

CHAPTER IV MINISTRY OF HOME AFFAIRS

Information Technology Audit of Border Security Force, Tripura Frontier

Highlights

- **Absence of networking and data uploading facility resulted in duplicate data entry and more human dependence.**
(Para No. 4.7.1 and 4.7.4(i))
- **The Security in system was found to be deficient with insufficient logical access controls, non maintenance of log file etc.**
(Para No. 4.7.2 and 4.7.3)
- **Logical access controls relating to segregation of duties, using password controls were found insufficient.**
(Para No. 4.7.2.(iii))
- **Disaster Recovery Planning and Data back-up provisions were not sufficient and were risk prone.**
(Para No. 4.7.3)
- **Lack of input controls resulted in duplicate and reflection of erroneous data..**
(Para No. 4.7.4(i))
- **Data analysis revealed cases of recruitment below 18 years of age.**
(Para No. 4.7.5.(i))

4.1. Introduction

The Border Security Force (BSF) was formed in December 1965 by amalgamating State Armed Police Battalions and with officers from the Police and the Defence Services, particularly the Indian Army. BSF is guided by a variety of procedures and instructions to help its internal administration. BSF is maintaining computerised information systems to process, maintain and report essential information on the areas of Personal Management, Inventory and Transportation. The computerized Personal Management Information System (PMIS) was implemented in the Tripura Frontier in 2002 as a decision support system to the Organisation for better deployment and training of manpower and for an efficient and effective human resource management. Later, 'Clothing, Tentage and Stores' (CTS) Software for accounting of stores including

management information system and managerial reports for inventory controls and another Transportation (TPT) Software for better management and accounting of various categories of vehicles deployed and monitoring their usage and expenditure thereon were also developed and implemented in the Tripura Frontier in July,2006.

4.2 Organisational Set-up

The Frontier is headed by an Inspector General supported by a Principal Staff Officer and other officers. The Electronic Data Processing is directly monitored by Deputy Commissioner, Communication under the Supervision of ADG, Communications. There are four Sectors and fifteen battalions under the administrative control of Tripura Frontier.

4.3 System Environment

The upgraded version of PMIS Software and the current version of TPT and CTS software have been developed in-house using MS Access by Force Headquarters in Delhi. The packages are being run in a stand alone environment using MS Windows Operating System.

4.4 Scope of Audit

Information Technology Audit of the BSF, Tripura Frontier was taken up to assess the efficiency and effectiveness of the Softwares implemented vis-a-vis its objectives and to assess the adequacy of General Controls and Application Controls over the Inventory Management (CTS Software), Personal Management (PMIS Software) and Transportation Management (TPT Software) so as to ensure optimum utilization of funds without unnecessary blocking up of Capital and monitoring of inventory operations.

4.5 Audit Methodology

The methodology adopted, involved system-based approach coupled with compliance and substantive testing as well as cross verification and test check of manual records. The General Controls and Application Controls existing in the IT environment of BSF, Tripura Frontier with respect to Personal Management(PMIS), Inventory Management(CTS) and Transportation Management(TPT) were also evaluated through :-

- i) Collection of information through questionnaires, discussion with officials of BSF and Audit Queries;
- ii) Review of relevant documents maintained at BSF, Tripura Frontier and
- iii) Analysis of data using Computer Aided Audit Techniques.

4.6 Audit Objectives

The objectives of the audit were as follows:

- (i) To evaluate the softwares in relation to fulfillment of the organisational requirements and to ascertain the extent of utilization of features/modules developed;

- (ii) To evaluate controls built into the systems viz. logical and physical access controls, application controls with respect to security, confidentiality, integrity, completeness, availability and reliability of data;
- (iii) To evaluate whether there was economic, efficient and effective management and control over inventory, human resources and transportation; and
- (iv) To ensure the existence of adequate disaster recovery plans.

4.7 Audit Findings

Analysis of data up to September 2006 from the initial period as made available and the analysis of the system revealed following deficiencies of various IT controls as elaborated in subsequent paragraphs:

4.7.1 System Design

Absence of network connectivity and data uploading facility in the CTS and TPT Software

It was observed that data was being entered in the CTS and TPT at the field level from the manual records. Then, due to the absence of provision for network connectivity and electronic uploading in the system developed, the same data was once again manually entered into the system in the Frontier Headquarters for consolidation and onward transmission to Force Headquarter at Delhi. This resulted in unnecessary duplication of work and also was likely to introduce data inconsistency.

