GIS mapping was to be done using suitable software with provision of queries so that changes could be

* Interactive Data Extraction and Analysis package.

incorporated and to find details of the networks and the existing consumers in a digital format.

It was noticed by Audit that GIS mapping as prepared by the Agency was not available with any of the offices (including the corporate office) in a soft copy with supporting software and interface with the Agency's server. The GIS mapping was also not developed as per the technical specifications of the agreement. GIS mapping was to be updated on periodical basis but such updating was never done. As the Company was not able to make use of this mapping, the expenditure incurred on this work became unfruitful.

The Company, therefore, failed to identify the consumers' details (loads, linkage to the transformers, transformers to the secondary and primary sub-stations, billing and collection position *etc.*) to address load and voltage problems efficiently. It also failed to identify technical and commercial losses for each feeder and transformers to redress the anomalies of the network.

Management stated (August 2007) that it would get the GIS mapping installed on each division's system along with supporting software and linkage to server.

Non updating of master database

2.4.9 Clauses 4.4 and 5.1 of the agreement provided for developing a databank based on door-to-door survey of each consumer and consumer related records available with PuVVNL, allotment and indexing of unique identification number and updating of master databank before starting the activity of bill generation, bill distribution and collection of revenue (through cheques) at consumers' doors. It was noticed in audit that instead of developing the master databank as per this procedure, the agency obtained the billing data of the previous outsourced agency *viz.* Integrated Software Systems Limited, Lucknow (ISS) from the Company in a soft copy and started billing of the consumers without updating the previous data base. The coverage of door to door survey conducted by the agency was only partial and this resulted in non-billing of consumers, inconsistencies in the data bank, vital fields remaining blank, non-issue of first bills and other deficiencies as discussed in succeeding paragraphs.

Non-billing of consumers

2.4.10 The agency reported in September 2005 that there were 213463 consumers (in six divisions of Varanasi) existing as per its survey. Out of this, 137602 consumers* (64 *per cent*) were categorised as (i) using direct connection without meters, (ii) whose premises were permanently locked (iii) and who denied entry for survey. The cases of direct connections were to be dealt with in accordance with clause 8.1 of the Code 2005 and Section 135 of Electricity Act, 2003; the cases of entry denied were to be dealt with as per clause 6.2 (c) of the Code and the cases of premises permanently locked were to be re-surveyed for identifying the status and the authenticity of the report of the agency. Progress made to regularize these large cases of consumers was not available on record. The data in respect of the divisions of Allahabad was not provided to audit.

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* 71385 direct connections *plus* 33248 consumers premises permanently locked *plus* 32969 cases of entry denial.

It was also observed that 268 consumers of LMV-4 and LMV-6 tariff categories (public/private institutions, industrial units, *etc.*) of Mayohall division of Allahabad were not finding place in the billing ledgers of the current data bank. The division did not raise any billing advises in respect of these consumers despite the knowledge about these consumers.

In five other cases, the consumers were not having meters or service connection numbers in the databank but were billed on a fixed charge basis after these consumers approached PuVVNL on their own. Identification of all such cases was not possible because of non conduct of a comprehensive door to door survey by the outsourced agency.

Showing concern on the alarming situation of non-billing of consumers, the management stated (August 2007) that the agency did not have a proper server, adequate and skilled manpower, sufficient, safe and secure hand-held machines *etc.* to handle such large volume of transactions. Further, the divisions did not have any control on the data with the agency on account of lack of IT skills. The divisions also did not know whether correct rates had been applied, all the consumers had been billed and the consumers billed had received their bills. In many cases, meters were available in the premises of the consumers but agency had not filled in meter numbers in the billing ledgers. Management admitted (August 2007) the failure of the agency in view of lack of skilled manpower deployment and expressed the view that while outsourcing the activity in 2004, the past working experience of the agency should have been considered and lowest quoted rates should not be the only criterion for the selection.

Inconsistencies in the databank

Inconsistencies in the databank resulted in presence of 1728 duplicate service connection numbers, 3905 duplicate meter numbers and 121 duplicate consumers.

