

2.2 Review on the working of Lucknow Electricity Supply Administration

Highlights

Lucknow Electricity Supply Administration (LESA) is one of the 11 distribution zones of Uttar Pradesh Power Corporation Limited that was engaged in distribution of energy to the consumers of urban and some part of rural areas of State capital Lucknow.

(Paragraph 2.2.1)

Due to poor collection efficiency, the Company could not recover its dues that stood at Rs.356.13 crore as on 31 March 2003.

(Paragraph 2.2.4)

Mismatch of the transformation capacity with the total connected load resulted in overloading of the system. This caused excessive damage of distribution transformers in excess of norms valued at Rs.34.63 crore.

(Paragraph 2.2.5 and 2.2.7)

Shortfall in installation of capacitor banks at load ends of sub-stations resulted in loss of savings of 29.86 MU of energy valued at Rs.7.99 crore.

(Paragraph 2.2.6)

Excessive distribution losses over the Central Electricity Authority norms worked out to 2115.19 MU valued at Rs.561.49 crore during the last five years ending 2002-03.

(Paragraph 2.2.8)

Despite theft of energy and excess loads detected and reported by vigilance wing of the Company, the assessment of Rs.99.95 lakh from December 1999 to January 2003 was not done.

(Paragraph 2.2.9)

With an objective to strengthen the system and thereby avoid overloading, the Company received grant of Rs.4 crore under Critical Infrastructure Balancing Scheme. The objective could not be achieved as the Company instead of undertaking any work, adjusted the grant against earlier executed work and submitted false utilisation certificate to the State Government.

(Paragraph 2.2.11)

The Company could not realise Rs.12.82 crore from consumers as it failed to raise assessment or made belated assessment in contravention of the prescribed procedure.

(Paragraph 2.2.21)

Introduction

2.2.1 The erstwhile Uttar Pradesh State Electricity Board (UPSEB) reorganised (August 1998) its Lucknow Electric Supply Undertaking (LESU) into Lucknow Electricity Supply Administration (LESA) with the focus to have intensive improvement in power system and supply of energy, so as to meet the increasing

demand of consumers in the State capital Lucknow. LESA is one of the 11¹ distribution zones of Uttar Pradesh Power Corporation Limited (Company). It is engaged in distribution of energy to the consumers of urban areas of State capital Lucknow and some part of its adjoining rural areas.

Organisational set-up

2.2.2 The overall Management of LESA is vested with Chief General Manager (CGM) who in turn reports to Director (Distribution) of the Company. For day to day management, CGM is assisted by four Deputy General Managers, 21 Executive Engineers (EEs) and one Deputy Chief Accounts Officer. The distribution of energy including associated functions² is carried out by 11 Distribution Divisions supported by three Test Divisions (for metering function), three Construction Divisions (for lines and sub-stations) and one System Improvement Division (for implementation of system improvement works), each under the charge of an EE. For bringing economy and efficiency in working of LESA, the CGM was vested with the responsibility of direction, planning, monitoring and control over execution of schemes and works, pilferage of energy, distribution losses, maintenance and repairs of lines and sub-stations and assessment and realisation of revenue.

Frequent change of CGM's grossly affected the working of LESA

There have been frequent changes of CGM during last five years ending 2002-03, as nine CGMs held the charge of the post with tenure ranging from 1 to 16 months. This grossly affected the working of LESA. Management stated (September 2003) that frequent changes were due to the short service tenure of the officers promoted as CGM. Audit observed that for better working results of LESA, the CGM having service tenure of minimum two to three years should have been posted.

Scope of Audit

2.2.3 The activities of LESU were earlier reviewed and featured in the Report of the Comptroller and Auditor General of India, Government of Uttar Pradesh (Commercial) for the year ended 31 March 1989. The review was partially discussed by COPU³ and recommendations have not been received so far (September 2003). The present review was conducted during November 2002 to May 2003 and the activities of LESA viz. Distribution System, Banking Transactions, Commercial Performance, Procurement of material and Execution of works, etc. for a period of five years from 1998-99 to 2002-03 were analysed. Records at CGM office and at 16 divisions out of 18 divisions of LESA were examined.

The audit findings, as a result of test check of records, were reported to the Company/Government in July 2003 with a specific request for attending the meeting of Audit Review Committee for State Public Sector Enterprises (ARCPSE) so that the viewpoints of Company/Government could be taken into account before finalising the review. The meeting of ARCPSE was held on 16 September 2003 with Executives of the Company and their view points have been duly incorporated in the review.

Operational performance

2.2.4 The operational performance of LESA during the last five years ending 2002-03 are given in *Annexure-22*.

¹ LESA, Varanasi, Gorakhpur, Allahabad, Bareilly, Kanpur, Jhansi, Agra, Moradabad and Meerut and Lucknow.

² Construction, maintenance and repair of lines and sub-stations, system improvement works etc.

³ Committee on Public Undertakings.

Shortfall of revenue realisation of Rs.356.13 crore due to poor collection efficiency

The operational performance was marked by:

- Wide gap between revenue assessed and revenue realised which ranged between Rs.43.26 crore and Rs.89.80 crore during the last five years ending 2002-03. The total shortfall of revenue realised was Rs.356.13 crore.
- The collection efficiency was generally poor. Despite an improvement in 2000-01 (89.44 *per cent*), the same could not be sustained and came down to 81.67 *per cent* in 2002-03.
- During five years up to 2002-03, the distribution losses over the Central Electricity norms (11.5 *per cent*) aggregated to 2,115.192 MU valued at Rs.561.49 crore (referred to in paragraph 2.2.8).

