CHAPTER XXV: MINISTRY OF FINANCE

Insurance Division

National Insurance Company Limited

25.1 Report on the General Insurance System Software

Highlights

Liquidated damages of Rs.17.32 lakh were short deducted.

(Para 25.1.5.1)

To assume risk from back date a facility, named Scroll, has been provided in General Insurance System (GENISYS). In 83 cases at Divisions –VII, IX and XI Kolkata– accidents occurred before accounting of cheques and generation of policies.

(Para 25.1.5.2)

Under GENISYS, books are allowed to be kept open up to seven days after transactions. As a result, back date entries in the Cash book can be made and policies with back date can also be generated. Scrutiny of the Inward Remittance Register of Division-XI, Kolkata and cross check with the System revealed that some of the cheques, entered in the Register, were not accounted for in GENISYS and no policy was issued against such cheques.

(Para 25.1.5.2)

In some cases effecting change in recovery of service tax at higher rate was delayed and the difference in collection amounted to Rs.1.24 crore up to 31 May 2003. Further, circulars modifying rates, conditions etc. were not incorporated in the system in time.

(Para 25.1.5.3)

There was no check, either manually or through computer system to see whether all the Cover Notes were accounted for and policies issued. In five cases, premium was collected through Cover Note but no corresponding policies were issued.

(Para 25.1.5.4)

25.1.1 Introduction

National Insurance Company Limited (Company) is engaged in general insurance business and had 24 Regional offices, 304 Divisional offices and 635 Branch offices as on 31 March 2005. The Board of Directors of the Company approved (December 2000) a proposal for procurement and implementation of the front office software 'General Insurance System' (GENISYS), from CMC Limited (CMC) at a cost of Rs.164.50 crore for implementation in 943 offices with interconnectivity.

The software runs on client server architecture in Local Area Network (LAN) set up, for which all the operating offices have been provided with -

(i) Pentium based system with Windows 2000 operating system for server and clients as hardware platform and,

(ii) Oracle database at back end and Developer 2000 at front end as Relational Data Base Management System (RDBMS) platform.

GENISYS facilitates processing of underwriting, claims, preparation of accounts and generation of reports and queries.

25.1.2 Scope of Audit

The scope of audit included examination of effectiveness of GENISYS in computerisation of various activities of the company through test check of records at Management Service Department (MSD) and analysis of data besides review of general and application control checks and data integrity.

25.1.3 Audit Objectives

The broad objectives of audit were:

(i) To review the procurement of Hardware and Software system.

(ii) To check the effectiveness of controls in the system.

(iii) To check the security controls in the system.

25.1.4 Audit Methodology

(i) Study and analysis of the files of Management Service Department at Head Quarters of the Company.

(ii) Testing of control checks of the system by using dummy data.

(iii) Analysis of offsite data pertaining to three Divisional Offices and two Branch Offices through Utility software prepared by the Management based on SQL queries framed by the CMC on the basis of specific requirement of audit. The Read Only report, thus generated, was password- protected by Management. This was, thereafter, copied in a separate Excel sheet for further analysis. Findings in respect of a few selected cases were verified with on line data of respective operating offices and were followed by verification of relevant physical records.

25.1.5 Audit Findings

25.1.5.1 Review of Purchase orders

Non-recovery of liquidated damages of Rs.17.32 lakh

The GENISYS software was procured from M/s. COMPAQ. Terms of the purchase order provided (May 2001) that if the supplier failed to install any or all of the goods at the respective destinations within the time limits specified in the order, the company would deduct liquidated damages (LD) from the contract price. According to clause 39(b), in case the delivered goods and/or services could not be put to use without the undelivered parts or services, the damages would be calculated considering the total price of the component.

It was noticed that in respect of 106 offices under four Regional Offices, delivery of switches was delayed for periods ranging from two to 409 days. As a result, total components like LAN, Servers and Nodes could not be put to use and GENISYS was also not implemented in time. However, LD was recovered only in respect of value of undelivered goods/services instead of value of total components.

Thus, LD of Rs.17.32 lakh was not recovered.

The Management stated that the system delivered and installed could always be put to use on a standalone basis and this should not be linked to the performance of the vendor. Therefore, LD had been charged correctly.

The reply of the Management is not acceptable as the order on M/s. COMPAQ was placed for supply, installation and maintenance of hardware for Local Area Networking of the Company's offices. The part delivery of goods did not serve the purpose since GENISYS, essentially based on a networked system, can not run in isolation on standalone basis. Therefore, full value of the components (even if part of the hardware was delivered) should have been taken into account for the purpose of calculation of LD as per terms of the order.

