CHAPTER IV : MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS

Cochin Port Trust

4 Integrated Vessel & Cargo Information and Billing System (IVCIBS) and Financial Management System (FMS) in the Cochin Port Trust

Highlights

- **Logical access controls were weak due to indiscriminate grant of access rights and delete privileges to groups of users through common password, compromising IT security.**
- **Vessel arrival data was incorrect.**
- **Entry Certificates and Clearance Certificates were not generated through the system. Advance collection of Port dues was not ensured before issuing the Certificates.**
- **In the absence of details of containerized cargo landed, de-stuffed and delivered, the Classified Import Manifest generated by the system was incomplete and incorrect.**
- **There was a difference of Rs. 404.47 crore between the figures in the tables relating to computation of wharfage for export cargo due to inadequate process control leading to incorrect computation of wharfage.**
- **Maintenance of database of Steamer Agents was defective and the System lacked control over the minimum balance prescribed leading to negative balance of Rs. 29.51 lakh in 12 accounts as on 28.07.2006.**
- **There were delays in entering the data relating to receipt and payment in FMS and authorization by Cashier.**
- **The System lacked control over debiting of expenditure against heads of account without provision or in excess of provision.**
- **There were several gaps in the System generated numbers, due to back end deletion of records. This affected the integrity of the database.**

Summary of recommendations

- **CoPT needs to strengthen the security of IT systems, particularly the access to systems comprising both physical access as well as logical access.**

- **CoPT should formulate a well defined and documented password policy to prevent unauthorized access to system and to ensure accountability of transactions.**

- **CoPT should strengthen its existing validation checks in the computerized systems and build additional validation checks so that the deficiencies noticed in the systems are eliminated and data integrity is enhanced.**

- **CoPT needs to rectify deficiencies in master data and other allied data and to strengthen input controls so that reliability of data may be enhanced and the requisite reports may be generated.**

- **CoPT should devise a system of periodical review of implementation of IT systems and implementation of major IT Projects should be a part of a wider agenda for change and should not be simply superimposed on the manual system with inefficient services.**

- **CoPT should ensure optimal utilization of the applications by exploiting all their features so that the intended objectives may be achieved.**

4.1 Introduction

Cochin Port Trust (CoPT), a Body set up under Indian Ports Act 1908, renders services to more than 1000 Inland and Foreign vessels and handles about 13 million metric tons of cargo. Annual turnover of CoPT is more than Rs. 200 crore and the main source of income are operational income (vessel billing, cargo billing, container billing and estate rentals) and miscellaneous income (return on investments, sale of unserviceable). Containerised cargo handling facility is operated by IGTPL[1] from April 2005 onwards.

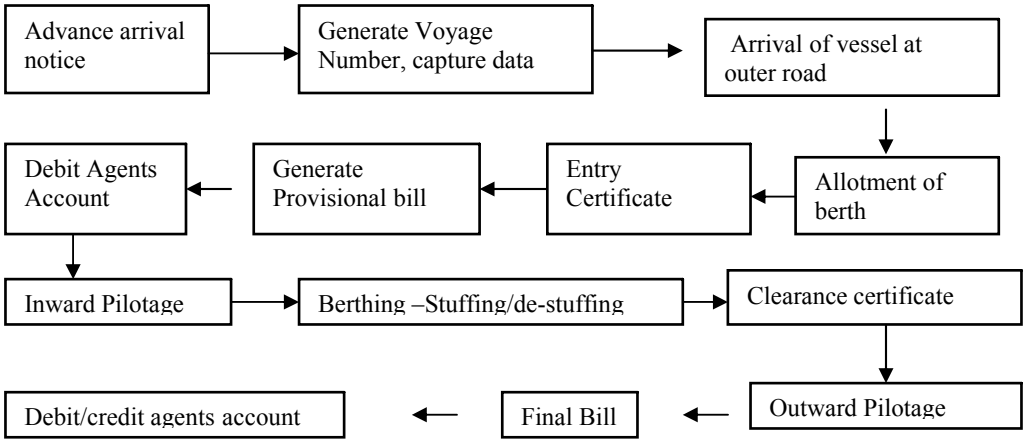
CoPT initiated implementation of Management Information System project during 1998-99 covering areas like Finance, Accounts, Pay roll, Pension, Revenue, and Traffic to facilitate introduction of Electronic Data Interchange (EDI) so as to equip CoPT to compete with other Ports**.**

The project included development and implementation of two major applications:

