Delhi Financial Corporation

5.11 Information technology audit

Highlights

The Corporation undertook computerization of some of its business and housekeeping operations without formulating an overall policy or strategy. It did not determine pre-qualification specifications or make adequate assessments of capacities while selecting consultants to whom the tasks were entrusted. This resulted in frequent changes of consultants and premature abandonment of all four computerisation projects without any substantial benefits accruing to the Corporation despite expenditure of Rs. 1.53 crore and lapse of over 17 years.

(Paragraph 5.11.1& 5.11.8)

IT wing of the Corporation lacked adequate technical expertise necessary to effectively progress such computerisation efforts. User requirements were neither defined nor documented indicating lack of involvement on the part of the Corporation's officials. This resulted in poor implementation and acceptance of the systems and its outputs.

(Paragraph 5.11.7 & 5.11.10)

Essential physical and logical access controls were absent from all the computer systems implemented in the Corporation. There was no Disaster Recovery and Business Continuity Plan which exposed the Corporation to unacceptable risks.

(Paragraph 5.11.11 & 5.11.12)

The Corporation procured hardware and software worth Rs. 75.27 lakh without an adequate need analysis and without linking up with the progress of project. Consequently, the hardware and software had either to be kept idle or were not utilized for the intended purpose.

(Paragraph 5.11.16 &5.11.17)

The Pay roll system is not in conformity with the rules governing the payments of pay and allowances. There were no validation controls embedded in the application to automatically detect input errors.

(Paragraph 5.11.18)

5.11.1 Introduction and organisational structure

The Delhi Financial Corporation was set up in April 1967 under the State Financial Corporations Act 1951 to cater to the financial needs of small and medium industries located in the NCT of Delhi and the Union Territory of Chandigarh. The Corporation is carrying out its business activities from its corporate office at New Delhi and two branches at Rohini and Chandigarh. The loans disbursed by the Corporation during last six years (1999-2000 to 2004-05) ranged between Rs. 18.62 crore and Rs. 84.92 crore.

The Information Technology wing of the Corporation is headed by a General Manager (GM) who is assisted by an Officer on Special Duty (OSD) and eight other staff as on February 2005.

The Corporation initiated (during 1987 to 2004) steps to computerise some of its essential business as well as housekeeping operations viz. financial accounting, payroll, provident fund accounting, loan accounting and management information system. It had mainly computerised payroll and provident fund accounting and financial accounting system at its corporate office. The total expenditure incurred on computerisation was Rs. 1.53 crore (March 2004).

5.11.2 Scope of audit

The audit was selected and planned on the basis of the IT systems criticality assessment tool. The scope of audit included a review of planning, implementation and monitoring of the computerisation process and an examination of the controls in the various IT applications.

5.11.3 Audit objectives

An information technology audit of computerisation of the Corporation was conducted to assess whether:

* the implementation of the system was preceded by a systematic planning and adequate assessment of operational requirements and needs;
* the system documentation is adequate and updated to ensure efficient and continuous operation of the system;
* data generated is complete, reliable and follows the business rules of the Corporation;
* the controls in the system reflect the policies, procedures and practices of the Corporation and are adequate to provide a reasonable assurance that the intended objectives are being achieved;
* the physical and logical access controls are sufficient to guard against unauthorized access and modification; and
* the system resources viz. hardware and software are procured timely and in a cost effective manner and utilized optimally.

5.11.4 Audit criteria

The following audit criteria were used to ascertain whether the objectives stated above were being achieved:

* Existence of documented and approved computerisation IT strategy;
* Existence and timely updation of User Requirement Specifications (URS), System Requirement Specification (SRS), System Design Document (SDD) and other manuals;
* Generation of outputs in consonance with the guidelines of Government, SIDBI and RBI;
* Existence of adequate validation controls in all the IT systems;
* Security policy and periodicity of security drills carried out by the Corporation; and
* Procurement of hardware and software with reference to actual implementation of the computerised systems.