25.1.5.2 Review of GENISYS System

Inadequate control mechanism in GENISYS application

While reviewing the control mechanism provided in the software, it was found that adequate control checks were not provided in the following areas.

Scroll Entry

According to Section 64VB of the Insurance Act, 1938, no risk can be assumed from a date earlier than a date on which the premium has been received in cash/cheque. In case, the premium is collected by Agent, it is required to be deposited within 24 hours of collection. In case the premium is received by post, the date of post will be reckoned as date of receipt. To assume risk from back date, a facility, named 'Scroll', has been provided in GENISYS. The issuance of policy through Scroll from back date is fraught with the risk of any of the following misuses:

(i) The premium may be accounted for only after the claim becomes due.

(ii) If there is no claim, the cheque may be returned to the party causing loss of business to the company.

(iii) The cheque may be held if money is not available in the party's account.

Detailed scrutiny of records revealed the following irregularities under the above three situations.

Premiums accounted for after receipt of claims

In 69 cases at Division –XI, Kolkata, accidents occurred before accounting of premium and generation of policy. It was seen that in these cases cheques and cash were held for periods of one day to 164 days. Underwriting and claim files of 69 cases were requisitioned, of which only 13 claim files were produced to Audit and no underwriting file was made available. Audit observed that out of 13 claims

(i) nine cases relating to mediclaim policy were settled through Third Party Administrator (TPA). In the absence of detailed documents regarding settlement of these cases, no further audit observation could be made;

(ii) three cases related to Motor Policy, out of which in two cases there was no record to show that premium cheques were received before occurrence of accident;

(iii) in one case, Marine Cargo Specific Transit Policy was issued after expiry of the risk period, though cheque was received beforehand. The cheque was kept in hand without any entry in the system. The same was accounted for only after the accident occurred.

At Division –VII and IX, Kolkata, in seven cases each, policies were issued through Scroll where accidents occurred before accounting of premium and generation of policy.

In the absence of related files regarding claims and underwriting, circumstances under which policies were generated in these Divisions after the occurrence of the accident, could not be ascertained. It, however, further indicated a lack of validation control.

Return of cheques

On a test check of entries in the Inward Remittance Register (IRR)[♠] of Division-XI with those in the System, it was seen that some of the cheques entered in the Register, were

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♠ ***This is a manual register to record incoming premium, in cheque, pending generation of policy and recording in cash book. However, this has been dispensed with in most of the operating offices after introduction of GENISYS.***

not accounted for and no policy was issued against such cheques. Following four such cases relating to the year 2003, 2004 and 2005 were noticed:

IRR No.	Date/Time	Name	Cheque No and Date	Bank Name	Amount (Rs.)	Department
3536	11/08/2003 3.30 PM	Ransal India Private. Limited	442599 11/08/2003	Bank of Maharastra	1,695	Marine
3958	27/08/2003 0.55 PM	Kamrup Tea	492277 27/08/2003	Federal Bank Ltd	6,385	Marine
7106	23/11/2004 5.25 PM	Zenith Exports Ltd	361420 23/11/2004	Canara Bank Overseas	1,170	Marine
4019	27/07/2005 5.25 PM	Ajoy Automobiles	688252 27/07/2005	Bank of India	4,423	Motor (struck out)

It was observed that the above cheques were not deposited in the banks. The ultimate fate of these cheques could not be ascertained as the relevant documents were not produced to audit. It was also seen that many entries of the IRR were struck out without giving any remarks and authorisation.

Retention of cheques

It was seen that at Division-XI, Kolkata, in 20488 cases, cheques and cash were held for periods ranging from one day to 343 days. In 41 cases, where cash was received, there was a delay of three to 15 days in deposit of cash of Rs.0.40 lakh. In 111 cases, cheque dates were later than the Scroll date. Thus, there was no validation control between Scroll date and cheque date.

Assuming risk before receipt of premium violates provisions of 64VB of the Insurance Act 1938. Further, the system of issue of policy after occurrence of accident violates the basic rules of financial propriety.

At Division –VII, Kolkata, in 194 cases, cash was held for periods ranging from one day to 123 days and in 1,922 cases cheques were held for periods ranging from one day to 111 days. Delayed deposit of cheques resulted in unnecessary coverage of risk, in case cheques were dishonoured subsequently.