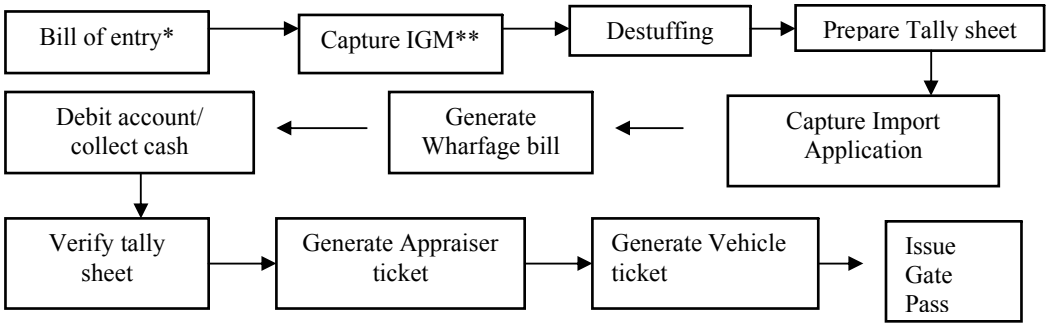
[1] Integrated Gateway Terminal Private Limited

- Integrated Vessel and Cargo Information and Billing System (**IVCIBS)**
- Financial Management System (**FMS**)

IVCIBS was developed by Tata Consultancy Services Limited (TCS) at a cost of Rs. 15 lakh with Oracle as backend and Developer 2000 as front end. IVCIBS is a combination of Vessel Information & Billing System (VIBS) and Cargo Information & Billing System (CIBS) with common master tables. A flow chart on the vessel billing process is given below:



Cargo Information & Billing System covers the billing of cargo related charges such as wharfage, demurrage and equipment hire charges. A flow chart on the cargo billing process is given below:



** A statement delivered by an importer at the Custom House describing the nature and value of goods imported declaring the place from which imported.*
*** Import General Manifest*

FMS was developed by M/s Pentafour Systems Limited at a cost of Rs. 6.5 lakh with Oracle as backend and Developer 2000 as front end to provide financial management information at various levels reflecting the state of financial and operational performance of CoPT and its departments. The System covers Cash office operations, Budgeting, Journal & Ledger maintenance, Annual Accounts preparation, Asset & liability management and Bank reconciliation.

CoPT incurred an amount of Rs. 5.25 crore towards the computerization up to August 2007.

4.1.1 Organisational set-up

Administration of the Port is vested in a Board of Trustees comprising a Chairman, a Deputy Chairman and 12 members constituted under Major Port Trusts Act, 1963. The Chairman is the Chief Executive of the CoPT. He is assisted by Deputy Chairman and 8 Heads of Department. Computer Centre is headed by a Deputy Director (EDP) under the supervision of Deputy Chairman.

4.2 Audit Objectives

A performance review of the IT applications such as IVCIBS and FMS was conducted to assess whether:

- General controls to administer and implement IT applications were adequate.
- Application controls were adequate and effective.
- Applications developed were optimally utilized and the intended purposes were being served.

4.3 Audit scope/methodology

The scope included test check of records and evaluation of effectiveness of general and application controls operating in IVCIBS and FMS. Besides, the data stored in IVCIBS and FMS was analysed using CAAT to ascertain whether the information generated out of the system satisfied the characteristics of Information such as reliability, completeness, accuracy, verifiability, relevance, timeliness and confidentiality.

Audit findings have been discussed in succeeding paragraphs:

4.4 General IT controls

General computer controls are critical to the organisation's ability to safeguard its assets and ensure reliability of financial management information. Weakness in Information System's general controls affects the over all efficiency and security of computer operations.

4.4.1 Absence of segregation of duties among EDP Staff

For ensuring IT Security, the duties and responsibilities of EDP staff should be adequately segregated and there should be separate staff for application and system programming, computer operations and data security. Audit observed that although there were 15 EDP posts in the Computer Centre in CoPT including 5 Programmers, there was no segregation of duties among EDP programmers. It was also seen that Computer security administration staff

was responsible for application programming in addition to supporting security administration making the system prone to the risk of error and fraud.

Management stated (September 2007) that orders were issued on 31.08.2007, segregating the duties of EDP Programmers.

4.4.2 Inadequate logical access control

Logical access controls are introduced in the IT System to protect computer resources against unauthorised access attempts. In this regard, the following deficiencies were noticed:

- Although access to System and file resources was restricted through User ID and password, there was no provision to limit multiple log on by the same user and multiple sign on attempts etc to maximise System security.
- Apart from 2 users identified by Name, all other users represented various Sections where connectivity had been provided. The granting of a particular user_id and password to a Section was irregular, as several persons in that Section would be accessing the system using the common password thereby blurring the accountability of individual users.
- The users were not identifiable by Employee code or Employee Name. As such, in the event of misuse of the system or fraud, it would be difficult to identify the person responsible for the same.
- Four privileges- insert, query, update and delete in respect of 314 functions were granted to 13 users. This included the user "AP" with all the four privileges in respect of 189 functions. This indicated that the Analyst Programmer who had access to source code was also having full access to 189 functions and could change the data any time in any of the tables.
- The organization did not have a well defined and documented Password Policy.

