

Overview

This volume of Audit Report contains results of audit of computerised systems used in different areas of activity in ten Public Sector undertakings under six Ministries. Though audit covered diverse areas of computerisation and entities operating in different sectors, some common deficiencies noted in audit were:

- though standard Enterprise Resource Planning systems were used, these were not suitably customised to the particular business requirements/rules of the entity of optimal utilisation.
- all modules and functionalities of the system were not being used due to which stand alone systems and manual interventions continued.
- the business continuity plans, disaster recovery plans and IT security policy were either not in place and where formulated were deficient.
- weaknesses in input controls and validation checks did not ensure completeness, reliability and integrity of data.
- there was a lack of awareness among users of the ERP modules about accessibility input of correct data and security of the system.

An overview of the audit findings of individual audits is given below:

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY

Bharat Sanchar Nigam Limited

- ❖ **System of billing and collection of Interconnect Usage Charges from other Service Providers**
 - Interconnect Usage Charges (IUC) are the charges payable by one service provider to one or more service providers for usage of the network elements for origination, transit and termination of the calls in a multi operator environment. Collection and accounting of IUC was done manually at the Secondary Switching Areas until the Company introduced a computerised Inter operator Billing and Accounting System (IOBAS) in 2005. IUC to the tune of Rs.527 crore pertaining to pre-IOBAS and IOBAS period remained short collected due to incorrect computation of arrear claims, short collection of Access Deficit Charges and weak internal controls associated with the computerised billing system.

MINISTRY OF DEFENCE

Garden Reach Shipbuilders and Engineers Limited

❖ **Material management in ERP system**

- Garden Reach Shipbuilders and Engineers Limited incurred Rs.3.76 crore upto June 2007 for the implementation of Phase-I of ERP system covering the operationalisation of Material Management Module. IT audit of the application revealed deficiencies in the customisation of the system and there were instances of inadequate input and validation controls which inhibited accurate and timely capture of data. There were deficiencies in security settings which exposed the system to the risk of unauthorized access and manipulation. The system could not carry out the function of inventory valuation in accordance with the accounting policy of the Company. Thus the system was not being utilized to its fullest extent.

Hindustan Aeronautics Limited, Bangalore

❖ **Financial module under ERP package**

Hindustan Aeronautics Limited (Company) implemented Industrial Finance System (IFS) an Enterprise Resource Planning (ERP) package in three pilot sites (i.e.) Corporate Office, Aircraft Division and Helicopter Division between July 2004 and January 2006 with the objective of implementing uniform procedure and practices, on-line information for decision making and elimination of isolated islands of automation. Acquisition and implementation of ERP package and utilisation of financial module of IFS at three pilot sites was reviewed and following were observed:

- Selection process of ERP software was not transparent as the implementing partner was also involved as consultant in assessment and finalisation of software. The Company did not obtain the System Design documentation and was wholly dependent on the vendor resulting in additional burden of recurring expenditure.
- IT policy including IT security policy was not formulated.
- Physical and logical controls were weak and the data had not been properly classified for its criticality and sensitivity.
- System design deficiencies led to manual interventions to reconcile the system balances and accounts balances.

MINISTRY OF FINANCE

Bharatiya Reserve Bank Note Mudran (Private) Limited, Bangalore

❖ **Distribution and Manufacturing modules under ERP**

Bharatiya Reserve Bank Note Mudran (Private) Limited, invested Rs.13.98 crore for the procurement and installation of software and hardware for Enterprise Resource Planning (ERP) with the objective of cost minimisation and quality improvement. The completion certificate was signed in May 2004. Performance of Distribution

and Manufacturing modules under ERP was reviewed in audit. The major findings were as below:

- Inappropriate management of trained ERP core team resulted in non-utilisation of ERP system.
- The expected due professional care had not been exercised by the management while signing the completion certificate.
- Large gaps in the customisation of the package resulted in non-utilisation of the system and depriving the Company of business process re-engineering benefits
- Lack of application controls like input controls and system deficiencies prevented the system from automatically detecting errors.
- The data was not encrypted and validated with digital signature though secrecy of information handled by the Company was of utmost importance.

The Oriental Insurance Company Limited

❖ Integrated non-life insurance applications software (INLIAS)

- The Oriental Insurance Company Limited decided (2002) to switchover to Integrated Non-Life Insurance Application Software (INLIAS) from the Front Office Computerisation system. Audit of various aspects of the implementation and operation of the application by the Company revealed that though INLIAS was planned for completion within two years from the date of agreement (August 2002), its implementation due to defective User Requirement Specifications was not complete (June 2007). The Company incurred extra expenditure of Rs.8.51 lakh on Virtual Private Network due to delayed 'live-on' of INLIAS. Lack of complete customization; inconsistencies and inadequacies in the design; and lack of input controls and validation checks resulted in manual interventions that made the system vulnerable to manipulation, errors and nonconformity with relevant provision of rules and regulations. Incorrect data fed into the system led to unreliability of the database. Overall, there was underutilisation of the application and the objectives of availability of on-line and accurate information for improved decision making was not fully achieved.