5.11.5 Audit Methodology

The data generated by the IT applications during 1999 to 2005 was analysed using computer assisted auditing tool *viz.* IDEA[1] for examining the

[1] *Interactive Data Extraction and Analysis*

completeness, availability and integrity of the data. Further, the existence and adequacy of general IT controls was also assessed.

Audit findings

The audit findings were reported to the Management and the Government in July 2005 for confirmation of facts and to elicit their views. The comments of the Management received in October 2005 and earlier have been taken into account while finalising the review. The comments of the Government were awaited (February 2006).

Audit finding are discussed in the succeeding paragraphs.

5.11.6 IT strategy, planning and policies

It is generally expected that any investments in computerization should be preceded by the development and finalization of a properly documented 'Information Technology Strategy', which should, include *inter-alia,* both the long term and short term directions/goals for the proposed IT systems within the organization and an assessment of the means required to be adopted to achieve the stated objectives. Selection of consultants, where deemed necessary, should be done after determining pre-qualification criteria based on the assessed requirements of the organization so as to ensure completion of the assigned tasks. In this connection following deserve mention:

5.11.7 Abolition of EDP posts

Technical posts abolished when computerization of business operations started.

The sanctioned posts of Sr.Manager (EDP) and Assistant Manager (EDP) were abolished in October 2001 just when IDBI Intech was engaged for computerization of its business operations though such technical positions were essential to coordinate and assist the software developer. This clearly inhibited the successful completion of computerization projects and indicated lack of coherent IT strategy. The Management stated (October 2005) that the audit observation had been noted for suitably strengthening the IT wing.

5.11.8 Frequent change of consultants

The Corporation undertook computerization without first formulating an overall policy or strategy defining its objectives or requirements. The Corporation in the first instance entrusted (September 1987), the work of system study and design of its computerisation requirements along with development of software to M/s COSMOS. The contract was subsequently cancelled (June 1991) as the firm hiked the project cost due to increase in scope of work. The Corporation then engaged (July 1991) the Indian Institute of Public Administration (IIPA) to computerise its various systems. IIPA partially developed modules for financial accounting, payroll and provident fund accounting and thereafter abandoned the project midway in September 1994 on the plea that over a period of three years IIPA had not only imparted adequate training to the Corporation personnel but were also running the system and had incurred costs far in excess of the total consultancy fee agreed to by the Corporation.

The Corporation pulled on with the partially developed software for about five years without making any concerted efforts to complete the computerisation project till April 1999 when it appointed Electronics Corporation of India Ltd (ECIL), to tackle Y2K problems, re-design/modify the existing software and to develop fresh software for loan accounting. ECIL also short closed (March 2001) the project due to brain drain in their company without developing Loan accounting system. The Corporation entrusted (October 2001) the computerisation of its core business operations i.e. Loan accounting system and Management Information System (MIS) to IDBI Intech (a subsidiary of IDBI). This firm too abandoned the project midway in March 2004, without completing the assigned work due to various reasons such as delay in providing requisite inputs and frequent changes in the requirements after entrustment of the work.

Audit analysis of the reasons for premature abandonment of computerisation projects revealed that the Corporation kept changing/expanding the scope of work for the systems under development without freezing it at any point of time even after lapse of 17 years. This is indicative of the fact that the Corporation lacked a clearly defined vision and goals to be achieved through computerisation.

Thus, despite changing four consultants over a period exceeding 17 years, the Corporation is yet (November 2005) to computerise its core operations and develop a credible MIS for efficient and effective functioning of its organisation. Lack of a coherent strategy coupled with selection of consultants who lacked the capacity to carry through and complete the assigned tasks resulted in frequent changes in consultants and premature abandonment of all four projects without any substantial benefits accruing to the Corporation.