Opening of books

It was noticed that Under GENISYS, Books were allowed to be kept open up to seven days after the date of transaction in Division VII, IX, XI Kolkata and, Street Branch Bentinck, and MG Road Branch, Kolkata. This is fraught with risk as back dated entries in the Cash book can be made and policies with back date can also be generated.

When a separate facility of Scroll entry for generating policy with the date effective from an earlier date exists, system should ensure daily closing of Cash book to avoid manipulations.

Deficiencies in the system regarding Fire Policy

(i) Silent Risk

According to All India Fire Tariff (AIFT), in case of risk becoming 'Silent'[♠], it shall not be entitled to any discounts. However, on a test check through dummy data, it was noticed that policy was generated allowing 15 *per cent* claim experience discount and 10 *per cent* Fire Extinguishing Appliances (FEA) discount for risk that fell in the category of 'Silent' risk.

The Management accepted the Audit observation and also stated that suitable rectification would be made in GENISYS.

(ii) Ratings

In GENISYS the 'Risk Code Menu' of the underwriting module, does not display description of all types of risks prescribed in the tariff. It was observed in Audit that the option to select storage risks outside the compound of industrial/manufacturing units was not available. Further, in the menu the system did not incorporate the list of hazardous goods issued by Tariff Advisory Committee (TAC). Thus, the user had to manually consult the tariff chart to identify the risk code applicable.

The Management stated that 'Risk Code Menu' against utilities located outside industrial and manufacturing risk was available in GENISYS. The Management's reply is not correct as on verification it was seen that 'Risk Code Menu' does not show the description of property. Thus, there is a chance of wrong classification and charging of wrong premium by the user.

Failure to cancel motor policies in respect of Cash Loss/Total Loss

In case vehicle is totally damaged/or when the net cost of repair is almost close to the Market Value or the Insured Estimated Value (IEV) or the vehicle is stolen, the claim can be considered as a Total Loss. If loss is extensive but does not warrant consideration of the claim on 'Total Loss' basis, claim can be settled on 'Cash Loss' basis. According to 'Claims Settlement Manual' of the Company, in these cases the policy should be cancelled and Regional Transport Office (RTO) should be informed by registered post about the cancellation of the policy in such cases.

It was seen that the GENISYS software did not have appropriate validation controls to ensure cancellation of the policy after settling such claims. On analysis of the data it was observed that in three cases of Division-VII, eighteen cases of Division-XI, two cases of Bentinck Street Branch, and four cases of MG Road Branch, Kolkata, claims were settled on 'Total Loss' basis but the policies were not cancelled leaving scope for further claim under the policy.

[♠] ***when a factory remains closed for a period more than 30 days***

Mediclaim policy

In case of Mediclaim insurance policy, if there is any gap in renewal of policy, cumulative bonus can not be allowed unless it is approved by the competent authority. However, the GENISYS system allows cumulative bonus on renewal of insurance policy even though there is a gap in renewal and there is no approval of competent authority. In MG Road Branch, Kolkata, 25 Mediclaim policies were issued where there was a break in continuity. In test check of two of these cases, it was seen that cumulative bonus was allowed despite absence of approval of competent authority in the absence of appropriate validation check.

25.1.5.3 Delay in giving effect to modifications in the software

It was noticed from records that the Company launched new products without any provision in the GENISYS to underwrite the same.

The Management stated that there was some time gap between introduction of a product and incorporation of relevant module in the software.

Necessary provisions should have been incorporated in the GENISYS before launching the product.

As per the agreement entered with CMC, for making changes in the system at global level, patches/versions are prepared by CMC. This patch/version is thereafter sent to all operating offices to run and update the system.

The Government revised service tax from five to eight *per cent* on 14 May 2003. However, GENISYS version (5.9.1.2) for enhancing service tax was released by CMC on 19 May 2003.

On a test check of records it was noticed that there was delay in implementation and recovery of service tax at higher rate, which in some cases was delayed till 31 May 2003 and the difference in collection amounted to Rs.1.24 crore.

The Management stated that delay was due to failure of the operating offices in loading the patch in time. They also stated that there was no loss to the exchequer as service tax paid to service provider like Bharat Sanchar Nigam Limited could be set off against the collection of service tax on the insurance premium. The Management also stated that the differential Service Tax was collected and kept in excess premium account to be adjusted subsequently.