Audit findings are discussed in succeeding paragraphs:

Distribution System

Mismatch of the sub-transmission and distribution system

2.2.5 As on 31 March 2003, LESA had transformation capacity of 852 MVA, at 62 nos. 33 KV sub-stations, against the connected load of 1,129.660 MVA, representing a gap of 277.660 MVA. Due to mismatch of the system, the existing system was overloaded which ranged from 1.25 to 1.38 times during the last five years ending 2002-03 as per details given below:

As on March	Connected load at sub-station (MVA)	Transformation capacity at 33 KV sub-stations (MVA)	Rate of overloading (times)
1999	802.663	643.500	1.25
2000	884.305	673.500	1.31
2001	985.251	713.500	1.38
2002	1001.968	723.500	1.38
2003	1129.660	852.00	1.33

In order to improve the existing system and reduce the system losses, BSES¹ Limited, Mumbai (Consultant) submitted (February 1999) a report considering six *per cent* load growth each year by undertaking works like increase in transformation capacity by 264 MVA, conversion of 157 circuit kilometers of overhead lines into underground cables and installation of 11 KV sub-stations, LT capacitors and energy meters of high accuracy class in phased manner during a period of four years i.e., up to 2002-03. The cost of implementation was estimated to be Rs.400 crore. The benefit expected was Rs.22.90 crore in the second year, Rs.46.46 crore in the third year, Rs.69.81 crore in the fourth year and Rs.98.33 crore from the fifth year.

LESA, however, failed to undertake these works on account of financial crunch. This indicates lack of professional approach of the Management of LESA whereby the required financial resources could have been met by realisation of dues which increased from Rs.269.35 crore in 1997-98 to Rs.625.49 crore in 2002-03. These funds were sufficient to cater the financial requirement for the proposed system improvement schemes.

The CGM, LESA stated (September 2003) that the capacity available was in excess, if the diversity factor at an average of 0.33 times (worked out on the basis of calculated average load factor of consumers) was taken into consideration. The reply is not acceptable as while proposing for budgetary supports from the Government,

¹ Bombay Sub-urban Electricity Supply.

LESA had shown (in the review of Ninth Five Year Plan 1997-2002 document) overloading of the system on the basis of total connected load. Further, the LESA's own consultant had also indicated emergent need for addition of the capacity for improving reliability of supply but the work was taken up belatedly from 2001-02. Thus, due to non-taking up the work timely, the expected benefits could not be obtained so far (September 2003).

Inadequate system compensation

2.2.6 Installation of capacitor banks reduces dissipation of energy in the system with added advantage of increasing load carrying capacity of the equipment and improving voltage profile of the system.

According to Company's own assessment, the load carrying capacity of equipment is increased by 28 *per cent* and energy dissipation is reduced by 40 *per cent* if 24 MVAR capacity of capacitor banks are installed.

Analysis made during audit revealed that the cost of installation of new capacitor banks worked out to Rs.3.51 lakh per MVAR based on actual cost incurred during 1997-98 to 2001-02 against the per annum energy saving valuing Rs.1.19 lakh (0.04958 MU). This indicated that the cost is recovered within three years of installation of capacitor banks. Installation of capacitor banks is, therefore, economical as it starts giving saving of Rs.1.19 lakh from the fourth year.

Based on the capacity of the capacitor banks as suggested (February 1999) by the consultant, the shortfall (including the damaged capacitor banks) worked out to 144.100 MVAR. The loss of energy that could have been saved by installation of capacitor banks worked out to 22.80 MU valuing Rs.6.14 crore during the last five years ending 2002-03.

The defective capacitor banks of 28.500 MVAR as on 31 March 2003 involved repair of only minor defects. The defects include damage of potential transformer, cable, panel switches, etc. that were of minor nature. The Company did not, however, rectify the defects that could have saved energy loss of 7.06 MU valuing Rs.1.85 crore during the last five years ending 2002-03.

Management stated (September 2003) that due to financial constraints the progress in installation of new capacitors and repair of old or damaged capacitor banks was slow. The reply is not tenable because the amount involved in installing the required capacitor banks was Rs.4.33 crore which could have saved energy loss of Rs.7.99 crore.

Excessive damage of distribution transformers

2.2.7 The Company had laid down (May 1982) that the damage of distribution transformers should be two *per cent* of installed transformers. Further, the consultant pointed out (February 1999) that over loading of the system caused excessive failure of equipment. The life of distribution transformers has been estimated to be 25 years, provided maintenance schedule is observed and protective devices are installed.

It was noticed that no records were maintained indicating preventive maintenance schedules and to indicate whether any preventive maintenance of transformers was carried out. The damage rate of distribution transformers exceeded the norms of two *per cent* and ranged between 12.50 and 68.20 *per cent* during the last five years ending 2002-03. The number of transformers damaged in excess of norms aggregated to 5,119 nos. valued at Rs.34.63 crore (*Annexure-23*). The excessive

Shortfall in installation of capacitor banks resulted in loss of savings of energy valuing Rs.7.99 crore

Distribution transformers damaged in excess of norms resulted in loss of Rs.34.63 crore

damages were mainly due to overloading of the transformers consequent to unauthorised connections.

Management stated (September 2003) that the damage of distribution transformers was due to illegal katiya connections and improper connected load etc. for which action would be taken.

Excessive distribution losses

2.2.8 Distribution losses indicates the difference between energy available for sale and the actual energy sold. This includes theft of energy due to inaccurate metering, non-metering, direct/katiya connections, excess load, etc.

The table below indicates the distribution losses during five years between 1998-99 and 2002-03 ranging from 28.63 to 33.86 per cent against CEA norms of 11.5 per cent.

(In million units)						
Particulars	1998-99	1999-00	2000-01	2001-02	2002-03	Total
Energy Received	1899.903	2058.952	2150.022	2296.789	2391.780	10797.446
Energy Sold	1256.662	1372.373	1524.647	1579.775	1707.092	7440.549
Loss of Energy	643.241	686.579	625.375	717.014	684.688	3356.897
Percentage	33.86	33.35	29.09	31.22	28.63	31.09
Loss of energy as per CEA norms	218.489	236.779	247.252	264.131	275.055	1241.706
Loss of energy over the norms	424.752	449.800	378.123	452.883	409.633	2115.191

Circle-wise/division-wise distribution losses are given in **Annexure-24**.