4.7.2 Security

(i) Security Policy

It was noticed during Audit that the Organization was yet to develop a formal and documented security policy.

The Organisation replied that since the computer lab was located inside a well guarded campus and no extra control was required.

(ii) Audit trail

It was noticed that log files in respect of monitoring the transactions of users such as user log-on/off time, terminal log-on/off, periodicity of the password use etc which provide for tracing all transactions right from the input stage through to their final destination were not maintained in the system. Even, manual records like sign-out sheets were not maintained to establish the accountability.

(iii) Inadequate logical access controls

Logical Access controls necessary to protect the system from unauthorized access were found deficient. It was observed that

- a) The organisation did not have a well-defined password policy and the structure of passwords were not defined

- b) No periodical changes of Passwords were noticed and the same passwords were used since April 2003 though the organisation replied that passwords were being regularly changed.
- c) The access to the data base was not restricted by individual user ids and passwords. The sharing of passwords was noticed and as a result the accountability of the transactions could not be fixed on a particular user
- d) Roles and the privileges were not defined and not restricted to the specific information resources. All the three packages (PMIS, CTS and TPT) could be accessed by every user.

The Organisation replied that action would be taken in this regard.

4.7.3 Inadequate Back-up & disaster recovery plan

The disaster recovery/business continuity enables an organisation to continue operation in the event of a disruption/disaster. It was seen that the Organisation did not have any well-defined disaster recovery plan or data security guidelines. It was noticed that -

- a) The Organisation did not have a documented back-up policy.
- b) The back-ups were not taken regularly and the last back-up of PMIS database, was taken in March, 2006.
- c) The data back-ups taken in CDs and kept in the server room itself thus defeating the purpose of data-back-up.
- d) There was no Annual Maintenance Contract in respect of hardware and air conditioning equipment which could result in deterioration of the same. Further, the users were also not trained to handle critical system breakdown.
- e) No arrangements or equipment like fire extinguishers, surge protectors and UPS were available to protect the systems from fire/lightning/frequent power cuts.

The Organisation replied that fire fighting arrangements were located in the complex near the computer lab and adequately trained forces were available. However, it is reiterated that the fire fighting arrangements are required to be made also in the computer room.

The Organisation also replied that there were regular back-ups, which was not acceptable since the last back-up in respect of PMIS was taken in March, 2006.

4.7.4 Input Control

(i). Duplicate entries of data

5829 cases of duplicate records pertaining to 2692 employees (having identical name, address, DOB, father's name etc.) were observed.

The Organisation stated that discrepancy would be sorted out shortly.

(ii). Completeness of the data

Lack of input controls in place and absence of regular updation made the data base incomplete and unreliable as detailed below:

1. In 150 cases, Date of Birth was not entered.
2. In 2142 cases, Date of Joining in BSF was not entered.
3. In 26418 cases, Seniority was not entered.
4. In 4762 cases, Blood-group was not entered.
5. Various other details like name of the Father, Deletion status and reason thereof, medical category etc. were not entered /updated.

The reply in this regard was awaited (Oct 2007).

4.7.5 Mapping of business rules

The packages developed were found to have many deficiencies and validation inadequacies. In the absence of proper validation checks required as per rules in force the data base was found containing incorrect/invalid/doubtful data as detailed below:-

(i) Appointment below the age of 18 years

The recruitments in respect of Constable (General Duty Cadre) and Group-‘D’ Cadres were made on the basis of executive instructions issued by Director General, BSF, and New Delhi from time to time till March, 2002. The executive instruction issued in 1982 prescribed minimum age limit of 18 years for recruitment of Constable (General Duty Cadre).

However, data analysis revealed that in 88 cases, employees of different ranks and grades were recruited in BSF at an age below 18 years after 1982. Test check of service books confirmed recruitments below 18 years in six cases.

The Organisation replied that DG BSF was competent to relax the eligibility set in the executive instructions. However, it was noticed that no such relaxation was provided in that executive instructions and in the absence of legality of the recruitment rules till 2002, the recruitments not following the executive orders as stated above need to be looked into.

