DEFICIENCIES IN SYSTEM IMPLEMENTATION

2.1   Introduction

In an IT system, formulation and documentation of needs of the users, security of the system, completeness and integrity of the data, defined supervision, change control mechanism and a business continuity plan are essential prerequisites for successful implementation of the system.

We noticed a number of system implementation deficiencies in VAHAN and SARATHI as discussed in this chapter.

General IT Controls

General controls create the environment in which the application systems and application controls operate. They include IT policies, standards and guidelines pertaining to IT security and information protection. The following deficiencies in general controls were noticed by us:

2.2   Documentation of IT Strategy

In order to achieve the desired objectives, there should be a proper IT strategy and a well devised plan for addressing issues relating to customising, implementing and maintaining the information system. The Department needed to set up a steering committee consisting of representatives of the Department and NIC for providing necessary direction and guidance to the computerisation efforts as well as to monitor the progress of implementations.

The Department did not furnish any document bringing out the stages of implementation of VAHAN and SARATHI to us. We noticed that the system was implemented in a phased manner and as on 31 March 2009 VAHAN was operational in only 19 RAs out of the 27 units (26 RAs and STA) while SARATHI was operational in nine. Even in these units, only certain features available in the software were utilised while other functions were discharged through manual operations. We did not find any documentation indicating the involvement of the top management at the planning and implementation stage of the project. This resulted in development of a non-integrated application and partial utilisation of its features as mentioned in the following paragraphs.

2.2.1 Partial utilisation of software

Provisions exist in the VAHAN software for permits, enforcement, temporary registrations, issuing of trade certificates to dealers, surrender of vehicles, and maintenance of daily collection register and licence register of sub-dealers. In SARATHI there are provisions for issue/renewal of conductor licences and licenses to motor training schools.

We noticed that in none of the RAs the provisions of VAHAN for issue/renewal of permits to transport vehicles, enforcement activities relating to offending vehicles, temporary registration of vehicles, issue/renewal of trade certificates to dealers, surrender of vehicles, maintenance of daily collection register and sub-dealer's licence register utilised by the Department. Similarly, the provisions relating to issue and renewal of conductor's licences and licences to the motor training schools available in SARATHI were not utilised by the Department. These activities were being done manually thereby defeating the purpose of providing these provisions in the system. This also led to non-generation of computerised receipts on this account for which a locally developed parallel software called "Regional Vahan Sarathi" (RVS) was being utilised by the Department.

The original software i.e. VAHAN had the facility of generation of receipts and as such it had better controls and would have added assurance in the accounting system. Thus, the development of the parallel software RVS served little purpose and was not required at all had the provisions of VAHAN been fully utilised.

Although we called for (May 2010) the reasons for partial utilisation of VAHAN and SARATHI softwares, the Department did not intimate the same. However, it stated (September 2010) that the provisions of the software would be utilised in the near future.

We recommend that the Government should use the processing capabilities in the VAHAN and SARATHI software in their entirety, and discontinue using the parallel software.

2.2.2 Non-existence of central State server system

Sections 63 and 26 of the MV Act and Rules 75 and 23 of the CMV Rules prescribe the maintenance of a State Register of motor vehicles in Form 41 and a State Register of driving licences in Form 10 respectively. The objective of computerisation was that data of the vehicles should flow from the RAs to the central State server system for monitoring the activities of the vehicles within the State and for supplying the information to the Central Government.

Our test check revealed that the Department had not taken any steps to set up a central State server system into which the information from the RAs could flow and be stored. As a result even the 19 computerised RAs could not be linked to share the information available in the system. Thus, no

state register could be prepared. Besides, due to non-linking of the system, the RAs could not cross check the data available with them resulting in a number of deficiencies as mentioned in para 2.2.3.

2.2.3 Vehicles found registered in more than one RAs

For transfer of a vehicle to another RA, a 'No Objection Certificate' (NOC) is required to be issued by the RA under whose jurisdiction the vehicle is kept. Information about NOCs issued by an RA would feature only in the 'NOC' table of that RA's database. Registration code 'WB23' was allotted for transport vehicles registered in RA, Barrackpore.

2.2.3.1 We cross verified the data of RA Barrackpore with the data of 10[1] other RAs and found 3,526 vehicles were available in the 'owner'[2] table of the database of the RA Barrackpore as well as in the database of the other 10 RAs. These vehicles were not found in the 'NOC' issued table of the RA Barrackpore and 'NOC' received table of the other 10 RAs. This indicates that either the validation controls in these cases were bypassed or data pertaining to NOCs in respect of these vehicles were deleted. The reasons for the same were not found on record and the matter needs to be looked into.

2.2.3.2 We found from the database of 10 RAs that in case of 894 vehicles, the registration code was 'WB23' indicating that these were originally registered in RA, Barrackpore; however, information about these vehicles was not found in the database of the RA Barrackpore although in case of transfer of these vehicles it should have been found in the 'NOC' table of the RA, Barrackpore. The reasons for their non-existence, though called for, were not furnished to us.