Loss of revenue due to excessive distribution losses over the CEA norms worked out to Rs.561.49 crore. It was also noticed that LESA incorrectly assessed the actual loss by showing excessive consumption by unmetered¹ consumers. This resulted in incorrect accountal of excess energy for these unmetered consumers distorting the correct computation of energy loss. After accounting for these excess bookings, the actual percentage of quantum of loss worked out to 30.89 to 37.72 per cent (**Annexure-25**).

The main reasons for this higher level distribution losses were mismatch of the sub-transmission and distribution system (paragraph 2.2.5), inadequate system compensation (paragraph 2.2.6), failure to arrest theft of energy (paragraph 2.2.9), higher incidence of ad-hoc billing against consumers (paragraph 2.2.10), improper and slow implementation of system improvement works (paragraphs 2.2.11 and 2.2.12) and slow progress in installation of electronic meters (paragraph 2.2.13) which are discussed in succeeding paragraphs.

Failure to curb theft of energy

2.2.9 The theft of energy comprised of unauthorised extraction of energy through direct/katiya connection, tampering in metering equipment and use of excess load than the sanctioned load. For curbing thefts of energy, the Vigilance Wing of the Company conducts raid from time to time on the premises of consumers and proposes assessment against consumers.

In case of theft of energy, the assessment was to be made on the basis of prescribed formula² at triple the rate of tariff applicable and in case of excess load at twice the rate as per Distribution Code prescribed by UPERC.

¹ Private Tubewells (PTW), State Tubewells (STW) and Street Light.

² L X H X D X F (Load x Hours x Days x Factor)

The Company failed to raise assessment aggregating Rs.99.95 lakh for theft of energy and excess loads

The Vigilance Wing submitted checking reports to Distribution Divisions of LESA for making assessment against the consumers on account of theft of energy (pertaining to commercial light & fan and industrial consumers) and excess load. It was noticed that assessment was not made in case of theft of energy (173 cases) amounting to Rs.16.92 lakh and in case of excess load (177 consumers) amounting to Rs.83.03 lakh during the period December 1999 to January 2003 by six divisions. The aggregate loss worked out to Rs.99.95 lakh¹.

Management stated (September 2003) that as per certificate submitted by the respective EEs of the divisions all the short assessment as pointed out by audit have been made. But neither the responsibility was fixed for delayed assessment nor recovery was effected so far (September 2003).

High incidence of ad-hoc billing

2.2.10 Failure to curb the large scale theft of energy was further compounded due to high incidence of ad-hoc billing against consumers because of non-replacement of defective meters, non-availability of readings, etc. As on 31 May 2003, out of 4,01,548 consumers, 2,63,410 consumers were billed on ad-hoc basis. In test check during audit it was noticed that 324 consumers were given supply without meter during April 1999 to November 2000 by EUDD, Aliganj, which caused loss of revenue of Rs.23.14 lakh.

At the instance of audit though the meters at premises of consumer were installed and necessary assessment bills were raised (September 2003), neither the responsibility for release of connection without meter was fixed nor recovery from the consumers was effected so far (September 2003).

Improper and slow implementation of system improvement works

Irregular utilisation of grants for execution of system improvement works under Critical Infrastructure Balancing (CIB) Scheme

2.2.11 In order to solve the problem of overloading and ensure uninterrupted power supply in Aminabad and Chowk area of Lucknow city, a proposal for grants-in-aid of Rs.7.38 crore for multiple improvement in the power system of area was submitted (1999-2000) to the Government of India (GOI). The improvement in the system was meant to promote export of chicken products and thereby add to foreign currency reserves of the country. The scheme that contemplated 33/11 KV and low tension (LT) sub-stations and lines, underground cable laying and other works for strengthening of the system was approved in June 2000. The grant was to be released in equal proportion by the State Government and GOI. The scheme envisaged an annual recurring benefit of Rs.1.54 crore on account of saving of energy losses (Rs.1.14 crore) and additional sale of energy (Rs.40 lakh). The State Government and GOI released Rs.2 crore each (total Rs.4 crore) in May 2000 and July 2001 respectively.

It was noticed in audit that LESA incorrectly included various works already executed during 1998-1999 to 2000-01 in the scheme itself. Further, it did not execute any works after release of grants. False utilisation certificate, showing the already executed works valuing Rs.3.87 crore (*Annexure-26*) as being executed under the scheme, was submitted to the State Government. The balance fund of Rs.3.38 crore (Rs.7.38 crore *minus* Rs.4 crore) could not be obtained and the scheme was closed from 2002-03.

The system could not be strengthened as the grants of Rs.4 crore for the purpose were adjusted against earlier works

¹ Aishbagh: (Rs.4.05 lakh and Rs.37.77 lakh), Aliganj: Rs.3.89 lakh, Alambagh: Rs.7.75 lakh, Gomti Nagar: Rs.14.93 lakh, Indira Nagar: Rs.24.90 lakh and Rahim Nagar: Rs.6.66 lakh.

Thus, the progress of work reported against the scheme was open to doubts in the absence of corroborative evidence to support the actual execution of works. Due to improper implementation of scheme and non-receipt of balance grant, the objectives of the scheme were not fulfilled and distribution losses in the area increased from 28 *per cent* to 34 *per cent* during 2001-02.

Management stated (September 2003) that already executed works were included in the scheme with the consent of District Magistrate (DM), Lucknow and physical verification has been done by the Mandaliya Udyog Samiti. The reply is not acceptable as the scheme prepared and approved by the Government did not provide the inclusion of already executed works. Further, the Management did not furnish the copy of consent of DM for inclusion of already executed works and copy of physical verification report of Mandaliya Udyog Samiti.

Slow progress of system improvement works

Cable laying works

2.2.12 As mentioned in paragraph 2.2.5 there was mismatch in the distribution system of LESA since long. In order to upgrade and modernise the system, the works included in the first phase of the recommendations of the Consultant were taken up belatedly in 2001-02 under Uttar Pradesh Power Sector Restructuring Project financed by the World Bank. Under the project Rs.104 crore was allocated for system improvement works in LESA. The project *inter alia* included conversion of overhead lines into underground cables, increasing capacity of sub-stations and installation of electronic meters at consumer premises, etc.