4.7.6 Inaccurate calculations by the software

It was noticed that value of condemnation in the TPT software was designed as a calculated field using condemnation quantity and condemnation rate. However, the condemnation value as on September 2006 in respect of 147 items condemned was shown in the data base as Rs 70, 25,210 as against the correct value Rs 69,41,318 indicating deficiencies in the software.

The reply of the Organisation in this regard was awaited

4.7.7. Other topics of interest

Utilization of the System as an MIS and Internal Control Mechanism

The PMIS, TPT and CTS packages were developed and implemented as a decision support system to the higher level of management. However, Audit observed that although the system was amenable to generation of various kinds of reports to aid managerial decision making, the BSF authorities could not utilize the functionalities of the system. This is illustrated by the following Audit Observations:

4.7.7.1 Unusually large expenditure on maintenance of vehicles.

Operational life of vehicles used in the organization in terms of years and number of kilometers run has been stipulated in the manual of BSF.

Data analysis revealed that though the operational life in respect of 197 vehicles had expired, such vehicles were still in use resulting in heavy expenditure on maintenance. It was also noticed that the maintenance expenditure as of September 2006 as per the data base in respect of 49 out of these 197 vehicles even exceeded the purchase price by Rs 10.02 crores.

The Organisation in reply stated that repair of vehicles has been carried out from time to time to make them road worthy and its life span not always taken into consideration. The reply was not acceptable since as per the instructions in the manual vehicles were required to be condemned after completion of prescribed life and mileage and when the expenditure on repair and maintenance reaches 50% of the replacement value.

4.7.7.2 Idle investment due to inordinate delay in putting the vehicle to use after their purchase

Data analysis revealed, delays ranging from 181 to 6400 days (more than six months) in respect of 66 numbers of new vehicles purchased during the period from 1988 to 2006, before they were put to use resulting in blockage of money and an idle investment amounting to Rs 128.15 crores during that period.

The Organisation in reply stated that delay was due to belated delivery of vehicles and its subsequent inspections before they were put to use. It is stated that such in-ordinate and unrealistic delays could be avoided by taking required action to commission the vehicles immediately after their purchase.

4.7.7.3 Overstocking of vehicles resulting in blockade of Govt. money

Efficient and effective inventory control could be achieved by maintaining stock as per authorization. However, it was noticed that, as of September 2006, 221 numbers of vehicles of different categories in excess of the authorization were being maintained in the Organisation. The book value of such excess stock of vehicles was Rs 10.90 crore.

The Organisation replied that in few cases such surplus possession of vehicles resulted due to carrying over of dedicated vehicles at the time of

changeover. However, it is reiterated that maintenance of vehicles in excess of authorization need to be looked into.

4.7.7.4 Excess issue, holding and purchase of stock over and above authorization

Authorization against each category of clothing and tentage items were being sanctioned by the Force Headquarter, Delhi to the Frontier Headquarters on the basis of the manpower strength and specific needs of the sectors, battalions, companies, BOPs etc falling under the jurisdiction of respective Frontiers. However, it was noticed that during September 2006 in respect of

- 38 items, clothing and tentage items valuing Rs.3.40 crore were issued over and excess of the authorization limits
- 56 items, there were surplus stock worth Rs 4.26 crore over and above the authorization limits.
- 20 of above mentioned items, the authorization limits were indicated as “0” involving issue in excess of authorization to the tune of Rs. 3.29 crore and holding surplus stock worth Rs 3.56 crore.
- 21 different items of inventory worth Rs 27.50 lakhs were purchased even though the available stock was sufficient to cover the demand during the relevant period. Such purchases resulted in overstocking of materials and subsequent blockade of Govt. money.

The reply of the Organisation in this regard was awaited.

4.8 Recommendation

The following recommendations are made to leverage the benefits of IT System within the Organisation:

- *A definite IT Security Policy need to be in place.*
- *Proper input controls and validation controls need to be built in the system to make data complete and reliable.*

4.9 Conclusion:

The System lacked proper controls. Yet, whatever advantage it could offer by way of data analysis etc., these were not being made use of.