

Delhi Transco Limited

5.12 Information Technology audit of Payroll and GPF applications

Lack of adequate validation checks coupled with deficiencies in system design in payroll and GPF applications undermined the utility and reliability of the systems in place. Many of the deficiencies existing in the old payroll application continued even in the new payroll system installed in April 2006. While an IT Steering Committee had been constituted, it failed to meet regularly and provide the necessary guidance and direction.

Delhi Transco Ltd (DTL) came into existence w.e.f. 1 July 2002 after unbundling of the erstwhile Delhi Vidyut Board (DVB). It inherited computerized systems relating to maintenance of Payroll and General Provident Funds (GPF) from the DVB. While the old GPF application system continued to be used, the Company decided in April 2004 to replace the old payroll system with a new web based payroll system which would enable quick, accurate and timely processing of employee personnel information including salary details and maintenance of centralized data. Accordingly, the Company entered into an agreement with C-DAC Noida on 21 April 2005 to develop the new application at a cost of Rs.3.75 lakh. The application was to be developed within a period of five months viz. by September 2005. DTL procured in December 2005 hardware and software at a cost of Rs.7.40 lakh to implement the new payroll system. The new payroll system was brought into use from April 2006. An IT audit of the new payroll and existing GPF application software revealed the following:

5.12.1 IT Policy

DTL framed an IT policy in October 2002 to enhance internal efficiency of the organization in terms of comprehensive and systematic collation, storage, regular updation, accurate processing and quick retrieval of information. An IT Steering Committee was constituted in August 2003 to oversee and monitor the implementation of IT policy and ensure efficient use of IT resources to get the maximum value for money spent. The Steering Committee, however, failed to meet at regular intervals and in fact held only two meetings in October 2004 and February 2005. No progress report was submitted to the Management on regular basis and priorities for action or review of the deficiencies have not been set.

On it being pointed out in audit in July 2006, the Management stated (September 2006) that need based meetings were held. The reply is not

acceptable as regular meetings were required for close monitoring and guidance which could have helped in reducing the deficiencies in software development and implementation there of as discussed in the subsequent paragraphs.

5.12.2 Physical and logical access controls and security of data

Both physical and logical access controls are essential to safeguard the integrity of the data and prevent unauthorized access and manipulation of stored information, theft or damage. Audit analysis revealed that both physical and logical access controls were lacking. Access to the computer rooms was not regulated and was open to all. There was no documented policy of password or of recording the identity of the person who had accessed the data.

It is also necessary that there should be a documented Business Continuity Plan to provide for safe storage and recovery of data in case of any eventuality. Backups were being taken on monthly basis and kept in CDs in ordinary almirahs. The Company has not prescribed any procedure for ensuring physical security of the hardware as well as the data so as to guard against unauthorized access and manipulation of data.

The Management stated (September 2006) that general security measures were being followed and authentication for user right assignments would be put in place once networking and inter-office links were in place. The reply is not tenable as the issue pointed out in audit pertained to the absence of access controls in servers located in the computer centre in DTL and was not connected with inter-linking with computers in other offices of the Company.

Payroll Application Software

5.12.3 Lack of validation checks while importing data

To operationalise the new payroll system, the Management imported data from the existing old system to the new one. Audit analysis of the data imported revealed that due care and attention was not paid to validation checks and ensuring matching of fields between the old system and the new system so as to prevent inaccuracies and missing data while importing data into the new system. Many of the validation checks like Date of Birth, Date of Joining, Date of Retirement, Minimum Provident Fund contribution limit (GPF 6 per cent, CPF/EPF 12 per cent), Date of Promotion, Scale, Basic Pay, and Designation etc. were in fact disabled which resulted in import of incorrect data. Test check of data imported into the new system revealed that:

- * In 53 records, the difference between the date of birth and date of retirement ranged from 38 to 76 years;

- * In two records, the date of joining was before 18 years of age; and
- * Date of birth was left blank in 60 out of 2,287 records.

Such inaccuracies would result in generation of incorrect and incomplete results and undermine the efficiency and reliability of the system.

The Management stated (September 2006) that the errors were now being rectified.

The following further deficiencies were also noticed by Audit:

- * Absence of provision for occasional payments through variable fields in the old system resulted in entry of arrears of conveyance allowance in the column for regular allowance and a one time payment being repeated in subsequent months as a fixed allowance. This resulted in excess payment of Rs.1.56 lakh in 167 cases. While this deficiency was corrected in the new system by providing for both fixed and variable fields for such arrears, the amount paid in excess was yet to be recovered.

The Management stated (September 2006) that the issue was under scrutiny.

- * In the new pay roll application, the information regarding the persons who had accessed and modified the date of birth in 1,940 out of 2,287 records and information regarding the persons who had processed the salary in 3,16,217 out of 3,43,837 records (92 *per cent*) was not available in the system. Lack of such information increased the vulnerability of the system and prevented possible audit trails.

The Management attributed (September 2006) the absence of information of the user to lack of such a field in the old payroll system from which the data had been imported. The fact remained that user details is an essential security and safety requirement and the user-id field should have been filled in after import of the data so as to establish a clear audit trail and guard against possible unauthorized manipulation of data.