The reply is not tenable as the fact remains that there was a loss to the Company due to delay in communication and implementation of revision of service tax patch by the Company. The short collection of Rs.1.24 crore was arrived at after considering subsequent differential collections.

The Management of Bentinck Street Branch stated (December 2005) that excess commission paid due to delayed implementation of changes in GENISYS was adjusted/recovered subsequently.

Circulars modifying rates, conditions, etc. not incorporated in the system in time

With effect from August 2003, the agency commission on motor business was revised, and as a result, no commission was payable on Third Party (TP) portion of package policies irrespective of the insured category. It was, however, noticed that the system allowed agency commission on total amount of premium. The system, thus, lacked control in this regard. In Bentinck Street Branch, Kolkata and in M.G Road Branch, Kolkata, excess commission of Rs.0.61 lakh had been paid.

As per TAC direction, if claim experience ratio was more than 100 *per cent*, in case of Fire Policy, the matter was to be referred to TAC. This provision was changed with effect from 16 April 2004 and loading of slabs was introduced even in cases where claim experience was more than 100 *per cent*. On a test check with dummy data, claim experience was entered as 600 *per cent* and system did not impose any loading even though as per tariff 100 *per cent* loading was to be imposed. Therefore, this vital change was not incorporated in the system.

The Management accepted (March 2005) the audit observation.

TAC issued directions from time to time regarding tariff. On a test check it was found that the guidelines contained in the following circulars were not incorporated in the system.

(i) Circular dated 25 March 2004 regarding voluntary Deductibles regarding Act of God.

(ii) Circulars dated 31 March 2005 regarding clarification on risk code and rate code, clarification regarding tariff item namely “Dwelling, places of worships……….” and refund on cancellation of long term policy.

(iii) Company’s guidelines issued on 13 March 2003 regarding prohibiting commission from second year in respect of package policy on commercial vehicle other than tractor.

25.1.5.4 Audit through GENISYS

Audit through Genisys revealed the following cases where mistakes occurred due to users’ fault.

Cover Note

Cover Note is a vital document committing the Company to undertake the insurance of the risk. This is considered as a temporary policy. The Cover Notes are to be issued only when full particulars of insurance are gathered and the premium is calculated. Therefore, a close control is required to minimise the chance of fraud through misuse of the Cover Notes. Though there is a provision to enter Cover Note number in the system, it was not followed many times. As a result the register of Cover Notes, generated by the system, remained incomplete and effective control over the utilisation of Cover Notes could not be exercised.

On a test check of some Cover Notes issued by the agents of Division –XI, Kolkata, through the system, it was seen that in the following four cases premium was collected through Cover Note but no corresponding policies were issued.

Sl. no.	Cover note no.	Book no.	Amount (Rs.)	Name of the insured	Risk start date	Development officer/agent code
1	214888	8596	3,580	A.Keay Power Foods (P) Ltd.	28/08/2003	-DO-
2	401840	16074	7,515	Zulfikar Alam	17/08/2004	-DO-
3	214891	8596	847	Animesh Kr. Saha	28/08/2003	-DO-
4	401421	16057	1,567	Ganesh Mondal	06/12/2004	01075

It was further noticed that money collected by the agents in the above cases was not deposited with the Company and, at the same time, there was also no record that the above cover notes were cancelled subsequently.

Issue of policy in favour of National Insurance Company Limited

On data analysis of MG Road Branch, Kolkata, it was seen that a policy was issued in the name of the Company under which one TP claim and one Own Damage claim was settled TP was settled for an amount of Rs.31.12 lakh and the Own Damage claim was settled for Rs.0.89 lakh. On discussion, the Management stated that this dummy policy was generated to adjust the entire TP claim paid by the Divisional office on behalf of Branch office but regarding Own damage claim there was no explanation. However, no record was produced to Audit in favour of the arguments.

The Company may consider any other adjustment module for the purpose since a Company can not insure its own property with itself.

25.1.6 Conclusion

There was lack of control in the system to combat the following situations:

(i) risk was covered before receiving premium in violation of section 64VB of the Insurance Act 1938,

(ii) cash book remained open up to seven consecutive days with consequent risk of manipulation,

(iii) guidelines issued by the TAC and the HO of the Company were not incorporated,

(iv) agents collected money through cover note but did not deposit with the Company and data validation of scroll date with cheque date was absent.