MINISTRY OF PETROLEUM AND NATURAL GAS

GAIL (India) Limited

❖ Material Management Sales and Distribution, Human Resources and Project System modules of ERP system

- GAIL (India) Limited initiated a proposal of switching over to ERP in 1998 and finally completed the project in August 2005 at a cost of Rs.63.98 crore. Audit reviewed the overall performance of four of the nine modules of the system namely Material Management, Sales and Distribution, Project System and Human Resource for the period April 2005 to March 2007 in selected offices of the

Company. The review revealed non-mapping of vital business requirements and functionalities and a lack of customisation and utilisation of all available features which had led to underutilisation of the ERP SAP solution. The system further suffered from lack of input controls and validation checks; therefore requiring manual intervention and thus affecting the reliability of database. These inadequacies resulted in an incompatibility of the system to meet all business requirements of the Company and risk of defective/delayed MIS reporting and decision-making. The underutilisation of the system compromised the basic objectives of leveraging information for competitive advantage in the market, improving operational efficiency and productivity and achieving higher customer service and satisfaction.

Oil and Natural Gas Corporation Limited

❖ Financial Management module of ERP

- In October 2003, Project Information Consolidation for Efficiency (ICE) was initiated which envisaged utilisation of all ten modules* of SAP i.e. my SAP Financials and Logistics ERP package, alongwith my SAP Oil & Gas Upstream Solutions. This system was implemented across the Company between October 2003 and January 2005 at a total investment (excluding implementation cost) of Rs.81.50 crore. IT audit of Financial Management in ERP environment was conducted to obtain assurance on the reliability and integrity of the financial data entered, processed and reported in the ERP system.
- IT audit revealed deficiencies in customization, input controls and validation checks. These deficiencies affected cost allocation and cost accounting done in controlling modules and incorrect cost center assignment in transactions in logistics module and their subsequent flow to accounting documents. Deficiencies in validation checks led to inconsistent tasks being performed. Apart from these, migration of data from the legacy system to ICE without proper verification and cleaning led to erroneous information being stored in the system. The Company needs to take measures for reviewing and rectifying these deficiencies.

Oil India Limited

❖ Material Management system

- Oil India Limited is engaged in exploration, development and production of crude oil, Natural Gas and Liquefied Petroleum Gas (LPG). It operates mainly in North Eastern region, Orissa, Rajasthan and Uttaranchal. The Company started (April 2005) implementation of 'Enterprise Resource Planning' (ERP) system for improved efficiency and effectiveness in all its business processes, introduction of a system of cost management at par with the best in the world, and continuous improvement in productivity. Audit of material management revealed lack of input and validation controls leading to incomplete data base, delay in capturing data, discrepancies in data with regard to details of vendors, transactions and excess issue of materials. Incomplete porting of data from the legacy system

* *Financial (FI), Controlling (CO), Material Management (MM), Plant Maintenance (PM), Project Systems (PS), Investment Management (IM), Asset Management (AM), Treasury (FM), Sales & Distribution (SD), Business Information Warehouse (BW)*

resulted in understatement of provisions with regard to slow moving items. Also material requirement planning was being done manually even after implementation of ERP system.

MINISTRY OF RAILWAYS

Konkan Railway Corporation Limited

❖ Financial Accounting module of ERP

- To enhance efficiency of the various financial and operational functions of the organisation and for timely generation of Management Information System (MIS) reports to aid the Board of Directors in decision making, Konkan Railway Corporation Limited (Company) developed an Enterprise Resource Planning (ERP) system known as Railway Application Package (RAP) containing 17 modules through Tata Infotech Limited (TIL) in 1995 and implemented it in 2001 at a cost of Rs.5.26 crore.
- By the year 2004, the Company realised that the RAP was heading for technological dead-end due to the Alpha servers going out of production and inability to get propriety development tools of Informix forms. Consequently, the Company decided (April 2004) to reengineer the RAP system to open-ended Java based system known as JRAP and assigned the job to M/s. Amritha Technologies Limited (ATL) for implementation of the system by April 2005 at a cost Rs.3.96 crore. Despite release of entire cost to M/s. ATL, all the 17 modules of the system had not been implemented till date (September 2007) except the Financial Accounting (FA) module implemented by January 2007.
- IT Audit of JRAP system was conducted to review the development and implementation with the main focus on JRAP- Finance Accounting (FA) module and its linkages with other 16 modules and analysis of various application controls. It was observed that the Company had not carried out techno-economic feasibility study before taking up the project of migration of RAP to JRAP. As a result, the Company was facing difficulties in maintaining the system. Non-migration from RAP to JRAP of all the modules even after a lapse of three years meant that the Company had to maintain both the systems without much value addition.
- Even in the FA module, there were critical system requirements that were not envisaged or designed. The critical interface with other modules was not possible due to non-implementation of other modules. The validation checks were inadequate resulting in controls being carried out manually. The disaster recovery and business continuity plan was not in place thereby exposing the data and the business to the potential risk of loss of data. Thus, the objectives of computerisation through an ERP system had not been achieved. The Company needed to address the deficiencies in the system in a time bound manner.

MINISTRY OF STEEL

Steel Authority of India Limited

❖ CMO IT enabled systems in Central Marketing Organisaion

- Central Marketing Organisation (CMO), the sales and distribution network of Steel Authority of India Limited, encompasses a wide network of 34 branch offices & stockyards located in major cities and towns throughout India. The Company, with the aim to provide CMO with “integrated, uniform, relevant, and up-to-date information system which gives power to make decisions at the right time”, created CMO IT Enabled System (CMOITES) in 2004. However, the Company failed to undertake a SDLC approach to map its business activities. As a result of incomplete mapping of business rules the entire activity of the Company has not been properly captured within the system, with the result that even after the implementation of CMOITES, various activities continued to be carried out manually. Further due to inadequate input and validation controls, reliability of the data could not be fully assured.