It was noticed in audit that the procurement of material and execution of works were not started simultaneously and the progress of works was not monitored closely. In finalisation of work contracts the guidelines of World Bank were not adhered to in its spirit.

The Company procured (January to July 2002) 1061 kms XLPE cable at a cost of Rs.30.98 crore for under ground cable laying work of 803 kms. Work plan for cable laying was not prepared prior to procurement of cable. The works were awarded (December 2001 to May 2002) to contractors for 432 kms. Further, against the target of 161 kms up to March 2003 only 13.56 kms (8.4 *per cent*) cable laying works were completed (March 2003). The reasons for slow progress of works were non-award of contracts for other allied works viz. connection of cable with distribution transformers and installation of distribution pillar for giving connection to consumers.

Thus, due to improper planning and slow progress of cable laying works, the benefits of system improvement scheme were not achieved. Further, it also led to avoidable inventory carrying cost of Rs.3.10 crore worked out at the rate of 12 *per cent* per annum up to March 2003.

Installation of electronic meters

2.2.13 The restructuring project of power sector envisaged 100 *per cent* installation of electronic meters at consumer premises in Lucknow city to reduce incidence of energy loss due to adhoc billing against unmetered consumers and slow/defective running of meters, etc. Against the target of installation of 4.28 lakh meters by the end of March 2003, LESA could install only 1.76 lakh meters up to March 2003, which defeated the very purpose of reduction of energy losses.

Management stated (September 2003) that reasons for slow progress was mainly the resistance and unrest of the consumers. The reply is not tenable as the Management could install the meter with the help of district administration and by educating the people of the importance of electronic meters.

Irregularities in banking transactions

2.2.14 Paragraph 6.9 (Chapter-8) of Commercial and Revenue Manual of the Company provided that Assistant Engineer (AE) and Divisional Accountant (DA) Revenue posted in distribution division shall ensure that revenue realised was correctly accounted for in Company's Books and in Bank Accounts. In this connection, following points were noticed:

Non-preparation of Bank Reconciliation Statement (BRS)-Receipt Account

2.2.15 The DA(R) posted in distribution division was to prepare a Bank Reconciliation Statement (BRS) in each month to reconcile the differences between balance as per Revenue Cash Book and Bank Pass Book, if any. In seven¹ EUDDs the BRS were pending for 6 to 24 months at the end of March 2003. Delay in preparation of the BRS was fraught with the risk of misappropriation, delay in credit etc. These are discussed in the succeeding paragraphs:

Uncashed cheques

2.2.16 Cheques amounting to Rs.49.49 lakh deposited in banks during October 1995 to June 2002 by Rahim Nagar and Aishbagh distribution divisions remained un-credited till September 2003.

Divisions did not have details (i.e., name of the consumers, cheque number and date, amount of each cheque and date of deposit in bank, etc.) of these cheques. As a result, neither the accounts of the consumers were debited nor the amount of uncashed cheques was realised from them so far (September 2003). All these cheques have become stale. It was observed in audit that LESA did not make any efforts to trace the wanting details so as to realise this amount.

Unreconciled differences in Bank Account

2.2.17 There was non-accountal of revenue of Rs.84 lakh in LESA's account for which no responsibility was fixed as of September 2003.

- Unreconciled differences of Rs.59.14 lakh in Bank Accounts (since May 1998 to June 1999) were noticed in the bank statements of three² divisions. These differences remained unreconciled/unaccounted for as of September 2003.
- Further, a shortage of remittance of Rs.13.32 lakh made from May to December 2000 was noticed in the BRS of June 2001 in Indira Nagar, but even after lapse of two years the details of these remittances were not traced out.
- EUDD, Hussainganj was operating a Current Account with Punjab National Bank, Hazratganj for depositing the cash/cheques realised from the consumers. The division executed an agreement with Computronics India Limited, Lucknow for processing the bills, accepting payments and depositing the same in the bank. The firm was also required to prepare BRS at the end of each month. It was noticed in audit that the last BRS prepared by the firm in April 2002 indicated the uncredited cash/cheques of Rs.11.54 lakh for the period from October 1999 to April 2002 in LESA's account. These discrepancies were not investigated from the details and records submitted by the firm for taking punitive action as of September 2003. This was fraught with the risk of misappropriation.

¹ EUDD's (Aishbagh, Husainganj, Residency, Gomti Nagar, Rahimnagar, Aliganj, and Indira Nagar),

² Indiranagar, Hussainganj and Rahim Nagar.

Management stated (September 2003) that the reconciliation was under process. The reply is not tenable as more than 18 months have elapsed and no action has been taken against the firm to recover/reconcile the shortage on account of uncredited cash/cheques in bank account.

Dishonoured Cheques

2.2.18 Para 6.8 (Chapter 8) of Commercial and Revenue Manual provides that the consumers whose cheques are dishonoured, should be informed at once so that the payment may be made by them against dishonoured cheques. In six¹ EUDD's, cheques amounting to Rs.44.24 lakh deposited by 167 consumers during October 1998 to August 2002 were dishonoured by banks.

Neither the amount was realised from the respective consumers nor their accounts were debited resulting in amount remained unrealised as of September 2003. The EUDD, Hussainganj and Gomti Nagar re-presented the dishonoured cheques of another 97 consumers with the banks for clearing but late payment surcharge (Rs.2.73 lakh) for the delays beyond seven days were not charged from the defaulting consumers.

Management stated (September 2003) that at the instance of audit the consumer's accounts have been debited. But no responsibility was fixed for delayed raising of debit against the consumers and late payment surcharge (LPS) on account of re-presented dishonoured cheques was also not charged.