5.12.4 System design and documentation

The scope of work annexed to the agreement for development of the new application system included making of provision for maintenance of all master data relating to employee salaries required for payroll processing, provision for variable data input, maintenance of leave accounts, provision for all statutory recoveries and both long-term and short-term recoveries and maintenance of accounts of employees' co-operative credit and thrift societies. The system was also to enable auto-calculation of overtime and

holiday pay based on supplied inputs like number of hours/days and auto-interest calculation on advances at the prescribed rates with yearly tax deduction calculations. The IT audit revealed the following deficiencies:

- * The new payroll system did not provide for maintenance of leave account as envisaged in the scope of work. Further, over time pay is granted with the approval of the competent authority and holiday pay is granted subject to the condition that no compensatory leave is sanctioned. Test check of related data for the three months from January 2006 to March 2006 revealed that while the new system provided for auto-calculation of OTA and holiday pay based on supplied inputs like number of hours/days, it did not incorporate validation checks to ensure authorization/approval of the competent authority for OTA or consonance with the rules relating to grant of holiday pay. Such lack of validation checks prevailing in the old system remained unrectified in the new system also.

The Management stated (September 2006) that Leave module was being taken care of manually. This was indicative of the fact that user requirements as incorporated in the scope of work that was part of the agreement had not been ensured while designing and implementing the system.

- * There was no provision for auto calculation of interest on long term and short-term advances in the system as envisaged in the scope of work.
- * There was also no provision for maintenance of accounts of credit and thrift societies though it has a provision to make deduction of recoveries to be effected on behalf of the societies from the salaries of the employees.
- * The referential integrity concept that facilitates data accuracy and data consistency was absent in system design.

The Management stated (September 2006) that referential key concept is complicated and decreases the performance level. The reply is not tenable as certain referential constraints are essential to maintain data consistency.

- * The system documentation has not been updated in the new system as it had details of lesser number of tables (35) than those available in the database (57) as on 24 April 2006.

The Management stated (September 2006) that change control procedure was in the implementation stage.

5.12.5 GPF Application Software

Provident Fund accounts of all 32,901 employees of DTL as well as in the private DISCOMs, Indraprastha Power Generation Company Limited, Pragati Power Company Limited and Delhi Power Company Limited are maintained by the Pension Trust established in July 2002. The computer centre at DTL, however, processes and compiles the data of monthly subscription, loan recovery, loans and withdrawals and transfer/adjustments on behalf of the Pension Trust from the data received from the respective companies. The compiled accounts are, thereafter, sent to the Pension Trust.

A test check of General Provident Fund (GPF) data for the year 2004-05 revealed the following deficiencies:

- * Incorrect data in the date of birth field;
- * Basic pay field was left blank in respect of 29,254 out of 32,901 records;
- * There was no provision in the system to record the installment data regarding recovery of advance; and
- * Various rules of GPF such as stoppage of GPF subscription three months prior to the date of retirement, restriction of subscription within the permissible limit and validation of the loan recovery were not incorporated in the system.

Such deficiencies undermine the accuracy and reliability of the system and necessitated continuation of manual checking.

The Management stated (September 2006) that action is being taken to incorporate necessary validation checks as suggested by audit.

To sum-up

The Company had failed to exercise due care and incorporate the requisite validation checks to ensure the correctness and reliability of the data being imported into the new system from the old. Consequently, the data in the new system continued to suffer from various deficiencies. Physical and logical access controls necessary to prevent unauthorized access and manipulation of stored data were weak and there was no prescribed business continuity plan. Lack of reliability and consequently confidence in the data and outputs of the new payroll application necessitated continuation of manual check thereby defeating the purpose of computerization. Further some of the utilities envisaged in the scope of work attached to the agreement were not implemented though full payment had been released to the firm in July 2006.

The deficiencies in software development and implementation of software was clearly indicative of the need for closer monitoring and guidance which could have been provided by the steering committee had it met regularly.

The matter was referred to the Government in July 2006; their reply is awaited (November 2006).

5.13 Loss due to unnecessary availing of loan

Acceptance of a loan for execution of rural electrification projects though it was not involved in such schemes resulted in an avoidable payment of interest of Rs.16.21 lakh.

The Department of Urban Development, Government of Delhi, released (March 2003) an interest bearing Plan loan of Rs.77.25 lakh to the Company for rural electrification projects under the plan scheme "Pradhan Mantri Gramin Yojana (PMGY)" without any request from the Company. The loan was to be repaid in 15 equal annual installments along with interest at the rate of 13 per cent per annum. After delay of 19 months the Company decided (October 2004) to refund the loan in the absence of a PMGY scheme. The loan was refunded (November 2004) to the Government alongwith interest of Rs.16.21 lakh paid in February 2005.

Audit analysis revealed that the loan was ab initio unnecessary and uncalled for as the Company had not requested for the loan and it was not involved in any rural electrification scheme. However, the Company unnecessarily retained the loan for more than 19 months and paid interest without any benefit.

The Management stated (August 2006) that the loan was refunded as rural electrification was not within the scope of the Company. It added that though they had paid interest at the rate of 13 per cent per annum, they may have earned either 16 per cent or 24 per cent. The reply is not acceptable as the Company earned no interest. Further the Company's own surplus funds were lying idle in its current accounts during the period from March 2003 to November 2004 without earning any interest. Even otherwise accepting of funds meant specifically for rural electrification was improper as rural electrification was not within the scope of the Company.

The matter was reported to the Government in May 2006; their reply is awaited (November 2006).