

CHAPTER-III: General Controls

Snapshot

IT General Controls are the foundation of the IT Control structure. These are concerned with the general environment in which the IT systems are operated, managed and maintained. General IT controls establish a framework of overall control for the IT activities and provide assurance that the overall control objectives are satisfied. General controls are implemented using a number of tools such as policy, guidance and procedures infrastructure as well as automated tools.

The Department did not follow the security policy/guidelines issued by MoRTH. The Department were not using biometric devices to access the system and OTP sent to Vahan user lasts for 12 hours. Digitisation of legacy data of Vahan and Sarathi was not completed. Backlog module was also deficient, where input restriction or validation controls were missing. Thus security of the IT system was insufficient and data digitisation of Vahan and Sarathi was incomplete.

3.1 Audit findings

3.1.1 Weak Logical Access Control

Information System security involves the protection of computerised data from unauthorised modification. Logical access controls are restrictions imposed by the computer software. These are tools used for identification, authorisation and accountability in computer information systems and enforce access control measures for system, programs, processes and information. Logical access controls can be embedded within the operating system, applications, add-on security packages or database.

Audit reviewed the IT system of the Department with regard to information security and observed as follows:

- (i) MoRTH in its Security Policy/Guidelines (March 2013) has directed as follows:
- Use of complex alpha-numeric password with special characters, changing the password periodically and non-reuse of previous password is to be enforced through Vahan & Sarathi applications.
 - The RTO/ARTO should appoint senior officer/employees of the office as System Administrators/ RTO System Supervisor through written order. The information of the nominated System Administrator should be given to the Transport Commissioner (TC) office also.

Audit specifically asked the Department about the compliance of the above directions of MoRTH.

The Department in its reply stated (July 2022) that the application system related to Vahan 4.0, Sarathi 4.0, E-Challan and On-line PUCC in the

Transport Department has been developed by NIC Delhi/Hyderabad/Kolkata and has been implemented across the country. MoRTH's IT guidelines are being followed by NIC.

The reply is not convincing as no documentation was furnished by the Department regarding the compliance of the guidelines issued by MoRTH.

(ii) Biometric devices are one of the important instruments to prevent unauthorised access to IT system/application. Audit noticed that none of the sampled units were using biometric devices for access to the IT system/application. The Department did not respond to the Audit question on use of biometric devices.

The Department accepted (July 2022) the audit observation and stated that biometric device system will be implemented soon in coordination with NIC.

(iii) On the question of security in accessing the IT system/applications, the Department informed that there is a system of OTP verification for users. In this regard, Audit noticed that the OTP is sent to the registered mobile number of the Sarathi users each time when they log in the system. However, the OTP sent to the registered mobile number of the Vahan 4.0 user remained valid for 12 hours. Thus, OTP time-out needs to be reduced as 12 hours validity defeats the very purpose of OTP.

The Department accepted (July 2022) the audit observation and stated that action will be taken in coordination with NIC, to reduce the time period of 12 hours in OTP system.

(iv) Audit analysed the dump data of Vahan 4.0 relating to Security Policy in 12 RTO/ARTOs offices and noticed that Vahan 4.0 and Sarathi 4.0 being web enabled applications, the RTO/ARTOs office users were able to access the applications from any computer having internet connection irrespective of the place and time *viz.* outside from the office premise or beyond office hours. Thus, the RTO/ARTOs office users/Cashiers could have collected the motor vehicle tax and fees from anywhere and at any point of time and be capable for issuing receipts to the vehicle owners.

The analysis of Vahan 4.0 database of all over Uttar Pradesh in respect of transport vehicles for the period April 2016 to 31 March 2021 revealed that an amount of ₹ 3,547.69 crore was received as cash and out of this, an amount of ₹ 38.31 crore was received beyond office hours (between 07:00 PM and 23:56 PM and 02:43 AM and 09.59 AM). Further, scrutiny of the data of 12 sampled offices for the said period revealed that in 11 offices¹, 12,508 cash receipts valuing ₹ 11.04 crore out of the total 13,64,419 cash receipts valuing ₹ 1,051.99 crore were generated beyond office hours (**Appendix-3.1**). It was further noticed that out of ₹ 11.04 crore, cash collection amounting to ₹ 8.70 crore (78.80 *per cent*) was made in RTO Kanpur Nagar. Such a huge amount

¹ Except ARTO Kushinagar.

of cash collection beyond office hours by RTO Kanpur Nagar needs investigation.