Commercial performance

2.2.19 Prompt and correct billing against sale of energy is the key factor for realisation of revenue. This requires expeditious release and ledgerisation of new connections, correct metering, billing against consumers under appropriate tariff, prompt realisation of revenue, disconnection of supply in case of default, issue of demand notices, recovery certificates and monitoring recovery thereof. In this connection the following deficiencies were noticed:

Erratic consumption pattern of consumers

2.2.20 LESA had 3.42 lakh consumers at the beginning of 1998-99 which increased to 4.75 lakh by the end of 2002-03. Their contracted load also increased from 613.854 to 978.326 KW during the same period. An analysis of consumption pattern brought to a common parameter of consumption per day per KW by various categories of consumers indicated erratic consumption pattern. Against per day average consumption (worked out on the basis of load factor and supply hours) of 6.6, 11 and 16.5 units for domestic light & fan, commercial light & fan and industrial and large and heavy consumers, etc., the actual consumption recorded was much less and ranged from 4.2 to 4.6 units (domestic), 3.6 to 4.3 units (commercial) and 3 to 6.2 units (industrial and large and heavy).

Further, the consumption per KW/day of metered category was always less than that of the unmetered category. Consumption of non-Government consumers was also less than the Government consumers. Similarly, unmetered street light consumers showed highest consumption of 13.6 units in 2001-02 among all categories. This was because of excess accounting of energy as compared to the norm for consumption to show a better position than the actual one. Analysis of consumption pattern depicts a link of pilferage of energy as actual consumption in case of commercial light and fan consumers ranged from 3.6 and 4.3 units against required 11 units and in case of industrial large and heavy consumers actual consumption

¹ Residency, Aliganj, Aishbagh, Indira Nagar, Hussainganj and Chowk.

ranged from 3 and 6.2 units against required 16.5 units. The category-wise and year-wise consumption of energy is given in *Annexure-27*.

Billing irregularities

Company could not realise Rs.12.82 crore as it failed to raise assessment or made belated assessment

2.2.21 LESA bills the consumers for consumption of energy recorded in the meters installed at their premises. Uttar Pradesh Electricity Regulatory Commission fixes the rates for billing from time to time for each category of consumer. The Company also issued Commercial and Revenue Manual containing procedures and orders for ensuring correct and timely issue of energy bills and additional security from large and heavy power consumers. Scrutiny of records revealed that the Company did not follow the prescribed procedures that resulted in delayed ledgerisation and short assessment of energy charges and additional security amount aggregating Rs.12.82 crore, as detailed below:

Sl. No.	Irregularities	Name of the Division (EUID/EDD)	Name of the consumer, amount involved and period of assessment	Audit observation
(1)	(2)	(3)	(4)	(5)
1.	Delay in ledgerisation and billing of new connections	Aishbagh, Alambagh, Gomti Nagar, Hussainganj, Residency and Rahim Nagar.	926 new connection (domestic/non-domestic) released during July 1999 to December 2002 were not ledgerised within the prescribed period of two months	Delayed ledgerisation and billing for 2 to 42 months resulted in delay in accrual of income of Rs.42.58 lakh.
2.	Incorrect application of tariff	Aishbagh and Hussainganj	Three consumers were billed under LMV-1 tariff instead of under LMV-2 tariff resulting in under assessment: (i) Research, Design and Standard Organisation: Rs.3.24 crore (April 1998 to July 2000). (ii) U.P. Rajkiya Nirman Nigam Limited: Rs.59 lakh (January 1996 to July 2000) (iii) Government Press: Rs.27.10 lakh (April 1998 to August 2000)	Incorrect application of tariff resulted in under assessment of energy charge of Rs.4.10 crore.
3.	Under assessment of Minimum Consumption Guarantee (MCG) and Demand Charges	Alambagh, Gomti Nagar and Rahim Nagar	MCG of two consumers was short assessed at released load instead of at sanctioned load. (i) Bennett Coleman Company (Times of India) released load (910 KVA) and sanctioned load (1430 KVA) during May 2002 to January 2003. (ii) National Bureau of Fish Genetic Research: Released load (550 KVA), sanctioned load (800 KVA) during December 1998 to July 2000. (iii) 38 nos small and medium power consumers were billed MCG at Rs.300/BHP/ month instead of Rs.405/BHP/ month and demand charges Rs.45/BHP/month instead of Rs.90/BHP/month	Short billing of MCG and demand charges against consumers resulted in underassessment of revenue of Rs.51.94 lakh.
4.	Non-replacement of inappropriate Current Transformers (CT) of metering equipments of consumer	Hussainganj and Residency	(i) Higher capacity CT (150/5A) was installed against the required CT (50/5A) in the metering equipment of Sagar Hotel (load 340 KVA) which resulted in short assessment of Rs.51 lakh (October 2000 to December 2002). (ii) In the metering equipment of Mohan Hotel (load 250 KW), higher CT (400/5A) was installed in place of required CT (200/5A) which resulted in short assessment of Rs.6.53 lakh (July 1999 to August 2001)	Due to installation of inappropriate CT, the meters of the consumers recorded less consumption, which resulted in short assessment of Rs.57.53 lakh.
5.	Non-levy of protective load charges	Gomti Nagar	Division entered into an agreement with TELCO (load 4000 KVA) for protective load of 500 KVA. According to tariff provisions the consumer was liable to pay protective load charges but the same was not billed during September 2001 to January 2003.	Non-levy of protective load charges to the consumer resulted in short billing of Rs.12.39 lakh.
6.	Under assessment in case of defective energy meters	Aishbagh, Hussainganj, Indiranagar, Residency and Rahim Nagar	If it is found that the meter of the consumer was running slow or defective/burnt and if check meter is not installed, the assessment was to be made on the basis of average consumption of preceding three months when the meter was recording correctly. In case the consumption of preceding three consecutive months was not available being new connection the assessment was to be made on the average consumption of three months after installation of new meter. The meters of the five ¹ consumers were found defective but no assessment was made.	Under assessment of Rs.19.27 lakh in case of defective meters due to non-adherence of prescribed procedure.
7.	Excess rebate allowed to consumers	Rahim Nagar	Four ² consumers were given supply at 11 KV voltage and were allowed rebate @ 7.5 per cent instead of at 5 per cent admissible to them.	Due to non-adherence of correct tariff provisions, four consumers were allowed excess rebate of Rs.24.46 lakh.