2.4.11 The Computerised system of the agency lacked controls to detect cases of duplicate/triplicate service connection numbers, duplicate or fictitious meter numbers, duplicate consumers. An analysis in audit revealed presence of 1728 cases of duplicate service connection numbers, 3905 cases of duplicate meter numbers, and 121 cases of duplicate consumers. The details are given below:

Division	Duplicate/Triplicate service connection Nos.	Duplicate meters[*]		Duplicate consumers having all identical field values
		Nos.	Extent of repetition	
Varanasi				
Bhelupur	404	1193	2 to 13	77
Machhodari	435	834	2 to 780	34
Ashapur	112	214	2 to 1516	Nil
Chetmani	175	371	2 to 56	2
Chaukaghat	54	217	2 to 190	2
Orderly Bazar	217	226	2 to 1201	2
Total	**1397**	**3055**		**117**
Allahabad				
Mayohall	86	124	2 to 141	2
Rambagh	245	726	2 to 224	2
Total	**331**	**850**		**4**
Grand total	**1728**	**3905**		**121**

Source: Electronic databank of the divisions.

[*] Includes fictitious meter numbers.

The presence of duplicate meter numbers to such a large extent was because of fictitious entries made for this field value. Availability of a large number of duplicate/triplicate consumer numbers indicated the possibility of crediting the payment of one consumer in the account of some other consumer. Presence of duplicate consumers may lead to double billing of consumers. This position showed that the databank was fraught with serious errors and the objective of correct realisation of revenue from all the consumers could not be met.

The field of father's/husband's name was deleted from the data bank. In many cases, the address column contained only partial entries. The serving of notices under Section 3 and 5 using the computerised databank for correct bill of Uttar Pradesh Electrical Undertakings (Dues Recovery) Act, 1958 generation and collection of revenue was not possible because of incomplete addresses.

The Management stated (August 2007) that all such cases of duplicacy would be scrutinised and appropriate action would be taken to correct the position.

2.4.12 It was noticed in audit that out of 129190 consumers of one billing cycle, sequence no. was blank in 1062 cases, feeder number was blank in 1062 cases, consumer index number was blank in 1010 cases and sanctioned load was zero in 21 cases of consumers as detailed below:

Name of Division	Total consumers	Sequence no.	Feeder number	Consumer index number	Sanctioned load
Varanasi					
Orderly Bazar	10304	52	52	No field	2
Ashapur	9576	55	55	55	3
Bhelupur	21191	43	43	43	0
Chowkaghat	9617	391	391	391	1
Chetmani	18409	72	72	72	0
Machhodari	23289	27	27	27	8
Total	**92386**	**640**	**640**	**588**	**14**
Allahabad					
Mayohall	17289	0	0	0	2
Rambagh	19515	422	422	422	5
Total	**36804**	**422**	**422**	**422**	**7**
Grand total	**129190**	**1062**	**1062**	**1010**	**21**

Source: Electronic databank of the divisions.

The Management stated (August 2007) that they would examine these cases.

2.4.13 The billing databank did not contain the fields of consumers' details, and meter details as stipulated in clause 4.4.2 of the agreement. The consumer's details that were not available in the databank include security deposit, name of the concerned Junior Engineer, monthly assessment of the consumer based on connected load and status, type of service lines, overhead line and cable service from pole/bracket/underground cable. Similarly, the meter details that were not available include manufacture's serial number, departmental serial number, date of installation of meter, physical condition of the meter and seal, viewing glass, sign of tampering (if any), seal on the meter body/meter terminal plate, number of digits, physical location of the meter (approachability, readability and identifiability), status of wiring/service cable (OK, cuts, joints, tampering, clustered, *etc.*).

The Management stated (August 2007) that they were not able to exercise any control on account of lack of IT skills and that these issues would be sorted out in consultation with the Agency.

Non capture of 'Unique Electricity Consumption' consumption

2.4.14 Paragraph 6 of agreement with the agency provides for developing "Unique Electricity Consumption (UEC)" patterns based on each consumer's connected load and past consumption. This was to check consumers' premises in case of abnormal variations of their load and consumption. UEC patterns were not available in the database maintained by the agency.

Actual consumption of 4564 consumers (out of 129190 consumers) was on higher side as compared to sanctioned load ranging from 216 to 28080 units.

In the absence of UEC in the data bank, the consumption pattern of healthy meters (HLT) where meter readings were available was calculated in audit on the basis of sanctioned load for a period of one month in respect of all consumers. It was noticed that the actual consumption of 4564 consumers (out of 129190 consumers) was on higher side ranging from 216 to 28080 units in all the divisions when compared with the sanctioned load as detailed below:

Division	Total consumers	LMV-1		LMV-2 and others	
		No. of consumers	Range of excessive units*	No. of consumers	Range of excessive units
Varanasi					
Orderly Bazar	10304	187	216-19440	51	360-16200
Ashapur	9576	128	216-4752	29	360-7560
Bhelupur	21191	859	360-8640	532	360-33120
Chaukaghat	9617	565	432-14904	132	720-10800
Chetmani	18409	753	216-28080	59	360-25200
Macchodari	23289	386	216-3024	70	360-5400
Total	**92386**	**2878**		**873**	
Allahabad					
Mayohall	17289	370	216-15552	92	360-25200
Rambagh	19515	307	216-15120	44	360-5040
Total	**36804**	**677**		**136**	
Grand Total	**129190**	**3555**		**1009**	

Source: Electronic databank of the divisions.