The Management stated (May 2005) that it had outlined its IT policy way back in 1991 when the scope of work for computerization with the aim of delivering efficient services to its customers was finalised. Audit scrutiny, however, revealed that this policy referred to by the Corporation was in fact an appraisal report submitted to its Board of Directors (BOD) outlining the works and processes to be entrusted to IIPA and could not be deemed to be an IT policy or strategy. The Corporation added in October 2005 that the partially developed software was being used by the Corporation though substantial benefits did not accrue due to one reason or the other.

5.11.9 Non-integration of related computer systems

The Corporation had computerized its Payroll and Financial accounting (FAS). FAS was input dependent on “Pay roll” and “Classification of assets” packages as output of these packages formed an integral part of the financial statements generated by FAS. Due to non-integration of these systems with each other, the outputs of the payroll, assets classification etc. had to be manually fed into FAS. Similarly, the manual data from the branch offices of Rohini and Chandigarh were also fed, manually, into FAS at the corporate office at New Delhi. Consequently, the changes/adjustments made in the Payroll or Classification of Assets packages on a later date were not automatically reflected in the FAS leaving room for errors and manipulation leading to lack of referential integrity. This indicated lack of proper planning on the part of the Management. The Management stated (May 2005) that the possibility of an integrated software would be explored while finalizing the new software in consultation with the experts as the systems ibid were developed on different platforms, i.e., FoxPro and DOS.

5.11.10 System development

Non-involvement of end users in all the systems resulted in poor implementation of IT systems.

The Corporation has not followed the proper System Development Life Cycle as neither were the User Requirement Specification (URS) defined nor were they analyzed and documented by the developer which indicated a lack of involvement or seriousness on the part of the officials of the Corporation in the systems development. Non-involvement of the end users in all the systems resulted in poor implementation and acceptance of the systems and its outputs e.g. generation/preparation of Profit & Loss Account and Balance Sheet in the Financial Accounting System (FAS) were not utilized though these were available in the system. Further, in the absence of a documented URS, no comparison of URS with System Requirement Specifications (SRS) or system design could be made in audit to ascertain whether all user requirements had been taken care of and compliance of business rules ensured in the computerized systems. The Management stated (May 2005 and October 2005) that the observations of audit have been noted for follow up through the consultant/agency being engaged for future development.

5.11.11 Physical and logical access controls

Physical access controls aim at safeguarding the computer equipment from unauthorized access, theft and damage due to accidents/deliberate actions,etc. while logical access controls protect the programmes and data files from unauthorized access, modification, copying and deletion. Such access controls were absent from all the computer systems implemented in the Corporation. It was also noticed in audit that:

* the Corporation lacked a formal IT security policy and no security drills had either been framed or ever conducted. Access to computer rooms was not regulated or restricted. Physical security of the main server has not been ensured since it was easily accessible to visitors and staff of other departments;
* the Corporation lacked a well-defined and documented password policy. Passwords were not being changed periodically. The administrative password was shared among four officials including one contract employee thereby exposing the system to the risk of malicious damage, manipulation of data, etc. The Payroll system despite being a very sensitive package completely lacked logical access controls as neither user-id nor password security features were available. Though features of user-id and password were available in the FAS, the safeguards were inadequate as:

(i) the date and time of last access and number of unsuccessful attempts after last successful login attempt were not displayed on the screens of authorized users at the time of login;
(ii) there was no validation check to reject creation of password of very short length;
(iii) alpha-numeric passwords were not enforced by the system;
(iv) passwords were not case sensitive; and
(v) both the user-id and password were the same (e.g. 'fa').

The Management while accepting the audit observations stated (October 2005) that they would be taken care of in the new software, being developed in consultation with the Committee of Experts formed in January 2005 to assist in the process of inviting open tender from CMM[1] 5 level firms so that safety and security of the data was not compromised.