¹ Steel Allied, Rukmani Cold Storage, Charan Hotel, DRM, Northern Railway and HAL.

² Sanjay Gandhi Post Graduate Institute, Chief Area District Manager, Bharat Petroleum, Regional Space Application Centre and Director, Istreach Ground Station.

(1)	(2)	(3)	(4)	(5)
8.	Non/short levy of electricity duty	Chowk, Aliganj, Rahimnagar, Hussainganj	According to State Government's notification (July 1971) ED is payable by the Central/State Government undertakings.	Four distribution divisions did not levy the ED of Rs.22.83 lakh for the period from January 1997 to February 2003.
9.	Non/short levy of additional security	Gomti Nagar, Rahim Nagar, Indira Nagar and Alambag	In case of 12 large and heavy power consumers, additional security of Rs.6.41 crore was not levied (<i>Annexure-28</i>).	Four divisions did not levy additional security of Rs.6.41 crore.
Total				Rs.12.82 crore

Management stated (September 2003) that at the instance of audit the bills against consumers have been raised. But neither recovery was effected nor was responsibility fixed for delay in raising or non-raising the bills.

On-line billing system

2.2.22 In order to provide better facilities to consumer for payment of bills, prompt realisation of revenue and to create centralised Database Management Information System (MIS) with a central server, the on-line billing system was introduced in LESA from August 2001. Under the system three control reports viz. regular reports, MIS reports and ad-hoc reports were to be generated. In this connection the following points were noticed:

- The implementing division (distribution divisions) did not generate hard/soft copy of control reports.
- No verification of correctness of data transferred from spot billing to on-line billing was done.
- In EUDD, Indira Nagar, on-line billing was started from February 2002. From the perusal of commercial statement-3 for the months of January, February and March 2002, it was noticed that there were 4,904 LMV-2 consumers at the end of January 2002 with an arrears of Rs.9.99 crore but at the end March 2002 only 4483 consumers with arrears of Rs.8.33 crore were being billed. This indicated that the accounts of 421 consumers with arrears of Rs.1.66 crore might not have been transferred to on-line billing system so far (September 2003). Similarly, in EUDD, Aishbagh the accounts of 44 consumers with arrears of Rs.3.12 lakh were also not transferred to on-line billing system. This resulted in non-billing to these consumers thereafter.

Management stated (September 2003) that thorough checking would be done in the matter and necessary action would be taken to remove the deficiency in the system.

Collection of revenue

2.2.23 Table below indicates assessment, collection and arrears of revenue during the last five years ending 2002-03.

(Rs. in crore)

Attributes	1998-99	1999-2000	2000-01	2001-02	2002-03
Arrear at the beginning of year	269.35	329.51	407.03	450.30	535.69
Assessment during the year	294.89	356.93	409.50	436.98	489.94
Total amount due for realisation	564.24	686.45	816.53	887.28	1025.63
Amount realised during the year	234.73	279.42	366.24	351.59	400.14
Net balance	329.51	407.03	450.29	535.69	625.49
Percentage of realisation to amount due for realisation	42	41	45	40	39

In this connection, following points were observed in audit:

- Against the arrears of Rs.625.49 crore at the end of 2002-03, figures shown in Accounts was Rs.661.96 crore. The difference of Rs.36.47 crore was not reconciled.
- The commercial statement disclosed the arrear of Rs.392.17 crore at the end of 2002-03 against the actual arrear of Rs.625.49 crore. The reasons for difference of Rs.233.32 crore was due to incorrect opening balance taken in beginning of the years during 1999-2000 to 2002-03 in commercial statement.
- The collection of revenue was less than half of the revenue due for realisation and ranged between 39 and 45 *per cent* during the last five years ending 2002-03. The amount of Rs.269.35 crore due in the beginning of 1998-99 increased to Rs.625.49 crore registering a growth of 132.22 *per cent* at the end of 2002-03. Further, the decreasing trend of realisation of revenue resulted in significant increase in arrears from Rs.329.51 crore in 1998-99 to Rs.625.49 crore in 2002-03 registering a growth of 90 *per cent*. In order to give priority and focus on the realisation of old arrears age-wise break-up of arrears is essential but the same was not worked out by LESA as a result the collection efficiency against old and current dues could not be assessed in audit.

Reasons for speedy growth in arrears as analysed in audit revealed that LESA failed to plan, administer and monitor the realisation of revenue discussed below:

Inadequate action for recovery of dues

2.2.24 Section 24 of Indian Electricity Act, 1910 provide that if the payment of electricity bill is not made within due date, the consumer will be liable for disconnection after seven days from the due date. In case of default, a demand notice under Section-3 of Uttar Pradesh Electrical Undertakings (Dues Recovery) Act, 1958 is issued wherein 30 days period is allowed for payment, thereafter recovery certificate is issued under Section-5 of the Act, *ibid*, to the District Magistrate for recovery of dues as arrears of land revenue. It was noticed in audit that disconnection of supply was never made after seven days facilitating the consumer to draw energy without payment for consecutively longer periods resulting in accumulation of arrears. Further, analysis revealed that the recovery against Section 3 (demand notice) and Section 5 (Recovery Certificate) was very poor as given below:

**Arrears
accumulated to
Rs.625.49 crore due
to inadequate
action for recovery**

- Against the total dues of Rs.625.49 crore at the end of March 2003, the demand notices were issued for recovery of dues of Rs.85.20 crore (13.62 *per cent*) only.
- Against the issue of 15,882 nos. demand notices for the dues of Rs.85.20 crore, the realisation was Rs.10.69 lakh (0.13 *per cent*) at the end of March 2003.
- During the last five years ending 2002-03, the recovery against RC was only Rs.37.59 lakh (140 RCs), which was 1.15 *per cent* of the total RCs valuing Rs.32.97 crore.
- As on 31 March 2003, against 2,925 RCs for Rs.32.97 crore issued to DM for recovery, only 2,103 RCs for Rs.1.23 crore was acknowledged by DM. The balance 822 RCs for Rs.31.74 crore was not reconciled.
- 1,095 nos. of RCs valuing Rs.5.35 crore returned by DM with remarks: consumers not traceable, incorrect name and address, etc. but these were not sent back to DM after rectification. As a result, the chances of recovery against these RCs were remote (***Annexure-29***).