25.1.7 Recommendation

(i) Business process should be re-engineered to ensure that Scroll entries and Cash book entries are made simultaneously on receipt of premium in the shape of either cheque or cash. Separate facilities may be provided to take care of situation where premium is collected by agent or by post.

(ii) The system should restrict any violaion of Section 64 VB of Insurance Act, 1938 which prohibits assuming risk before receipt of premium.

(iii) Periodical report on exception to the above should be generated and sent to Regional Office for investigation/reconciliation

(iv) Provisions contained in the tariff and changes made from time to time may be incorporated in the system instantly through a prompt change management system to avoid any financial loss (es).

(v) Adequate validation controls should be imposed to ensure that data received for processing was correct, complete, and without duplication.

(vi) Provision regarding keeping daily accounts open for seven days from the date of transaction may be reviewed and daily closing of Cash book may be ensured.

The matter was reported to the Ministry in December 2005; its reply was awaited.

CHAPTER XXVI: MINISTRY OF POWER

National Hydroelectric Power Corporation Limited

26.1 Taxability of perquisites

The Company was treating three taxable perquisites as non-taxable in contravention of the provisions of the Income Tax Act. On being pointed out by Audit, these perquisites were categorised as taxable income with effect from the financial year 2004-05, thereby avoiding recurring loss to the exchequer.

National Hydroelectric Power Corporation Limited (Company) developed a software system for calculating the income tax payable by employees as per the Income Tax Act. The system was designed with a flexible code structure so that any new rule related to income tax could be incorporated/deleted from the system without involving any change in the program or database. All the components of the salary of the individual employee were categorised as 'Earnings' or 'Deductions'. For the purpose of income tax calculation, these components were defined into three categories, viz. Taxable, Non-taxable and Rebatable.

While reviewing the database at Corporate Office of the Company, it was observed in Audit, as detailed below, that three perquisites, viz. lease maintenance, leave travel concession (LTC) and conveyance allowance, allowed to the employees were being treated as non-taxable in contravention of the provisions of the Income Tax Act:

(i) Employees availing the facility of leased accommodation were entitled to an amount equivalent to two months' rent per year for repair and maintenance of the house property on self-certification basis. While reviewing the system it was observed that the Company was treating this amount as non-taxable in the hands of employees.

(ii) The Company introduced (December 2000) LTC scheme under which the employees were allowed LTC for distance of upto 1,400 kilometres on the basis of self-certification. Though the amount payable under this scheme was taxable in the hands of employees, the same was categorised as non-taxable.

(iii) As per the Central Board of Direct Taxes (CBDT)'s circular dated 25 September 2001, the sum paid/various facilities provided by the employer to employees, over and above the prescribed limit, are treated as perquisites and are taxable in the hands of the employee. Regarding use of motor car, the circular provides that where an employee owns a motor car and the running expenditure is met or reimbursed by the employer and such reimbursement is for the use of the vehicle partly for official purpose and partly for personal purpose of the employee then the sum paid in excess of the limits specified in the circular would be treated as perquisites for the purpose of levy of income tax. It was seen that the entire conveyance allowance paid to employees was treated as non-taxable without complying with the conditions stipulated by CBDT, such as maintaining user details in the form of log book, odometer reading etc.

On being pointed out in Audit, the Company revised (December 2004) the taxability of these perquisites by categorising the same as taxable income with effect from the financial year 2004-05, after taking the opinion of tax consultants.

The Management replied (May 2005) that the Company had recalculated the tax liability of the employees of the Corporate Office after re-categorisation of the three items. The difference between the tax liability before and after changing the taxability status of these three items was Rs.80.08 lakh (approximately) for the financial year 2004-05, which was deducted from the salaries of the employees (January to March 2005). Position regarding deduction of differential amount of tax in respect of other units of the Company was awaited.

Thus, by rectifying the category of perquisites at the instance of the Audit, recurring loss to the exchequer was avoided.

The matter was reported to the Ministry in December 2005; its reply was awaited.

CHAPTER XXVII: MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

National Highways Authority of India

27.1 Assessment of Information Technology under Cobit Framework

Highlights

The Authority did not prepare a structured Information Technology plan.

(Para 27.1.5.1)

There was lack of planning and coordinated approach in the three major software applications leading to duplication of efforts.

(Para 27.1.5.2)

Since major software applications were developed against World Bank loan release commitments, there was little scope for the Authority to undertake cost benefit analysis.