5.11.12 Absence of business continuity planning

The Corporation lacked a documented backup policy for the computerized systems. It did not even have a documented 'Disaster Recovery and Business Continuity Plan' outlining the action to be taken in the event of a disaster (i.e. total breakdown of the system resulting in massive loss of data) so as to ensure that information processing capability is restored at the earliest. There was also no standby system. In the absence of such plan a significant disaster impacting the Corporation's servers and other computing systems ran the risk of paralyzing the computerized system of the Corporation which would seriously hamper its recovery efforts. The Management while accepting the audit observation stated (October 2005) that the concern would be addressed in the new software being developed.

[1] *Compatibility Maturity Model*

5.11.13 Change control procedure

No documentation procedure followed despite IT systems having undergone several changes.

The Corporation has neither followed nor devised any formal change control procedures to ensure that the modifications in the programme are authorized, tested to the satisfaction of the users, approved and documented e.g. the payroll system as originally developed by IIPA in 1992 was frequently modified in-house to accommodate changes in logic of calculations without any documentation. In the absence of such systems documentation, it would be difficult for any organization to ensure smooth and error free operation of its software systems or proper recovery in case of system breakdown and the system would also be exposed to the possibility of unauthorized changes. The Management would also be unable to keep track of all the changes incorporated in the software.

The Management stated (May 2005) that initiatives would be taken to formulate a policy in consultation with the experts.

5.11.14 Audit trails

Adequate audit trails are required to be incorporated in the IT system for detecting security violations and tracing the flow of transactions and analysis of all incidents, problems and errors that are not part of the standard operation in a timely manner by recreating the actual transaction flow from the point of origination to its existence on an updated file. It was noticed in audit that there was, however, only one table named as "Book_Aud" in FAS indicating information about modifications to earlier data without any reference to reasons for such modifications. The transaction logs (in the Book_Aud table in the instant case) did not enable tracing of the flow of transactions as also the processing at every stage. The Management while accepting the audit observations stated (May 2005) that proper audit trails would be incorporated in the new software.

5.11.15 Abandonment of project on computerization of Loan Accounting System

The Corporation entrusted (October 2001) the computerization of Loan accounting and MIS to IDBI Intech at a cost of Rs. 29.50 lakh (Rs. 27.50 lakh for development of software and its implementation, training etc and Rs. 2 lakh for special maintenance for six months). IDBI Intech was to execute the project within a period of one year from the date of signing of the agreement, provide on-site support, training, data feeding etc., and also to ensure that it conforms to ISO-9001 certification requirements. The firm, however, could not fulfil its commitments even after expiry of two years from the date of undertaking of the project and could provide only a part of the Loan accounting system, i.e. industrial loan account software.

In the meantime, without ensuring the full stabilization of the computerized system through a parallel run phase and in spite of incomplete software, the Corporation took a decision in April 2003 to shift from manual to computerised system. IDBI Intech eventually withdrew its team in March 2004 without handing over the source code, designing and testing methodology and documentations etc. of the software. The Corporation paid Rs. 6.54 lakh to IDBI Intech. After the midway abandonment by IDBI Intech, the Corporation had to revert back to the manual system of Loan accounting in February 2004 and resort to outsourcing the work of updating of its manual books of accounts for the period April 2003 to March 2004 at an additional cost of Rs. 7.18 lakh to three chartered accountant firms and Rs. 2.06 lakh overtime to its own staff.

Audit scrutiny revealed the following:

* IDBI Intech was a new entity in the business. The contract was awarded to the firm, without verifying its credentials or past experience, on the assurance given by the IDBI nominee director on their Board that IDBI Intech was capable of undertaking the above assignment.

  The Management stated (May 2005) that a team of senior officers had studied the software developed/managed by IDBI Intech at IDBI and Maharashtra State Financial Corporation (MSFC) and found it satisfactory for their work requirement. The reply is not tenable as the expert team in its report indicated (October 2001) that the software implemented in MSFC was eight years old and did not fulfill all their requirements. Audit further noticed that IDBI Intech came into existence in the year 2000 only. The work was nevertheless entrusted to the firm, which proved to be injudicious.

Bank guarantee from the contractor not obtained.