Management stated (September 2007) that a revised procedure to restrict access rights to individual users based on employee ID had been introduced from 14.08.2007 and the role of Analyst Programmer had been redefined.

Recommendation

- *Access controls should be strengthened and user id/password management should be improved to prevent unauthorized access to system and to ensure accountability of transactions.*

4.4.3 Application controls

Application controls are used in IT Systems to provide assurance to the management that all transactions are valid, authorized, complete and accurate. These controls include Input controls, Output controls and Process controls.

The objective of **Input controls** is to ensure that the procedures and controls reasonably guarantee that (i) the data received for processing are genuine, complete, not previously processed, accurate and properly authorised and (ii) data are entered accurately and without duplication. **Data validation** is a process for checking transaction data for any errors or omissions and to ensure the completeness and correctness of input.

INTEGRATED VESSEL AND CARGO INFORMATION AND BILLING SYSTEM

System deficiencies and weak input control

4.5 Audit findings on Vessel Billing –Inaccurate and incomplete data

4.5.1 Deficiencies in Scale of rates data

Scale of rates specifying the vessel and cargo related charges leviable for Port operations are notified by the TAMP[2]. The master tables relating to vessel rates, cargo rates and equipment rates in ICVIBS store the details of rates prescribed for various port services. Traffic Revenue Section is responsible for updating master tables relating to Scale of rates. Data analysis revealed inaccurate data due to defective system design and weak input control as detailed below:

(i) In 322 out of 433 cases the 'created date' for the rates effective from 12.02.2004/01.02.2005 was shown as 07.04.1999 or 08.04.1999 or 09.04.1999. This was due to editing of the earlier rate, instead of appending new records with appropriate effective date. As the current table did not contain the past rates, the system could not generate the bills in respect of vessels which arrived prior to the effective date.

(ii) The effective date in 54 records was prior to created date indicating delay in entering data. This would affect the timely generation of Bills as per the new rates.

Management stated (September 2007) that as per system design it was possible to maintain only one set of tables; effective date field was kept only for information purpose and updating was done only after all past cases were settled. The fact remains that such inaccurate data could affect the preparation of bills.

[2] Tariff Authority for Major Ports

4.5.2 Deficiencies in data relating to vessel arrival

Under the computerized system, a master data of all vessels which visited the Port earlier are maintained and a unique vessel code is assigned to identify such vessels. Also a unique Voyage number (VIA) is allotted for each visit of the vessel to the Port, based on advance arrival notice to identify all transactions of the vessel pertaining to that voyage. The details of the vessel, type of cargo carried, expected duration of stay, actual date of arrival at Outer road etc. are important parameters to be entered into the system. It was the responsibility of Harbour Master's office to capture data and ensure the completeness of data entry. However a scrutiny of the *Voyage* table containing records of 9313 vessels scheduled to arrive at the port between 10th May 1999 and 27th July 2006 revealed the following:

(i) *Outer road arrival date* which is crucial for fixing exchange rate and allotting berth was blank in respect of 1,642 voyages, excluding 226 voyages cancelled. A cross-check of voyage data and vessel billing data revealed that vessel related charges had been realized in respect of 1,576 voyages out 1,642 mentioned above. Evidently, the completeness of data entry was not ensured by the Harbour Masters office. Out of the remaining 66 cases, the status as on 28.07.2006 was shown as '**A'** indicating that the arrival was awaited. These included 47 vessels which were scheduled to arrive between May 2000 and October 2005 and there were no documents to verify whether these vessels had actually arrived or the voyages were cancelled.

(ii) Though the advance arrival notice received from Shipping agents would invariably contain the e*xpected date of arrival,* the field was blank in 10 records as the field was not designed as a mandatory field.

(iii) The fields e*xpected date of arrival* included dates such as 13.01.1006, 26.04.2300 and 24.07.2300, obviously errors due to absence of data validation control.

(iv) Previous port of visit is an important piece of information to decide whether a vessel is Foreign or Coastal. But the field was blank in 2,577 records. Besides, the field contained irrelevant characters such as "+" and numbers in 16 other records due to absence of input control.

In view of the deficiencies, IVCIBS was unable to generate accurate reports on vessels occupying various berths and waiting at the outer roads for appropriate decision of the Berthing Committee. This not only defeats the objectives of computerization, it also enhances the vulnerability of decision making process due to generation of such inaccurate data.

Management stated (September 2007) that outer road arrival date had now been made mandatory. As regards absence of vessel arrival data in respect of certain voyages, it was stated that the voyages which were cancelled in the manual records were not cancelled in the system as the data entry was not online.