2.2.3.3 In respect of goods vehicles tax is based on Gross Vehicle Weight (GVW). We found that 10 goods vehicles, which were originally registered in RA, Barrackpore were transferred to six[3] other RAs and registered there with lesser GVW. Thus due to data input error there was short realisation of tax and additional tax of ₹ 1.18 lakh.

The above facts indicate that non-existence of a central State server system had resulted in non detection of the errors committed in the transfer of the vehicles from one RA to another RA. This underlines the need for linking all the database within the State by setting up a central State server system. Till then, the primary objective of computerisation to monitor the activities of vehicles within the State and provide information for creation of a National Register of Vehicles, would remain elusive.

After we pointed this out, the Department stated that the central server system was established in June 2010 and connectivity of 24 RAs out of 26 RAs was established with the central State server in respect of VAHAN till April 2011. RA, Darjeeling and RA, Kalimpong were yet to connect with the central State

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[1] RAs: Asansol, Barasat, Burdwan, Hooghly, Howrah, Nadia, Paschim Medinipur, PVD Kolkata, Siliguri and South 24 Parganas.
[2] 'Owner' table contains information regarding vehicles and their owners.
[3] RAs: Asansol, Barasat, Burdwan, Howrah, Nadia and PVD Kolkata.

server. In respect of SARATHI, no RA was connected with the central State server. Thus, in absence of connectivity of all the RAs with the central State server the objective of computerisation to monitor the activities of vehicles within the State could not be achieved.

2.3 Environment controls

Environment controls are aimed at ensuring that the assets of the project are not put to risk. This requires that risk assessment should be done and preventive measures put in place prior to implementing the project. We noticed that the Department had neither undertaken any risk assessment nor devised any preventive measures like a security policy and business continuity plan, before putting the system in use.

2.3.1 Lack of security policy

Information security policy through physical and logical controls restricts access to the system only to authorised individuals.

We observed that no security policy had been formulated by the Department. No guidelines had been issued to the RAs for protection of hardware and software of the system. Preventive and detective measures like installing and updating antivirus software and framing a password policy was not done. We found expired/not updated antivirus software in five[4] RAs. Creating of user's id and passwords were left to the discretion of the RAs. Passwords of less than eight characters were found in most of the RAs. Absence of a provision to record failed 'login attempts' is fraught with the risk of unauthorised access and consequent data tampering. We also observed that fire fighting devices were not installed in five[5] RAs.

2.4 Lack of change management control

Once a system is implemented, change management controls should be put in place to ensure that the changes to the system are authorised, tested and documented and to see that there is adequate audit trail. The requests for changes (RFC) should be signed by the designated authorities of the Department and all the changes should be tested before they are put to use in the live environment.

Documentation regarding the request, approval, testing and authorisation of changes like updating tax rates in accordance with notifications issued by the Government, providing additional input validation controls like mandatory capturing of Permanent Account Number (PAN) or General Index Number except in case of RA Siliguri was not made available to us. The absence of documentation not only resulted in absence of a trail as to whether the changes sought for had been carried out but was also fraught with the risk of non-detection of any unauthorised change made in the system. For example, the rate of tax was changed vide a notification effective from 08.09.2008 and had

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[4] RAs: Asansol, Burdwan, Howrah, Paschim Medinipur and South 24 Parganas.
[5] RAs: Asansol, Howrah, Nadia, Paschim Medinipur and South 24 Parganas.

been incorporated in the system but the date of incorporation and the authority who authorised, it could not be verified. Documentation of the changes would ensure transparency and effective internal controls.

After we pointed this out, the Department accepted (September 2010) the observation for corrective action.

2.5   Lack of business continuity plan

Business continuity planning is essential to ensure that the organisation can prevent disruption of business and resume processing in the event of a total or partial interruption. The objective is to reduce downtime and minimise loss to business. Regular backup of data is the backbone of a business continuity plan.

We found that the Department had not evolved a backup policy. Though periodical backups had been taken in the RAs, there was no provision for testing of such backup for successful installation if needed. The RAs had no records to indicate the date(s) on which the backup was taken and had no provision for off-site storage of backup. Mock trial of data recovery was not done regularly to ensure prompt restoration in the event of a system crash.

We noted that due to lack of a business continuity plan, data could not be restored in the office of the RA, South 24 Parganas after a system crash which occurred on 4 September 2008 following which the data was irretrievably lost as the RAs had discontinued the maintenance of any manual register relating to collection of taxes and fees after computerisation of their activities. The Department could not retrieve the lost data. Thus, they would have to depend upon the documents furnished by the vehicle owners/licence holders in respect of tax receipts/ payments in the event of a system crash.

After we pointed this out, the Department admitted the audit observation and stated that the data could not be retrieved because of technical failure (September 2010). RA, South 24 Parganas intimated (May 2011) that live backup was being taken from April 2010. RA, PVD intimated (May 2011) that backup was being taken after working hours on a daily basis. The other RAs did not furnish the current status of backups. Thus, taking backups was left to the discretion of the concerned RAs as no directions on this matter was issued by the Department.

The Government may consider evolving a well documented IT security policy, change management policy and suitable business continuity plan including live backup or backup after a short interval of time to ensure safety, transparency and prompt recovery of data/system.