* The Corporation failed to obtain a bank guarantee from the firm though the agreement provided for it.

  The Management stated (May 2005) that the matter had been referred to their legal department who had initiated arbitration proceedings against IDBI Intech. The reply is not relevant, as it did not indicate the reason for not obtaining bank guarantee.

Payments to contactor were made on *ad-hoc* basis and not as per the terms of contract.

* The Corporation did not follow the payment schedule prescribed in the terms of agreement with IDBI Intech. It made an ad-hoc payment of Rs. 6.54 lakh despite failure of the firm to complete the project, testing, etc.

  The Management stated (October 2005) that the ad-hoc payments made were bare minimum and were to compensate for the efforts and costs of IDBI Intech. The reply is not tenable since the payments made should have been commensurate with the quantum and status of work.

EMI Logics were not provided for over two years to the software developer.

* The logic for EMI calculation, which was essential for transport loan portfolio, was not provided by the Corporation to IDBI Intech even though the same were being followed for many years.

  The Management stated (May 2005) that providing the logics was in the pipeline when IDBI Intech left abruptly. The reply is not acceptable as the management could not provide the logic to IDBI Intech for 25 months (i.e. from March 2002 to March 2004) indicating lack of involvement of the management with the computerisation process. This was a major contributory factor for the inordinate delay and midway abandonment of the project.

* Audit further noticed that the Board approved (January 2005) a proposal to procure a readymade software from CMM level 5 companies for computerization of the operations of Loan accounting and MIS and also formed a committee of experts to assist in formulating the pre-qualification specifications/criteria for inviting open tenders.

Inadequate assessment of the capabilities of the firm before its appointment coupled with injudicious decision to discontinue manual system without a parallel run and inordinate delay in providing information required for developing of the system eventually resulted in midway abandonment of the project rendering the expenditure of Rs. 15.78 lakh incurred on it infructuous. Though a notice of reference to arbitration clause spelling out the damages claimed by the Corporation was issued to the firm in January 2005, the chances of recovery were remote as IDBI Intech was no longer in existence.

The Management stated (October 2005) that it has made a net gain of Rs. 16.56 lakh by way of savings of Rs. 20.40 lakh on account of salaries to terminated contractual staff and that the income of Rs. 5.40 lakh earned from processing fee under revival package and One Time Settlement (OTS) schemes. The reply is not relevant as it did not address the central issue of abandoning the project midway and the Corporation being left with incomplete software. As regards, the contractual staff, the audit noticed that these officials had been hired since May 2001 i.e. even before entrustment of work to IDBI Intech in October 2001 and their terms were extended from time to time due to rush of work in re-location of industries, annual closing work, etc. As these officials, were completing more than two years of service, it was decided not to hire them further purely for administrative reasons. Further, the income earned from processing fee on the revival package and OTS scheme was in no way related to the manual work done by outsourcing.

5.11.16 Purchase of hardware and software

Hardware

The Corporation placed (August 2002) an order with CMC Ltd. for purchase of hardware at a cost of Rs. 57.15 lakh which included one server, 50 PCs (Pentium-IV), seven office jet printers (HP-725), 15 DMPs (TVSE MSP-335) and other networking material and services on the recommendation made by IDBI Intech. The Corporation paid Rs. 53.65 lakh to CMC as per the terms of agreement. A scrutiny of the procurement revealed the following:

Hardware items worth Rs. 25.79 lakh either kept idle or not used for intended purpose.