4.5.3 Deficiencies in the Pilotage data

Pilotage order is an instruction to a pilot to assist the Master of a vessel in shifting the vessel to and from a particular berth at a specified time on a specified date. Harbour Masters Office is responsible for capturing the Pilotage data in two stages- at the time of issue of Pilotage order and at the time of generating Pilotage certificate. A test check of pilotage data relating to June 2006 with original Pilotage Orders available in Traffic Revenue Section revealed the following deficiencies:

- Pilotage orders were not generated through the System on Holidays and after Office hours on working days. In the absence of server connectivity, the details of orders issued manually were entered only on the next working day or even much later. 112 out of 295 Pilotage orders were prepared manually and entered into the system subsequently.
- The date of issue of Pilotage order was different from the date recorded in the system in some cases. Pilot Board date/time and Pilot Disembark date/time were incorrectly entered in many cases.
- Though there is a provision in the IVCIBS to record the decision of the Berthing Committee, the relevant table contains only 50 entries relating to the decisions on 4 days during January 2001. In the absence of such data the authority for generating Pilotage order could not be verified.

Besides, analysis of the Pilotage table, where the details of all Pilotage orders identified by Voyage Number are stored revealed the following:

- As per the data in updated date and pilot disembark date fields revealed that there was a delay of 3 to 191 days in entering the details of Pilotage in 14,722 cases, excluding 649 cases of abnormal variations due to input error.
- The reason for shifting the vessels from one Berth to another was not recorded in the Pilotage order. As such the activation of Port account flag as **Y,** to identify shifting for Port convenience, lacked authority.
- The Pilotage order date was blank in 45 records out of 37976 and d*ate of* Pilotage order was after Pilotage *date* in three records and Pilotage *date* was after Pilot board date in 29 records due to absence of input control.
- Pilotage order dates included dates such as 1.07.1034, 29.01.1012 and 03.08.3005, obviously errors due to absence of data validation control.
- Pilotage *date* field was blank in 6 records, as the date and time of scheduled Pilotage was not indicated in the order or the data was not captured.
- Pilot board time was blank in 61 cases and Pilot disembark time was blank in 58 cases where Pilotage order was not cancelled.

Due to incorrect data entry and delay in data entry, the reports relating to berth status at a specified time generated by the system could not be relied upon.

Management stated (September 2007) that input validations had now been applied to fields and 24 hours server connectivity had been provided to Marine Department from 6 August 2007 and the reason for shifting vessels were now being recorded in the Berthing committee meetings.

4.5.4 Deficiencies in Port Clearance data

Deputy Conservator's Office is responsible for the issue of Entry certificates for vessels after verifying the essential documents produced, generating Provisional Invoice for realizing vessel related charges in advance and issue of clearance Certificate for vessels desiring to leave Port.

Test check of the records in DC Office and analysis of data pertaining to issue of Entry certificates and clearance certificates for the period May 1999 to July 2006 revealed the following deficiencies:

- Entry certificates and clearance certificates were not generated through the system. It was also observed that the clearance certificates were issued much in advance of departure of the vessel and in many cases along with the entry certificate, and Data relating to actual date of departure and the details of extension of clearance certificate were not captured in the system defeating the purpose of computerization.
- There were 306 gaps in Voyage number field as against 226 records of cancellation of voyage. This could imply that clearance certificate had not been issued for 80 voyages.
- Debit advance flag was = "N" in 2,228 out of 8,980 records indicating that collection of Port dues was not watched for issue of clearance certificate.
- There were 323 gaps in the Voyage number field in EC_CERT table as against 226 records of cancellation of voyage, which indicates that entry certificates were not possibly issued to 97 voyages.

As completeness of data entry was not ensured by the DC office, the resultant information could not be relied upon.

Management stated (September 2007) that entry certificates and clearance certificates were now generated through the system and no clearance was given where sufficient funds were not available in Agents Account.

Recommendation

- *CoPT needs to rectify deficiencies in master data and other allied data, and to strengthen input controls so that reliability of data may be enhanced and the requisite reports may be generated.*

4.6 Cargo Billing

4.6.1 Defective maintenance of tally sheet data

Scrutiny of the data relating to tally sheet kept in the system and tally sheet maintained manually in Ernakulam Wharf revealed the following deficiencies:

- The details in the tally sheet were not entered into the System after each shift on a daily basis. Instead, the details were entered only at the time of actual delivery of the cargo to the importer. Hence, the details of cargo which were landed but not taken delivery by the importer could not be correctly generated from the System.
- The number of packages landed as per the tally sheet was generally lower than the number of packages shown in the Import General Manifest. However, the number of packages delivered was equal to the number shown in the Import Application submitted by the consignee. For example, in Tally Sheet No.6379 dated 28.06.2006, 193 packages were de-stuffed from Container No. CRXU – 980153-9-40'. However, as per the delivery ticket, 199 packages were delivered to the consignee. Thus, 6 packages were seen to have been delivered in excess of what was recorded in the tally sheet.
- Shift wise discharge of cargo, details of gang engaged and duration of work entered into the System were totally incorrect with reference to data as per the tally sheet. For example, though the de-stuffing of cargo in respect of IGM no.53942006 was done on 22.06.06 between 9 AM and 11.30 AM, the System indicated that the work was done between 8:01 and 14:03 hours on 19.06.06, 21.06.06 and 22.06.06.
- Though the details of the cargo landed are available in the Tally Sheet, the details of cargo confiscated by the Customs were not captured by the System.