Undue favour facilitating accumulation of dues

2.2.25 EUDD, Hussainganj allowed 10 VVIPs consumers (ex-minister, politicians and IAS officers) to use electricity despite heavy dues of Rs.69.88 lakh outstanding since long (period not intimated by LESA) against them up to July 2002. Their connections were disconnected in July 2002 but were reconnected after recovering only 8 to 10 *per cent* amount of Rs.8.73 lakh.

Further, after reconnection they did not pay their monthly bills, as a result the dues mounted against them to Rs.79.07 lakh up to August 2003. Thus, due to undue favour to these VVIPs, the dues of Rs.79 lakh remained un-recovered so far (September 2003).

Management stated (September 2003) that the connections were restored on telephonic instructions of Chief Minister/Company HQ's.

2.2.26 EDD, Rahimnagar accepted 17 *per cent* less payment against monthly bills from Lucknow Alloys Limited, Lucknow (load: 5040 KVA) from August 2000 to May 2002 which facilitated accumulation of arrears to Rs.48.33 lakh (including late payment surcharge Rs.6.37 lakh) at the close of May 2002. The consumer paid Rs.5 lakh against this in September/October 2002. The line of the consumer was belatedly disconnected in February 2003 facilitating the arrears to mount to Rs.47.55 lakh as of January 2003. The amount could not be collected as of September 2003.

Procurement of Material

2.2.27 Different items of material are required to be procured for day to day maintenance of lines and sub-stations and other works including System Improvement Works. Procurement of centralised items (poles, conductor, transformers, clamps, cables, insulators, angles, etc.) are being done centrally by Electricity Stores Procurement Circles, Lucknow of the Company and the decentralised items (jointing kits, PVC cables, OCB spares, fuse wire etc.) are procured by different committees viz. EE Committee, Dy. GM Committee and CGM Committee. Paragraphs 11 and 31 of Appendix XIX of Financial Hand Book (FHB) Vol-V provides that before accepting a tender for purchase of material it should be ensured that the rates were consistent prevailing market rates.

It was noticed that LESA did not make arrangement for procurement of decentralised items at CGM/Dy. GM Committee level so as to have uniformity in rates. As a result, the same items were procured by different divisions at different rates during the same period, resulting in extra expenditure of Rs.30.34 lakh as discussed below:

Purchase of cables

2.2.28 Chief General Manager procured LT armoured XLPE cable through tender by placing an order (November 2000) with M/s Decco Industries (India) Delhi, for supply of 15 kms cable of different sizes for Rs.77 lakh. It was noticed that neither the update price list from principal supplier was obtained nor the reasonability of the lowest quoted rate was ascertained in the light of prevailing market rate vis-à-vis rate at which procurement was made by other units of the Company located at Lucknow. Electricity Stores Procurement Circle-II, Lucknow procured cables of the same specification during the same period (November 2000) at lower rates. Purchase

of cable at higher rates, resulted in an extra expenditure of Rs.16.57 lakh as detailed below:

Size of cable (sq.mm)	Quantity (in Km.)	Rate at which purchased (per km.)	Rate of ESPC-II (per km.)	Differences in Rates (per km.)	Extra Expenditure (Rs. in lakh)
3½ x 120	1.5	2.23	1.60	0.63	0.95
3½ x 185	1.5	3.28	2.43	0.85	1.28
3½ x 240	6	4.21	3.25	0.96	5.76
3½ x 400	6	6.33	4.90	1.43	8.58
Total					16.57

In this connection it was further noticed that the rates given in the issue rate of Company which includes storage and supervision charges for items procured under World Bank Scheme for the year 2000-01 for the same item was also on lower side than that allowed in purchase order.

Management Stated (September 2003) that LT XLPE cables were not procured by ESPC-II during 2000-01. The reply was not acceptable because the ESPC-II procured the same cable in the same month under World Bank Scheme at lower rates. Further, the reasonability as to how the lowest quoted rates was genuine was also not ensured before awarding the purchase order.

Purchase of Jointing Kits for XLPE/PILCA cables at higher rates

2.2.29 Electricity Urban Construction Division I and III procured during September 2001 to May 2002, 33 KV Jointing Kits for XLPE/PILCA Cable valuing Rs.29.39 lakh at varying rates. While finalising the rates, the rate quoted by 1st lowest and 2nd lowest bidders were ignored on the ground that firms did not submit the test report of their kits whereas the same firms had already supplied the same kit in EUDD, Hussainganj during the same period and no complaint was received regarding their product. Similarly, CGM, LESA and EUDD, Hussainganj procured jointing kits (11 KV) during September 2001 to May 2002 valuing Rs.17.67 lakh of the same specification at higher rates (Rs.2284 to Rs.5800 each) than that of the prevailing rates (Rs.1039 to Rs.3900 each). This resulted in extra expenditure of Rs.13.77 lakh (Rs.7.71 and Rs.6.06 lakh).

Management stated (September 2003) that the jointing kits were procured at reasonable rates by different units.

The reply is not tenable as the sister units procured these items during the same period at lower rates.

Execution of works

2.2.30 According to the provision of FHB/Hand Book of Manual and Orders, a schedule of rates for all electrical works should be maintained at circle/zonal level. The rate should be revised as and when it is necessary. For other works not covered under schedule of rate, a detailed analysis of rates of each work should be enclosed with every estimates as to how the proposed rate has been arrived at.