* The Corporation purchased hardware valued at Rs. 25.79 lakh for establishing a Local Area Network (LAN) and Wide Area Network (WAN) between head office and its two branches at Rohini and Chandigarh. This network equipment was, however, kept idle or not used for the intended purpose. The Management agreed (May 2005) that the procurement of the equipment for WAN connection to Chandigarh office was pre-mature and it would be put to productive use as and when the application software was completed in the future. It added that the connectivity with Rohini office had been established through ISDN line. Audit scrutiny, however, revealed that though an ISDN connection was taken in January 2003 from MTNL, WAN has not been made operational so far.
* The Corporation purchased 50 PCs and 22 printers worth Rs. 29.25 lakh without developing and testing the software. Further, all the 50 PCs were equipped with 52X CD ROM, 1.44 MB Floppy drives and external speakers which were not required in changed IT environment. This has not only resulted in avoidable extra expenditure on computer peripherals not used but also exposed the system to virus threats and malicious damage/theft of data. These devices have now been disabled by the Corporation.

  The Management stated (May 2005) that the PCs with the above peripherals were purchased on the advice of IDBI Intech and added that the procurement and installation of anti-virus tools to contain the possible virus threats was in process. The fact remained that the peripherals such as CD-Roms, floppy drives and external speakers had little use for the system envisaged.

PCs purchased with inappropriate version of operating system.

* All the 50 PCs were pre-loaded with Windows XP- Home edition instead of Windows XP–Professional edition. Procurement of Windows XP Home Edition software, which does not provide effective support for a network environment and lacks advance security features as such encryption, file level access, network-domain membership and assignment of group policies, was also

likely to entail an additional cost of Rs. 2.53 lakh on switching over to appropriate version of Operating System (OS).

The Management stated (May 2005) that PSUs like CMC was selected to purchase the hardware precisely because the Corporation did not have the expertise to check all these points and it had withheld an amount of Rs. 3.50 lakh as well as initiated legal action against the supplier for breach of contract to off-set the loss caused on account of inferior supply. The reply is not tenable since it is incumbent on the purchaser to specify all the requirements in the purchase order.

5.11.17 Software

The Corporation purchased (April 1999) a five user licensed copy of Oracle-8i from Sonata Software Ltd. at a cost of Rs. 0.40 lakh, which was being utilized for running the computerized FAS developed by IIPA. The software developed by IDBI Intech was also designed to run on Oracle database engine. On the recommendation of IDBI Intech, the Corporation decided (March 2003) to purchase a licensed 50 user Oracle-9i Enterprise Edition at a cost of Rs. 18.12 lakh from National Informatics Centre Services Inc (NICSI) to meet the requirements of its Loan accounting system and MIS. The software was received in August 2003 and installed in September 2003. Purchase of 50-user version of Orcale-9i before development of loan accounting system and MIS was premature and resulted in non-utilization of the software for the purpose for which it was intended.

5.11.18 Payroll application software

Payroll system not in conformity with the rules governing payment of pay& allowances, advances etc.

The Corporation implemented the Pay roll system (developed by IIPA) in December 1992 in dBase requiring MS-DOS version 3.3 or any later version as its operating system (OS). The system was subsequently re-cast twice for shifting from dBase to FoxPro (in-house) and to overcome Y2K[1] problem (through ECIL). The data generated by the application from April 1999 to January 2005 was analyzed in audit to assess the effectiveness of the application and the reliability of data with reference to provisions of the Fundamental Rules and the General Financial Rules as applicable to the Corporation. Audit scrutiny revealed that important validation checks/controls, which were necessary to prevent erroneous calculations/ misuse of the system, were neither incorporated at the time of initialization and thereafter nor the application software was in compliance with the rules *ibid* as detailed below:

* In 39 cases, the rate of personal pay paid was found to be in excess of the prescribed limit. In six cases, CCA was paid at the rates over and

[1] *Year 2000.*

above the admissible rates, while in seven cases deputation allowance was paid in excess of the admissible limits. Thus, there were no validation checks to prevent processing of allowances over and above the admissible rates.

The Management attributed (May 2005) the excess payments to 'arrears' and assured that necessary modifications would be made in the system to record and exhibit the 'arrears' separately.

HRA & DA paid incorrectly on deputation allowance.

* The pay given to deputationists was calculated incorrectly by allowing HRA and DA to be paid on deputation allowance. This resulted in an excess payment of Rs. 3,321 during July to December 1999. This indicated lack of inbuilt checks to prevent processing of payments over and above admissible rates.