This indicated the need for checking consumers' installations to ascertain the actual load and to regularize the excess loads as per procedure of Code, 2005.

The Management stated (August 2007) that they would look into the matter.

Incorrect Application of tariff

2.4.15 When the names and address of the consumers in domestic light and fan category (LMV-1) was sorted, it was noticed in audit that 149 consumers were falling under LMV-2 (shops, hotels, private guest houses, commercial establishments, cinema *etc.*) or LMV-4 (societies, public and private institutions, hostels *etc.*) categories. Thus, they were billed under lower category of tariff. The details are given below:

Sl. No.	Division	LMV-1 category having higher tariff consumers (No. of consumers)
Varanasi town		
1	Bhelupur	33
2	Machhodari	36
3	Ashapur	16
4	Chowkaghat	08
5	Chetmani	14
6	Orderly Bazar	05
	Total	**112**
Allahabad town		
7	Mayohall	32
8	Rambagh	05
	Total	**37**
	Grand total	**149**

Source: Electronic databank of the divisions.

* As compared to the units worked out on the basis of sanctioned load, supply taken as 24 hours, number of monthsx30 and factor as per annexure 6.3 of "The Uttar Pradesh Electricity Supply Code, 2005 (page no. 96).

The above inconsistency in the application of tariff was made possible due to non-identification of correct category of consumers by the agency.

Non assessment of defective meters

2.4.16 Clause 4.4.1 (g) (ii) of the agreement provide for development of software and database as per the respective Rate Schedules of tariff. For defective meters, the Rate Schedule applicable from 1 December 2004 provide for billing on the basis of average consumption of previous three billing cycles or in cases of non-availability of such data, on the basis of average consumption of subsequent three billing cycle after a correct meter was installed. This method was to be followed till the defective meter was replaced/repaired and the billing was restored on the basis of actual consumption recorded by the meter.

It was noticed in audit that the databank did not have consumption for previous three billing cycles to enable billing at average consumption when a meter becomes defective. The billing ledger showed billing status of consumers as having defective meters but did not have required data for generation of bills on the basis of average consumption during past three months. Further, in many cases, the last reading dates indicated in the billing ledgers were pertaining to the period November 1986 to March 1994 indicating that correct consumption for billing was not available since then. The number of defective meters as per one billing cycle's databank revealed that the defective meters accounted for 31 *per cent* of the total meters installed.

It was also noticed that hypothetical meter numbers were entered into the databank. The databank that was to be developed on the basis of door to door survey could have shown such hypothetical meters distinctly to enable segregation thereof from the real meters and appropriate action in future planning.

The Management stated (August 2007) that this was a matter of serious concern and agreed to look into the matter.

Generation of bills was not based on meter readings

Generation of bills was not based on meter readings despite availability of meter readings resulted in short assessment of Rs.36.14 lakh in 380 cases.

2.4.17 For cases involving defective meters of domestic light and fan consumers (LMV-1), bills were issued on the basis of fixed charges plus Rs.120 per KW/month. It was revealed in audit that in cases of a number of consumers, billing (at the rate of Rs.120 per month per KW) was done on the pretext that meters were defective despite availability of meter readings. In some cases, the meter readings indicated higher consumption than the assessment made. In such cases, the bills should have been generated for the units consumed. Analysis of the consumption on the basis of meter digits *minus* last OK reading revealed that in 380 cases, the electricity charges recoverable were more than the electricity charges assessed at Rs.120 per month for the number of months from last OK reading date till the current reading date. This resulted in short assessment of Rs.36.14 lakh in 380 cases of one billing cycle as detailed below:

Division	Number of cases	Consumption over last OK readings*	Electricity charges (Rs.)	Billed at Rs.120 per KW/month (Rs.)	Short billed (Rs.)
Bhelupur	106	409291	1046846	97800	949046
Machhodari	80	270677	622842	97080	525762
Ashapur	60	303731	758489	217440	541049
Chetmani	57	258808	647141	201480	445661
Chaukaghat	32	221812	523679	119160	404519
Orderly Bazar	45	386266	998351	250252	748099
Total	**380**	**1850585**	**4597348**	**983212**	**3614136**

Source: Electronic databank of the divisions.