Hence, the data in the system did not represent a true picture of de-stuffing or delivery.

Management stated (September 2007) that the tally clerk had taken tally of packages as had been de-stuffed. As all packages were tallied after identification of packages and delivered, the number actually delivered was shown as de-stuffed in the system. The management admitted that gang number and shift time were not entered correctly. This reply is not acceptable as the data entered in the system cannot be correlated with the corresponding input sheet. Moreover the management cannot justify incorrect data capture based on delivery ticket after designing a system to capture data from tally sheet according to business rules. Such data inaccuracies pose a serious threat to the system.

4.6.2 Incomplete generation of Classified Import Manifest (CIM)

Import General Manifest received from the arriving vessel contains the details of Cargo to be de-stuffed at the Port. Wharf office is required to prepare a Classified Import Manifest after entering the details of cargo landed, quantity delivered against, specific Import Applications and short landed cargo.

It was, however, seen that the CIM had not been prepared for the past three years for want of details of cargo landed at CFS and IGTPL, and although IGTPL Terminal was separated from 1.4.2005, no procedure had been prescribed so far for obtaining the details of cargo de-stuffed at the IGTPL to prepare correct CIM. Besides, there was also no arrangement for regular receipt of tally sheet/delivery ticket from CFS.

Management stated that (September 2007) CIM was closed against IGM by issuance of out turn report to customs. In terms of the present agreement with IGTPL, it was not possible to capture particulars of delivery of containers at IGTPL, and hence CIM generated could not match full particulars against IGM. The reply is not convincing as it was the responsibility of the Port Administration to ensure that all packages as per IGM are delivered, and the agreement with the outsourced agency during April 2005 should have been drawn up keeping in view the Port's obligation.

4.6.3 Deficiencies in wharfage related data

As per scale of rates, wharfage at the prescribed rate should be charged for different category of cargo imported/exported. The rate is based on quantity or volume or value of cargo. In the case of Containerised cargo fixed wharfage is realizable depending on the size of the container (Rs. 1300 for 40' and Rs. 800 for 20'). Scrutiny of data relating to wharfage revealed that out of 2,97,256 records relating to 1,70,005 Export Applications, the identification number of the container by which the particular cargo was exported had been entered only in 9,892 records, and the number was shown as 1, 2, 3 etc in the case of exports through multiple containers and in the remaining cases as 1. Hence, the data was not reliable for identifying/tracking of export of cargo or generating Export Manifest.

Management stated that the container numbers might not be available while filing Export Application. The reply is not acceptable as the system was designed to facilitate generation of Export Manifest for which container number is a must.

4.6.4 Inconsistencies in wharfage bill data

Audit observed that the total wharfage due on different items included in each Export Application maintained in the system in a table (EA_DTL) did not tally with the wharfage amount shown elsewhere in the system in another table (EA_HDR). Against the total wharfage amount of Rs. 1117. 67 crore due on 1,77,158 applications during the period from 2.07.1999 to 28.07.2006 as per

EA_HDR table, the amount due as per EA_DTL table for the same period was only Rs. 713.20 crore. Thus, there was a difference of Rs. 404.47 crore between the data in the two tables. The difference could be attributed to wrong computation of wharfage by multiplying *cargo value* by *rate* instead of *wharfage quantity* by *rate*.

It was also noticed that as per the data, the wharfage amount was zero in respect of 23,993 Export Applications as either the rate was shown as zero or quantity was shown as zero. Scale of rates did not include any cargo category liable for zero rates, and if wharfage quantity was zero there was no question of Export Application.

Management stated (September 2007) that only approved records were considered for calculation and wharfage amount in EA_HDR table included service tax component. This reply is not acceptable as the wharfage amount due in respect of 174053 approved applications as per EA_DTL table was Rs. 678.79 crore which was more than the amount of Rs. 450.20 crore as per EA_HDR table. As regards records having wharfage amount as zero, it was stated that there were no such cases. The fact remains that wharfage amount was zero in EA_DTL table in respect of 22987 approved applications while it was not zero in EA_HDR table.