* An employee on deputation may elect to draw either pay in the scale of pay of the deputation post fixed under the normal rules or his basic pay in the parent department from time to time plus deputation duty allowance. The option should be exercised with in one month of joining deputation post and once exercised it is final. In two cases, the deputationists had not only exercised their option after expiry of one month but the same was changed subsequently after drawal of the deputation allowance for the period ranging from two to four months. They were, thus, allowed to draw higher pay resulting in over payment of Rs. 2.15 lakh.

The Management stated (May 2005) that the issue of fixation of pay in one case has been referred to the Services Department and their reply is awaited. The Management added (October 2005) that while the audit observations had been noted for adoption in the new IT software, the payments were on account of the policies adopted by the Corporation and had no bearing on the software in use. The reply is not tenable since the software in use by the Corporation did not have inbuilt controls to prevent processing of pay in contravention of the rules *ibid*.

* In 30 cases, the 'date of first installment' of loan paid preceded the 'date of release' of loans and advances given to its employees. Further, there were two instances wherein the invalid dates namely '5-10-2204' and '21-10-9989' were accepted by the system.

The Management stated (May 2005) that these were typographical errors, which were noted for modification in the system. Evidently, the system did not have inbuilt validation checks to reject such dates.

* In 116 cases, the basic pay drawn was more than the maximum of the corresponding time scale plus stagnation increments as the master table for pay scales was not updated. The system did not have

validation checks to reject amounts of pay greater than maximum of pay scale of a post.

The Management stated (May 2005) that the provision of generating exception list would be incorporated in the software.

* The system did not have any provision to record and exhibit stagnation increments (SIs) and arrears, if any, separately.

  The Management while assuring that 'arrears' would be exhibited separately in the system stated (May 2005) that the system had a well-defined provision to record and exhibit SIs. Audit scrutiny revealed that the Management was referring to 'remarks' column to record SI, which was not a suitable substitute for recording and exhibiting 'SI'. Moreover, in the absence of a separate field, no inbuilt checks, such as maximum of three SIs at the rate of one increment after every two years, could be exercised by the Corporation.

* In 41 cases, the difference between the 'date of birth' and 'date of retirement' was found to be more than 60 years i.e. the age of superannuation. In 38 cases, the reason for the same was acceptance of "null" entries in "Date of Birth" field. In respect of remaining cases, it was explained to audit that the two cases pertained to officials (whose parent office was Delhi Police) appointed on contract basis after attainment of retirement for expediting recovery work and another case was as a result of entering of wrong date of birth in the system. Evidently the software lacked effective date validation controls to ensure that the age of an official should not be beyond 60 years at the time of superannuation.

  The Management stated (May 2005) that 'Date of Birth' is not important for processing of salaries. The reply is not tenable as the salary bills of the officials/officers, who have attained age of superannuation, should not be processed by the system.

* The employees are identified with the help of a 'unique' employee code (E_Code). The 'employee code' is allotted without linking it with the name, designation and addresses of the employees. Resultantly, there is scope for allotment of more than one employee code to the same employee.

  The Management stated (May 2005) that E_Code is assigned at the time of appointment and its uniqueness is ensured by human intelligence. The reply is not tenable as there should be an inbuilt systemic control to prevent generation of more than one employee code to the same employee.

* The pay roll application was completely input dependant for the accuracy of outputs. Adequate validation controls were, however, not embedded in the application per se to automatically detect input errors

and ensure reliability and integrity of the system. The system was highly dependent on manual checking and verification at all stages of data processing from preparation of source documents to final verification of pay bills which defeated the very purpose of computerisation.

The Management stated (May 2005) that all deficiencies pointed in the existing system would be taken care of in the new proposed system to be finalized shortly.