While accepting the facts, the Management stated (August 2007) that this was a matter of serious concern and agreed to take corrective action.

Incorrect generation of bills amounts in LMV-I category consumers having defective meters

Incorrect assessment of LMV-1 category consumers having defective meters resulted in short assessment of revenue amounting to Rs.7.06 crore.

2.4.18 Further analysis revealed that in all cases of LMV-1 category consumers (Domestic Light, Fan and Power consumers) where the meters were defective, the agency billed the consumers at a flat rate of Rs.120 per KW/month although the units sold were shown at 80 units per KW/month and electricity duty was also assessed on 80 units. For 80 units, the assessment of electricity charge per KW/month worked out to Rs.163** as per LMV-1 tariff. The assessment at Rs.120 per KW/month was to be paid provisionally by the consumers and was to be adjusted against the bills of actual consumption raised subsequently on the basis of meter readings.

Compared to the assessment on the basis of 80 units per KW/month, the short assessment of electricity charges for the period from December 2004 to May 2007 worked out to Rs.7.06 crore in 25744 cases of defective meters as detailed below:

Division	Number of cases				Short assessment (Rs. in crore)			
(a) Varanasi	**IDF**	**ADF**	**RDF**	**TOTAL**	**IDF**	**ADF**	**RDF**	**Total**
Bhelupur	1574	1486	796	3856	0.38	0.53	0.16	1.07
Chetmani	1619	1016	815	3450	0.61	0.15	0.08	0.84
Orderly Bazar	2171	527	556	3254	0.66	0.15	0.08	0.89
Chowkaghat	491	213	500	1204	0.14	0.04	0.07	0.25
Ashapur	2282	537	584	3403	0.47	0.13	0.05	0.65
Machhodari	1601	1053	1328	3982	0.26	0.06	0.09	0.41
Total (a)	**9738**	**4832**	**4579**	**19149**	**2.52**	**1.06**	**0.53**	**4.11**
(b) Allahabad								
Mayohall	2768	576	625	3969	1.56	0.13	0.16	1.85
Rambagh	888	900	838	2626	0.63	0.27	0.20	1.10
Total (b)	3656	1476	1463	6595	2.19	0.40	0.36	2.95
Grand total (a+b)	**13394**	**6308**	**6042**	**25744**	**4.71**	**1.46**	**0.89**	**7.06**

Source: Electronic databank of the divisions.

* (meter digits *minus* last OK reading)*Multiplying factor.

** 70 units X Rs.1.90 plus 10 units X Rs.3.00.

The earlier billing agency (prior to December 2004) was showing previous consumption for each consumer in the billing ledger to enable estimation (if required) of average consumption for billing in case the meter becomes defective. The Company needed to devise appropriate mechanism to save it from loss of revenue in such cases.

The Management stated (August 2007) that the billing as per fixed units was as per the UPPCL's earlier orders because average consumption was not available for long periods in these cases. The fact, however, remains that under assessment continued even with reference to the orders of UPPCL.

Errors in calculations of bill amounts

2.4.19 As depicted in the table below, there were 5195 cases out of 129190 consumers of eight selected divisions where the electricity charges calculated by the computerised system was slightly different from the actual electricity charges leviable as per tariff schedule.

Division	Cases with wrong calculation of electricity charges in respect of non domestic consumers (LMV2 tariff)
Varanasi	
Bhelupur	29
Machhodari	874
Ashapur	216
Chetmani	595
Chaukaghat	176
Orderly Bazar	154
Total	**2044**
Allahabad	
Mayohall	3113
Rambagh	38
Total	**3151**
Grand total	**5195**

Source: Electronic databank of the divisions.

The Management replied that these cases of incorrect calculations would be rectified.

Deficiencies in the general control environment

2.4.20 The agreement entered into with the Agency did not provide for the system specifications of hardware to be used, arrangement for back ups and other hardware, *etc.* There was no mechanism with the management to gain assurance about the information security.

2.4.21 Physical verification of the Agency's system at Allahabad and Varanasi towns revealed that it did not have server that allows computers in a network to have a shared resource. It used non-branded Pentium-4 as servers which did not fall in the category of high-end servers as pointed out by the management itself. Due to non-use of high-end servers, the system configuration of the Agency had limited storage capacity, affecting the speed for processing of input data, data security, reliability and linkage to GIS mapping.