4.6.5 Not ensuring minimum balances in the Agent's Account

Port instructions stipulate that the minimum balance in the deposit account of the steamer agents should be either Rs. 15,000 or 45,000 or 1,00,000 based on the annual volume of business and Rs. 50,000 for the public sector oil companies. A comparison of the prescribed minimum balance in Agent_dtl table and actual balance in Process_TR table revealed the following:

- Minimum balance field was blank in 95 out of the 273 accounts of Shipping Agents, maintained in TR. This indicated that the System did not prevent transactions by the Agents who do not maintain the minimum balance in their accounts.
- The current balance as on 28.07.2006 was negative in 12 accounts involving an excess debit of Rs. 29.51 lakh. This suggested that the system did not have controls to alert the user against debits which would reduce the current balance below the minimum balance.
- Out of the 193 accounts for which minimum balance had been specified, in 59 accounts the current balance was less than the minimum balance prescribed, and the shortfall was to the tune of Rs. 36.77 lakh.

Management stated (September 2007) that a facility to view Agents balance had been provided to users from January 2007 to avoid such instances and the cases of excess debit occurred in certain accounts where the agents had filed suits and in cases where penal interest had been recovered. Such instances

could arise as the input controls are either non-existent or are not being followed.

4.6.6 Inconsistencies in the accounting of Agents transaction

Even though Agents transaction process was computerized (January 2004), TR Section continued to maintain manual Ledgers. Analysis of the data relating to Agents daily transactions revealed the following:

- There was a delay in processing of Agents passbook on a daily basis, and the related table as on 18.07.2006 contained data only up to 30.06.2006. Moreover, the total amount debitable in 194 accounts from 01.01.2004 and 28.07.2006 as per *Agent Transaction* table did not tally with the amount debited to passbook during the same period. Out of the short- debit of Rs. 5.61 crore in the Agents passbook, Rs. 5.17 crore related to the period from 01.07.2006 to 28.08.2006, not included in the passbook and the specific reason for short debit of Rs. 43.72 lakh was not furnished.
- Similarly, there was a short- crediting of Rs. 4.64 crore in the Agents passbook due to the delay in crediting transactions relating to the period 01.07.2006 to 28.07.2006.
- Though all vessel related charges were to be debited to the Deposit Account of Agents, 6318 cash transactions amounting to Rs. 29.71 crore were carried out by 124 Agents. This included 225 transactions of 15 Agents who were maintaining Deposit Accounts with Port. Thus, the System did not have provision to prevent vessel related transactions in cash.

The System did not ensure that all transactions were debited to the Agents passbook correctly.

Management stated that the provisional bills in respect of Oil companies were raised manually and entered in the manual registers and only final bills were raised through IVCIBS. The difference has been rectified at the time of merger of all accounts during January 2007.

4.6.7 Back end deletion of data

Transaction codes are system generated numbers to identify a particular transaction. Scrutiny of data revealed that there were gaps in the unique ID generated by IVCIBS.

- There were three gaps voyage number generated by the system to identify each voyage of vessels visiting the Port
- Entry certificate number and clearance certificate numbers are unique numbers generated by the system to identify entry certificates and clearance certificate relating to a voyage. It was. however, noticed that there were 17 gaps in entry certificate number and 9 gaps in clearance certificate number.

These gaps indicated deletion of records through back end. The procedure is incorrect as deletion of data or modifying data at the back-end causes serious repercussions as it renders all controls ineffective and makes the system totally un-reliable.

Recommendation

- *CoPT should devise a suitable mechanism to ensure that tally sheet data contain all the necessary details, CIM is generated in a timely fashion, and deficiencies/consistencies in wharfage data are eliminated. Suitable input controls should be incorporated in the system so that it was able to ensure minimum balance in Agent's Account. Besides, the system should be geared to ensure that all transactions are debited to Agents passbook correctly, and no backend deletion of data is allowed.*

FINANCIAL MANAGEMENT SYSTEM

4.7 Audit findings relating to Financial Management System

Deficiencies in the System and Input control weakness

4.7.1 Delay in generating Cash book

CoPT is maintaining 5 separate Cash Books for recording transactions relating to General Reserve Fund, General Provident Fund, Contributory Provident Fund, Employees Welfare Fund and Fisheries Harbour Project. Accounts Manual stipulates that the daily cash transactions should be recorded in the Cash Book and balance physically verified by DyCA and certificate to that effect recorded daily.

Audit observed that even though Cash & Bank transactions had been computerized from 1999, the particulars of collection as well as payment were not entered into the system simultaneously. Due to delay in entering transaction details into computer, Cash Book and Chitta Books were not generated on the same day. Instead, the manual system of Scroll book and agreement of physical cash balance was followed.

Besides, analysis of the data as on 28.07.2006 made available to audit revealed the following:

- Though the receipt in respect of cargo related charges were entered up to 27.07.2006, the details of payment by cash were entered only up to 24.07.2006.
- Though all transactions entered by Deputy Cashiers should be authorized by the Cashier on the same day, *date of authorization* was after the *date of preparation* in 3, 84,900 out of 4,15,639 records.