5.11.19 Financial accounting system

The Financial Accounting System (FAS) was made operational w.e.f. April 1993. The system was developed by IIPA in Oracle 6 RDBMS, Forms 2.3 and SQL plus 3.0. The system was subsequently re-cast to overcome Y2K problem by ECIL. Presently the system is being run using Oracle 9i RDBMS, which was originally purchased for the loan accounting system. The system has features for on-line cash transactions and batch mode journal and bank voucher posting, generation of financial reports like cash book, daybook, subsidiary ledgers, bank ledgers, trial balance, profit and loss statement, balance sheet, etc. Audit scrutiny revealed the following:

FAS not used to optimum capacity even after 12 years of making it operational.

* The features for generation/preparation of Profit & Loss Account and Balance Sheet were not being utilized though the same were available in the system The computerized FAS was not implemented at Chandigarh branch at all where the work was carried out manually.

  The Management stated (May 2005) that the features for generation and preparation of Profit & Loss and Balance Sheet were not utilized as it had not yet been approved by the Corporation. This indicates that the Management had failed to utilize the system to its full potential even after lapse of 12 years.

FAS lacked a feature for classification of asset. There was short provisioning of Rs. 3.30 crore made towards NPAs.

* Classification of assets (Loans and Advances) is an integral part of FAS of any financial institution. FAS being used in the Corporation lacked an integrated feature for classification of assets. The Corporation developed, in-house, a separate package for classification of assets, which is being utilised at the time of finalization of annual accounts. The data generated by the system could not be provided by the Corporation to Audit. In the absence of the data, correctness of the provisions made with the help of this package could not be ensured. Further, review of the information furnished by the Management at the time of accounts audit of the Corporation during 1999-2004 revealed under provisioning of Rs. 3.30 crore towards sub-standard, bad and doubtful loans and advances in the accounts in 545 cases.

  The Management stated (October 2005) that the classification of assets and the provisions made against these are on the basis of current status of accounts and short and excess provisions made, if any, in the previous year get modified/rectified as per its current status in the subsequent years and therefore the software has nothing do with the provisioning aspect. The reply is not tenable since the under provisioning computed by Audit was with reference to the status of assets at the end of each year during the period. The software used for classifying the assets should also have revealed the provisioning status.

* The FAS did not have features for generation of MIS reports. The Management stated (May 2005) that the system might not be able to generate all reports related to MIS due to non-integration.

It was evident that despite being operational since April 1993, the full potential of the system was yet to be utilized by the Corporation.

The Management stated (May 2005) that the deficiencies would be taken care of while selecting/finalizing the new proposed software in consultation with the experts.

5.11.20 Internal audit

There has been no internal audit of the IT wing of the Corporation so far. Consequently, the deficiencies in the functioning of the wing remained undetected and the Corporation was deprived of the opportunity of taking timely remedial measures.

Conclusion

The Corporation undertook computerization without formulating an overall and co-ordinated IT policy or strategy. General and application controls were not effective, user requirements were not defined or documented and essential physical and logical controls essential to prevent misuse of the system or unauthorized manipulation of data stored were absent. Hardware and software remained idle or were not used for the intended purpose. The software design in its payroll application did not accurately reflect the terms of the rules and lacked effective validation checks which enabled inadmissible payments on account of various allowances to the employees. FAS is not utilised to its full potential even after lapse of twelve years of implementation. Consequently, the computerization efforts of the Corporation remained *ad hoc* and failed to yield the expected results.

Recommendations

- *The Corporation should formulate a coherent IT strategy defining inter alia the goals and objectives of the intended computerisation and the* *benefits which would accrue from it. It is essential that an integrated software package be developed which would take care of the entire business operations of the Corporation.*

- *The Corporation should ensure documentation of all stages of system development and the changes carried out to the system at later date to ensure its smooth and error free functioning.*

- *The Corporation should ensure adequate physical and logical access controls so that the safety and security of data is not compromised. Besides, adequate validation checks should be embedded in the software systems to avoid data manipulations and erroneous data entries.*