2.4.22 Clause 4.4.1 (g) (iii) of the agreement with the Agency provide for taking daily back up data on DAT drive and to keep it safe at a location different from the server room for safety purposes. A review of the system configuration with the agency revealed that it did not have the DAT drive for taking back ups and the same was done through 200 GB external hard disc drive that were prone to risk of damage and loss of data.

2.4.23 The agreement does not stipulate any clause for IT audit of its system and databank by independent IT auditors of the Company or external auditors to ensure prevention, detection, and correction of errors.

2.4.24 Clause 10.0 (ii) provides that the contractor should have adequate number of professionals as mentioned in the agreement whose educational qualifications and expertise details must be furnished to the Company. These include (a) professional expertise in computer programming/operation; (b) electrical engineers with degree from recognised institute; (c) professionals trained in accounting and commercial aspects and (d) trained electricians, wiremen, linemen in electrical trade having "A" class valid license in the trade concerned issued by Director of Electrical Safety. A review of the staff strength and their qualifications as employed by the agency revealed (August/September 2007) that it did not have the skilled staff as stipulated in the agreement.

Inadequate acceptance testing

2.4.25 For success of computerised system of billing and collection of revenue, it is necessary that trial run of the software is undertaken in association of a skilled team of members of user divisions/circles before commencement of work by outsourced agency. The trial run should have been carried out considering the tariff structure, possible errors in billing, posting of collection, updating of assessment in case of dishonoured cheques, updating of bill revision/permanent disconnection cases, reconciliation of assessment, realisation, waiver and closing arrears, carry forward of arrears, working out of unit consumption in case of change of meter, defective meters, audit trails, generation of notices under Section 3, its indication in the databank and many other such requirements.

A comprehensive trial run programme could have provided a reasonable assurance in meeting the objectives of correct bill generation. No trial runs or acceptance testing was, however, ever carried out by UPPCL or PuVVNL of the computerised system put to use by the outsourced agency. In the absence of appropriate trial run, the data bank had deficiencies leading to incorrect generation of bills.

It was observed in audit that there were cases where (i) databank showed an unbelievable consumption of 3,33,33,333 units against a sanctioned load of 1 KW, (ii) billing ledger incorrectly showed incorrect number of consumption of units as compared to consumption calculated on the basis of meter readings, (iii) application of minus load and unrealistic factors in billing, *etc.* Such aberrations were found in all the test checked divisions of Varanasi and Allahabad towns and such errors in calculations were avoidable and happened because of inadequate trial runs.

Lack of adequate disaster recovery and business continuity plan

2.4.26 The Company did not have a formal disaster recovery and business continuity plan to provide reasonable assurance that the data processing operations could be regained effectively and in a timely manner, should a disaster render automated systems of the outsourced agency non-operational. The key configuration items (hardware, software, personnel and data assets), which were indispensable for continuity of the IT activities had not been identified through a proper risk analysis and counter measures were not outlined.

In the absence of a business continuity and disaster recovery plan, a significant disaster impacting the outside agency's servers and other computing systems ran the risk of paralyzing the billing and collection activity of the Company that would seriously hamper the main activity.

The management stated (August 2007) that they were not satisfied with the system configuration, capability, skills of staff employed by the Agency.

Acknowledgement

2.4.27 Audit acknowledges the co-operation and assistance extended by different levels of officers of the Company/Government at various stages of conducting the performance audit.

The above audit findings were reported to the Government in June 2007; the reply is awaited (October 2007).

Conclusion

The Company has risked the main activity of bill generation and collection of revenue as it is not able to derive expected benefit by outsourcing of the activity at a cost of Rs.7.36 crore. This is due to the fact that the Company could not ensure authentic, accurate, efficient and effective data bank for error free bill generation due to inadequate trial run of the software, lack of checking and monitoring of billing ledgers, lack of application controls and inadequate internal control and monitoring mechanism.

Recommendation

- **The Company should develop adequate infrastructure of skilled manpower and IT tools to check errors and omissions committed by the outsourced agency;**
- **The Company should identify and document the required checking and monitoring to be done by its own staff at divisional level;**
- **Geographical Information System (GIS) mapping should be obtained by each division with supporting software and linkage with the server to have the network, connected consumers and other details;**
- **The Company should ensure technical capability and skilled manpower deployment by the outsourced agency while awarding the contract;**

- **The Company should ensure obtaining of back up of each months databank in an editable format to ensure analysis, linkage and retrieval of data in case of need and to save it from disaster of the Agency's system;**
- **The Company should put in place its own internal control and monitoring mechanism for prevention, detection and rectification of deficiencies committed by the outsourced agency through its own IT skilled staff.**