- The delay in authorization of transactions by Cashier exceeded 30 days in 43,902 transactions including 10 cases where the delay was more than 100 days.

Thus the delay in data entry and authorization resulted in a delay of minimum one week in generating Daily Cash Book in the prescribed format, defeating the objective of computerisation.

Management stated (September 2007) that all cash transactions were entered and authorized on the same day and closing of cash book was done every day from 14.08.2007.

Recommendation

- *Suitable mechanisms should be devised to ensure timely data entry and authorization so that the requisite report may be generated in a timely manner.*

4.7.2 Ineffective Budget monitoring

The Budget Module in FMS has provision to prepare Budget Estimate (BE), Revised Estimate (RE) and generate Monthly Accounts, Trial balance and Reports on Analysis of variances. Scrutiny of the data relating to Budget 2005-06 revealed that:

- Expenditure amounting to Rs. 2.45 crore was incurred in 150 Account heads which did not have any provision in BE or RE because the System did not have control against debiting of expenditure against Account heads without provision.
- Expenditure exceeded provision by Rs. 10.25 crore in 353 Heads of Account as the System did not have control over expenditure in excess of provision. This included 113 Account heads, where the expenditure was more than 200 *per cent* of provision.
- 17 Asset heads recorded negative debit balances and 28 account heads negative credit balances.
- The expenditure was less than 50 *per cent* of RE in 292 account heads, leading to a savings of Rs. 5.79 crore evidently due to failure to monitor timely utilization of funds.

Thus, it is evident that FMS which was developed as an MIS could not be utilized as a management tool for Budget monitoring.

Management stated that all Heads of Departments (HoD) were provided with nodes to access FMS for verification of budget provision.

Recommendation

- *CoPT needs to rectify the defects in FMS and to utilize it as an MIS tool for effective monitoring of budgeting process.*

4.7.3 Lack of integrity of database

Daily cash and bank transactions are identified by system generated numbers, Header ID and Batch ID. The Ledger entries are stored in different tables which are also identified by Batch ID and Header ID. Scrutiny of the tables revealed that there were several gaps in the unique ID fields generated by the system due to deletion of records as detailed below:

- Batch table relating to Cash transactions had 3,019 gaps in the Batch ID field involving 11,487 missing IDs out of 4, 15,639.
- Header table relating to Cash transactions containing 4,18,381 records had 2,993 gaps in Header ID field involving 9,528 missing IDs and 3,019 gaps in the Batch ID field involving 11,487 missing IDs.
- Lines table relating to Cash transactions containing 8,80,043 records had 2,993 gaps in Header ID field involving 9,528 missing IDs
- Batch table relating to Journal transactions containing 31,266 records had 86 gaps in the Batch ID field involving 234 missing IDs.
- Header table relating to Journal transactions containing 33,478 records had 86 gaps in Header ID field involving 243 missing IDs and 86 gaps in the Batch ID field involving 234 missing IDs. In JV Number field there are 1,036 gaps involving 9,533 Missing ID.
- Lines table relating to journal transactions containing 13, 04,862 records had 88 gaps in Header ID field involving 245 missing IDs.

Deletion of records is not an approved method for cancellation of transactions to facilitate correction in a computerized system. Deletion of records in a financial system without an audit trail poses a serious threat to data security as the persons who deleted the records and the previous value stored are not identifiable in the absence of audit trail. As the integrity of the database was compromised the Accounts generated by the System was not reliable.

Management stated (September 2007) that the facility for deletion of records given to users in cash section/budget section had been disabled to avoid the possibility of occurrence of gaps in data in future. But the deficiencies in the present data would continue.

Recommendation

- *CoPT should institute a mechanism to prevent back end deletion of data so that gaps in system generated numbers may be avoided, and integrity of database may be ensured.*

Process control

4.7.4 Mismatch of data relating to Advance to HoD

Temporary Advances are given to Disbursing Officers to meet any particular item of expenditure. Twenty three Separate Advance Account heads are provided for accounting and adjustment of advance. Under the Computerised System, the advances are drawn by debit to the Advance Head of the Department account concerned. Refund, if any, by Chalan is accounted in the Cash Book. The particulars of vouchers are entered into the System by Budget Section through Transfer Entry by debiting appropriate head of account and crediting the Advance account.

It was, however, observed that as per the database, an amount of Rs. 6.32 crore was outstanding under the head A879 to A903 as on 31.03.2006, which included 6 accounts with negative balance indicating that the adjustment was more than amount drawn as advance. But as per Annual Accounts 2005-06, only Rs. 2.5 crore was outstanding on 31.03.2006, of which Rs. 1.7 crore represented advances pertaining to items more than 15 year old, the details of which could not be traced. In the absence of facility to watch the adjustment of a particular advance, the details of adjustment of advances after introduction of computerization could not be monitored through the system.