It was noticed in audit that neither schedule of rates for electrical works were maintained nor was detailed analysis of rates prepared to ensure finalisation of contracts at reasonable rates. Shortcomings noticed in the audit are discussed below:

Underground Laying of LT cable

2.2.31 ESPC-II Lucknow invited (July 2001) bids for XLPE cable laying work for LESA in two Lots (Lot 1 and 2) separately against World Bank (IBRD) package

Due to improper decision and not ascertaining the reasonability of rates, the work of under ground LT cable laying was awarded at higher cost of Rs.93.28 lakh

WB/RSW-21. All the bids against both the lots were opened on 17 August 2001. For lot 1 (106 Km) only one bid from U.P. Rajkiya Nirman Nigam Ltd. (UPRNN) for Rs.5.99 crore was received but the same was found non-responsive and exorbitant because it did not submit experience certificate for the work and cost quoted was 66 per cent higher than the estimated cost (Rs.3.60 crore). Accordingly DGM of ESPC-II recommended the bid for cancellation and to invite fresh bids. But instead of cancelling, it was subsequently declared responsive after getting experience certificate, but no justification for acceptance of higher cost was recorded as required under International Bank for Reconstruction and Development (IBRD) guidelines. As a result, when the case was submitted to IBRD for NOC, it objected to award the work to UPRNN on the grounds that the cost analysis did not provide details of difference between estimated cost and bid cost (66 per cent higher).

In spite of the above, at the instance of Chairman-cum-Managing Director of the Company the work was awarded to UPRNN at its original cost of Rs.5.99 crore after obtaining NOC on the grounds that if the tender is cancelled, the re-tendering process will take 5 to 6 months time and the cost of carrying of cables already procured will invite interest charges without any use. But it was noticed that the progress of work after lapse of one year was nil (September 2003). Further, for similar works (against lot-2) the rate awarded to S.T. Electrical Limited was Rs.4.75 lakh per km where as the rate awarded to UPRNN for lot-1 was Rs.5.63 lakh per km. This also confirms the award of contract at higher rate.

Thus, due to improper decision and not ascertaining the reasonability of rates the work was awarded at higher cost of Rs.93.28 lakh and LESA suffered loss to that extent.

Underground laying of 33/11 KV Cable

2.2.32 EUCD¹-I, obtained (January 2001) the lowest rate of Rs.48.81 lakh through open tender from Incab Industries, Calcutta for cable laying works². When the case was put up to CGM, LESA Works Committee for approval, it directed (February 2001) to call rock bottom rate because the rate for cable laying was higher than the rates of EUCD-II for the same work. The rock bottom cost of Rs.47.12 lakh submitted by the contractor was approved (June 2001) by the Committee and the work was awarded (June 2001). Though the work was awarded to the contractor after obtaining rock bottom rates yet in the absence of analysis of rates, the reasonability thereof, could not be ascertained in audit. The rates allowed were higher than the prevailing rates in Lucknow for the same work of same specification given by ESPC-II of the Company during the same year (2001-02). This resulted in extra expenditure of Rs.27.59 lakh as given in *Annexure-30*.

Management stated (September 2003) that the road cutting charges was not added in the rate of LESA. The reply is not tenable on the grounds that the actual rates allowed for road cutting charges by LESA were taken into account by audit while computing extra expenditure.

Construction of 33/11 KV sub-stations

2.2.33 Under System Improvement works in Lucknow, Hon'ble Prime Minister of India during 2000-01 laid foundation stone of 8 Nos. 33/11 KV Sub Stations at different places of Lucknow to be constructed by the Company from its own

¹ Electricity Urban Construction Division.

² 33 and 11 KV XLPE cable (21. km)

resources under 'Plan head'. Accordingly, three construction divisions of LESA executed electrical works of sub-stations. For construction of 33/11 KV sub-stations of different capacities, RESPO wing of the Company prescribed the cost schedule of material and labour for each year. Out of 10 sub-stations, 8 sub-stations were completed and energised during 2001-02. In this connection, the following points were observed in audit:

- For construction of Bhikampur, Nirala Nagar and Chandan Nagar 33/11 KV sub-stations (2 X 5 MVA), provisions for cost of material and labour were made in the estimates for Rs.3.41 crore against the RESPO norms of Rs.1.86 crore. Thus excess provision for Rs.1.55 crore was made in the estimates.
- Against the norms of Rs.1.86 crore (Material cost and Labour charges) of RESPO, Rs.3.13 crore was incurred for construction of above three sub-stations which resulted in excess expenditure of Rs.1.27 crore over the norms.

Excess expenditure of Rs.1.27 crore over the norms in construction of three 33/11 KV sub-stations

Management stated (September 2003) that for urban sub-station, RESPO norms were not applicable. The reply is not tenable as the estimates were sanctioned as per RESPO norms and no other norms were prescribed by the Company for urban sub-station.

Electrification of villages

2.2.34 EDD, Rahimnagar executed 12 agreements with 6 local contractors during February 1999 to October 1999 for cartage of material and erection of line/sub-stations for electrification of 61 villages under MP/MLA quota and Ambedkar village scheme by constructing 60.690 kms of 11 KV line, 169.388 kms of LT lines and 11 nos. of 25 KVA sub-stations at a cost of Rs.60 lakh. These villages were electrified during 1999-2000 and 2000-01. According to norms of RESPO, the total cost of cartage and erection works of line and sub-stations of these 61 villages worked out to Rs.32.03 lakh against which the division incurred Rs.60 lakh, which was 87.32 per cent above the norms for which no justification was on record. This resulted in extra expenditure of Rs.27.97 lakh, which could have been avoided if the rates awarded were analysed keeping in view the norms of RESPO.

Management stated (September 2003) that due to site conditions the RESPO norms could not be followed.

The reply is not tenable because the erection & cartages rates awarded were higher than RESPO norms.

Conclusion

LESA suffered from financial crunch as it failed to bridge the gap between revenue assessed and revenue realised, improve transformation systems to avoid overloading, reduce excessive damage of transformers, reduce distribution losses, curb theft of energy, raise bills properly and in time and realise arrears from consumers.

The matter was reported to the Management and the Government (July 2003); their replies have not been received (September 2003).