(Para 27.1.5.3)

Expenditure of Rs.5.07 crore (Rs.2.07 crore and US$ 0.66 million♣ equivalent to Rs.3.00 crore was rendered wasteful in development of technical assistance for 'operation and development of pilot corridor management units' as the system did not lend itself to integration with Road Information system and also because the database was to be eventually hosted on the servers located in a foreign country.

(Para 27.1.6.2)

27.1.1 Introduction

National Highways Authority of India (Authority) is a statutory authority established by the National Highways Authority of India Act, 1988 for the development and maintenance of National Highways. The main activities of the Authority are to:

(i) Upgrade and broaden existing National Highways corridors connecting the four metros of Delhi, Mumbai, Chennai and Kolkata of the country forming the Golden Quadrilateral (GQ) and Srinagar to Kanyakumari and Silchar to Porbandar that form North South East West (NSEW) corridor.

(ii) Undertake other highway projects such as connectivity to ports development of bypasses, etc.

♣ ***One US$ = Rs.45.61***

(iii) Implement externally aided road projects.

(iv) Improve, maintain and augment the existing national highways network including ensuring road safety measures and environmental management.

(v) Collect toll tax on highways on behalf of Government.

In 1995 the Government of India entrusted to the Authority the responsibility of implementing the externally aided projects of length around 333 kms. Later the Authority was entrusted the responsibility of upgrading and four laning of the following length of national highways:

(i)	NHDP Phase I (December 2000)	7,498 kms
(ii)	NHDP Phase II (December 2003)	6,736 kms
(iii)	NHDP Phase III (December 2004)	10,417 kms
Total	**-**	**24,651 kms**

27.1.2 Organisational set up of Information Technology and Planning Division

The Authority has Information Technology and Planning Division to look after development, procurement and customisation of IT systems/ solutions for office automation, computer based project monitoring and planning of the works. The Division functions under the directions of a Chief General Manager (CGM) who in turn reports to Member (Administration).

27.1.3 Audit objective and scope

The Audit of Information Technology focused on key information systems supporting the operations of the Authority *viz.* Project Financial Management System, Road Information System for planning and management of highways and high quality data collection for corridor management and toll collection.

The objective of Audit was to assess the extent to which information needs of the Authority under Information Technology had been aligned with its business objectives/ needs, IT related risks, existence of a regulatory environment to ensure strict control over information assets and value for money spent in the creation of information systems.

27.1.4 Audit Methodology

The Audit was conducted with reference to the benchmarked international standards for good IT governance – COBIT (Control Objectives for Information and Related Technology) which was used for assessing key aspects of Authority's systems.

The Audit was performed by walking through the systems of the Authority and study of the documentations and records available at the headquarters office of the Authority.

27.1.5 IT planning and organisation

27.1.5.1 A good IT planning and organisation set up assures the existence of sound control practices so that the information requirement necessary to achieve corporate objectives is achieved.

However the Authority did not follow an approach of preparing a structured IT plan which involved adoption of a methodology to formulate and modify plans. Though the Authority was set up in June 1989 and had an IT division within the organisation, it was yet to formulate an IT plan/ initiatives to support the organisation's mission and goals.

The Management stated (October 2005) that it had engaged a Consultant (M/s. Price Waterhouse Coopers) in June 2002 for studying the Authority's requirements and formulating plans for institutional strengthening of which Information systems, planning and communications formed a major part. It further stated that the Consultant did an extensive review of the existing IT systems of the Authority and formulated phased implementation plan comprising different functions such as office automation, executive functions, technical functions against immediate/ short term/ long term implementation by the Authority.

Though the draft report was available in 2003, neither the final report was available nor the acceptance of the same was available on record. The Authority also could not inform Audit of the initiatives taken by it after the Consultants submitted the report for institutional strengthening relating to information technology/ information systems.

27.1.5.2 The existing capacity planning of IT resources was either on the basis of *ad-hoc* requirement sought by the user division or at the instance of term lending institutions which insisted on creation of such IT facilities. The formulation of Project Finance Management System (PFMS) and Road Information System (RIS) were at the instance of the term lending institution - World Bank. The Electronic Drawing Management System, Payroll Accounting, Geographical Information system based Road Management and Construction System, Computerised Project Information system (CPIS) etc. were envisaged by the user divisions of the Authority.

Audit observed that there was lack of planning and co-ordinated approach in the following three major software applications being developed in the Authority, due to which same data was collected repeatedly during the development of the applications.