Management stated that most of advances outstanding related to the periods prior to implementation due to non availability of old records.

Recommendation

- *There needs to be an inbuilt system to watch the progress of adjustment of advances.*

4.8 Failure to Monitor the Implementation of IVCIBS & FMS

Audit scrutiny revealed the following irregularities due to the absence of periodical review of the implementation of the IT Systems:

4.8.1 Absence of prescribed procedure

Scrutiny of records relating to implementation of IT Systems revealed that the procedure followed under the Manual system was continued even under the computerized environment leading to continuance of manual records. Relevant provisions in the Port Manual, Traffic Manual and Accounts Manual were not amended to prescribe duties and responsibilities of the users in the computerized environment. The role of supervisors is at present limited to scrutiny of manual records or computer printout.

Thus, absence of procedure exposed the weakness in Internal Control mechanism which ensured that the users of computer system discharged their responsibilities promptly and correctly. This led to input control deficiencies pointed out in preceding paragraphs.

Recommendation

- *CoPT should devise a system of periodical review of implementation of IT systems and implementation of major IT Projects should be a part of a wider agenda for change and should not be simply superimposed on the manual system with inefficient services.*

4.8.2 Absence of facility for automatic conversion of transactions

At the development stage, IVCIBS and FMS were to be integrated and all Bills which were authorized by the IVCIBS were to be transferred to FMS every 5 minutes to create general Ledger entries for creating the facility of viewing real balance in Agents Account. But necessary modifications were not carried out in FMS leading to the following irregularities:

- Out of 3,38,796 transactions in Agent Transaction table, the field *Authorisation status* was '**U'** indicating unauthorized, in all records except 342 where the field was blank.
- Cheque status was '0' indicating not realized in 40,888 records of cheque transactions, 2 indicating bounced in 10 records. There was no record with status 1 indicating realization.
- FMS status field would display Y if a transaction is transferred to FMS, otherwise it would display 'N'. But the FMS status as per the table was E, I or D which are not proper indicators of updating the General Ledgers.

4.8.3 Mismatch of figures as per IVCIBS & FMS

Consolidated figures in respect of debit and credit to Agents account are brought to FMS through monthly Journal entries. In the absence of link between applications and periodical reconciliation of figures the following discrepancies were noticed:

(i) Against the Balance as on 31.12.2003 amounting to Rs. 14.96 crore brought into IVCIBS, the balance under the head "L681" as on 31.12.2003 as per FMS was Rs. 15.14 crore involving a difference of Rs. 18 lakh.

(ii) Against the balance of Rs. 5.69 crore shown in the accounts as on 31.03.2006 under L 681, the balance as on 31.03.2006 as per IVCIBS was only Rs. 5.29 crore . This involves a difference of Rs. 40 lakh between the data in the two Systems.

Management stated (September 2007) that the difference between the balance as per control accounts in FMS and details of deposit accounts in IVCIBS was due to various factors like wrong classification in earlier years and Port was in the process of reconciling the figures.

Recommendation

- *CoPT needs to establish link between applications and timely reconciliation of figures so that discrepancies in figures may be avoided.*

4.8.4 Delay in realizing vessel related charges

Though all vessel related charges are to be realized from agents before rendering port services, it was seen that 2755 out of 10598 provisional bills were generated after the departure of the vessel. It is evident that there was delay in preparation of bills despite computerization.

The Management attributed this to the delay in input of inward pilotage order and stated that the availability of balance was monitored manually. The reply is not acceptable as the manual register did not reflect the up to date position of balance due to delay in generation of bills. Besides, SRS stipulated that clearance certificate should be generated through the system only after generating provisional bills. By passing of computer system for issue of clearance certificate led to the delay.

4.9 Conclusion

Computerisation of CoPT was undertaken during 1999 to facilitate switch over to Electronic Data Interchange (EDI) and to make its services competitive in the global markets. But apart from facility to download Import General Manifest from Customs server, CoPT could not provide any automated service to the customers. As CoPT was continuing manual system it is evident that the management itself was not relying on the system. Though FMS was designed as an on-line accounting package for effective budgetary control, it was not conducive to achieve the objective due to ineffective implementation. The Port Administration did not monitor the implementation of IVCIBS and FMS to ensure that efficiency of Port operation is increased by computerisation.

Management stated that all the deficiencies in the present package would be addressed while developing Integrated Port Information System under ERP environment.

Acknowledgement

We place on record our sincere appreciation of the cooperation extended by the Management and other officials of CoPT in making available records/data for our audit as well as in furnishing replies to our audit queries.

The matter was referred to the Ministry in October 2007; their reply was awaited as of December 2007.