S. No.	Name of application	Area of computerisation
1.	Road Information System (RIS)	Collection and storage of highway related data
2.	Project Financial Management System (PFMS)	Financial Management
3.	GIS based Road Management System (GIS)	Road management system

The Authority's reply (October 2005) that the initiatives taken by it under various projects on strengthening the information systems such as PFMS, RIS, CPIS etc. were in line with the recommended IT plan on institutional strengthening of the Authority as submitted by the Consultant were not borne out by facts. The development of PFMS and RIS, which was started in June 2000 and March 2002 respectively was at the instance of the World Bank and CPIS (development started in December 2002) was sought to be developed at the initiative of the Authority and the same were developed before the draft report of the Consultants.

The applications were non-integrating. This was evident from the fact that the Authority had taken up different projects without identifying the information requirements for the attainment of business objectives. In each of the above systems (PFMS, GIS, RIS) the Authority envisaged maintenance of separate database for capturing common data such as name of contractor, contract stretch, state, length of road, date of start/ completion, details of laning, NH number, chainage etc. The capturing of data in same fields across various systems was redundant and led to duplication of efforts.

The Authority stated (October 2005) that the databases created for hosting the IT applications and capturing the data relating to implementation of various projects were not integrated and the Authority was undertaking a feasibility study for implementing an Enterprise Resource Planning solution for synchronising the stand alone databases of different subsystems.

This indicated that the Authority did not envisage an integrated software application and instead created small projects thereby creating redundant data and individual applications which were non integrating and eventually had to plan for synchronising the stand alone databases.

27.1.5.3 The table below summarised the yearly budget for expenditure proposed by the IT Division, approved by the Finance Division and the actual expenditure incurred on information technology assets.

(Rs. In lakh)

Year	**IT Division Budgeted Expenditure**	**Finance Divison Budgeted Expenditure**	**Actual Expenditure**	**Actual expenditure in comparison to IT Division Budgeted Expenditure (in *per cent*)**
1999-2000	115.00	Not available	9.99	8.69
2000-2001	90.00	70.00	54.71	60.79
2001-2002	390.00	265.00	79.05	20.27
2002-2003	300.00	300.00	161.53	53.84
2003-2004	300.00♣	300.00	151.20	50.40
2004-2005	Not available	Not available	40.38	--

Analysis of the budget provisions for expenditure on information technology asset creation revealed that there was non utilisation of 39 to 80 *per cent* of the budget estimates between 2000-01 to 2003-04 which indicated that the budgeting was not based on any scientific objective criteria, thus indicating faulty planning. Further Audit

♣ ***Finance Division Budgeted Expenditure*** observed that the Authority made only *ad-hoc* estimation of the expenditure for the projects on hand every year.

The Authority stated (October 2005) that its IT budget estimates were prepared yearly and the estimates were based on the likely expenses on the approved and on going IT projects and the cost benefit aspect of each IT project was discussed and documented. However, Audit was not provided access to any cost benefit study undertaken.

The reply of the Authority that a cost benefit study of each project was undertaken is also not borne out by facts as the software applications developed at the instance of the outside funding agencies had to be compulsorily implemented as part of the terms of loan agreement.

27.1.6 Wasteful expenditure in Development of Software Applications

27.1.6.1 Wasteful expenditure of Rs.26.59 lakh on development of Geographical Information System based Road Management and Construction System

A pilot project[♣], Geographical Information System based Road Management and Construction System, was conceived (July 2001) as a web based road management and construction system for executive decision support. The contract was awarded (September 2001) to M/s. Hope Technologies Limited at a cost Rs.26.59 lakh for supply of web interface software to have interactive access to design drawings, maps and data through internet and its installation. Besides data collection[♥] from Detailed Project Reports (DPRs) and conduct of ground survey for pavement condition after the date of completion of construction work it also included conversion, web designing, system integration and training. The data was proposed to be hosted on the webserver of the Authority. The entire work was completed in June 2002. Though the system envisaged updation of data by the user division, the same was not carried out both for the completed stretches and the stretches which were under construction as the Authority did not prescribe a mechanism for data collection and capturing of the same. Also, the Authority did not make any attempt to utilise the capability of the software in other completed stretches as well as in the stretches still under progress. As a result, the investment of Rs.26.59 lakh in the above system was rendered wasteful.

The Authority did not reply to the Audit observation nor did it state as to how the drawings for the completed and ongoing projects were captured in the electronic databases, if at all, to be available for future maintenance of road projects constructed at huge costs.

[♣] ***Two stretches – one completed stretch(Delhi-Jaipur) and another under construction (Sikandra-Bhaunti);***

[♥] ***pre constructions activities, geographical location of highway stretch, highway parameters such as pavement conditions, approach roads, speed, road side plantation and utilities, traffic details including accident data and construction/maintenance programme details***

27.1.6.2 Wasteful expenditure of Rs.5.07♠ crore due to abandonment of development of information solution of corridor management study

The Authority awarded (April 2002) a contract to Louis Berger Group Inc., USA (Contractor) for technical assistance for development and operation of pilot corridor management units♦ (CMU) at a cost of Rs.3.83 crore and US$ 0.84 million to be completed by August 2004. The scope of technical assistance also included High Quality Management System (HQMS)♣ to prioritise corridor and pavement maintenance schemes, procure and establish appropriate IT infrastructure and provide training and coordinate other relevant studies i.e. Road information, Minor Improvement to National Highways etc. being carried out by the Authority. However, there was no mention in the contract about the hosting of the data base for the HQMS.

Review in Audit of the deliverables showed that the Authority changed (August 2002) two stretches of the Delhi unit proposed to be taken up for data collection as long term operation and maintenance contracts had already been awarded thus making them unsuitable for consideration as pilots. It was also noticed in Audit that both the changed stretches had also been selected for data collection at the time of GIS (Delhi-Jaipur) and RIS (Barwa-Panagarh, Vijayawad-Chilkaluripet and Vijayawad-Eluru) software implementation, thus, resulting in duplication of efforts.

The Authority suspended (August 2003) the development of IT solution of HQMS as it did not provide possible integration with the RIS software concurrently under implementation. As a result, the amount of Rs.5.07 crore paid to the Contractor (upto December 2005) relating to data collection, development of IT solution, etc. which were required to facilitate the functionality of HQMS was rendered wasteful due to suspension of development of HQMS.

The Authority stated (October 2005) that the terms of reference of HQMS provided only for procurement and establishment of appropriate IT infrastructure and HQMS was proposed as possible software for the purpose by the Consultants. This was not found suitable by the Authority as the main domain was hosted in a third country and all the data was to be kept there and that integration of the software with Road Information System application was not an issue and no payments on account of procurement of HQMS was made by the Authority.

The contention of the Authority is not borne out of facts as the scope of study and duties of the Consultant included a clause to procure and establish appropriate IT infrastructure for operation of pilot corridor management units alongwith coordination with other relevant studies i.e. road information, minor improvement to National Highways etc. being carried out by the Authority. Thus, the amount had been paid towards development

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♠ Comprising of Rs.2.07 crore and US$ 0.66 million equivalent to Rs. three crore (One US$ = Rs.45.61) – December 2003

♦ One at Delhi (Delhi-Agra section of NH 2 and Delhi-Jaipur section of NH 8) and another at Vijayawada (Vijayawade-Eluru section of NH5 and Vijayawada-Nandigama section of NH 9)

♣ prepare inventory and pavement condition data including locational referencing, highway patrolling, traffic accident management, land management, Right of width control including control of utilities, etc

of IT solution even when the Authority itself had stated as early as August 2003 that the development of the software application be put on hold pending solution of the problem of its integration with Road Information system. Also the hosting of the database for the HQMS in a foreign country should have been known at the time of finalisation of contract. Thus, the eventual purpose of technical assistance for development and operation of pilot corridor management units, which also included cost for suggestion of suitable information system, was not met.

27.1.7 Conclusion and recommendations

27.1.7.1 Conclusion

As the Authority had not formulated a coherent IT strategy and IT plan, integrating its needs on the various facets of its operations, the result was:

(i) Duplication of efforts

(ii) Erection of different platforms and consequent training needs

(iii) Extra expenditure due to another effort to study the systems of the Authority

27.1.7.2 Recommendations

Audit recommends that:

(i) The Authority should follow a structured information technology plan with a coordinated approach so as to gain from the huge investments made in information technology assets created so far which would lead to improving the Management Information system.

(ii) Authority should integrate the areas of Road Information system, Project Financial Management system and GIS based Road Management and Construction System so as to avoid duplication of efforts.

(iii) The Authority should plan and prepare realistic budgets after making cost benefit analysis of IT projects.

The matter was reported to the Ministry in December 2005; its reply was awaited.