The Department accepted (July 2022) the audit observation and stated that information has been given to NIC about the development of office hours system on Vahan 4.0 portal. It will be soon implemented in the entire State.

3.1.2 Issues in respect of legacy data and backlog module

The completeness of data is of paramount importance for any IT Project to be success. Digitisation of legacy data viz. old data at Vahan 4.0 and Sarathi 4.0 applications requires a well defined strategy in terms of timeliness and arrangement for data entry. Data digitisation is essential for better services to the Transport Department as well as citizens, quick implementation of Government policies, instant access to vehicle/driving license information to other Government Departments as per MoRTH objective.

In the interest of data security, entry of legacy data should be completed and closely supervised. However, it was noticed that the legacy data in Vahan 4.0 and Sarathi 4.0 was incomplete as detailed below:

(i) Incomplete data in Vahan 4.0 and Sarathi 4.0

In order to digitise the legacy data of registration certificate and driving licences a contract was awarded to Uttar Pradesh Development System Corporation (UPDESCO) in February 2013. The purpose of digitisation was (i) to verify the data of any vehicle by the Departmental officers in their own offices itself, (ii) to make available the facility of on-line payment of tax by public and (iii) usefulness for other Government Department.

The work of digitisation involved digitisation of the manual records of the registration and migration of Unix Data to Vahan application at the rate of ₹ 7.50 per record and ₹ 2.90 per record respectively.

As per information furnished by the Department, Audit observed that UPDESCO digitised only 70,87,949 registration certificates out of 96,30,732 records. Moreover, 82,94,594 records of driving licenses out of 1,40,00,000 records were digitised.

Audit also noticed that the remaining 25,42,783 registration records (i.e., almost 26.40 *per cent* of total records) were neither activated nor ported to Vahan 4.0 and the remaining 57,05,406 driving licence records (i.e., almost 40.75 *per cent* of total records) were neither activated nor ported to Sarathi 4.0.

Thus, the work of digitisation of legacy data was incomplete.

The Department in its reply (July 2022) stated that necessary action will be taken after examining the cases by the Department.

(ii) Deficiencies in the Backlog module of Vahan 4.0 and Sarathi 4.0

As discussed above, the digitisation of legacy data of Vahan 4.0 and Sarathi 4.0 were incomplete. For the purpose of digitisation of the remaining legacy data, Vahan 4.0 and Sarathi 4.0 were provided with separate backlog data entry modules by which data finds its way to the database in the system. The data in respect of the remaining vehicles was being entered in the backlog module by the authorised staff based on the original documents produced by the vehicle owner at the time of transfer of ownership, change of address, hypothecation termination *etc.* As per information available on the Vahan portal as on 30 September 2021, details of 1,01,588 vehicles have been entered through the backlog module. However, the backlog modules are vulnerable to creation of manipulated records as discussed below:

Vahan 4.0

Audit noticed that the input restrictions or validation of data entered in the fields such as date of registration, date of purchase, tax paid date, receipt number *etc.*, in the backlog module in Vahan 4.0 system was missing. The backlog module, thus, poses serious risks in entry of invalid and unauthenticated data. This has been corroborated in Paragraph 5.2.2 of Chapter V.

Sarathi 4.0

Audit noticed that the input restriction or validation of data entered in the fields such as original number of driving license, driving license issue date, educational qualification *etc.*, were missing in the backlog module. The backlog module, thus, poses serious risks in entry of invalid and unauthenticated data.

The Department in its reply stated (July 2022) that the restrictions, as pointed out by Audit, lie in the backlog module of Vahan 4.0.

Conclusion

The Department failed to give assurance of compliance with important directions of MoRTH regarding security of the IT system. It also failed to complete digitisation of legacy data and thus depriving the concerned stakeholders of the benefits of on-line data/services. The backlog module of Vahan 4.0 and Sarathi 4.0 poses serious risks in entry of invalid and unauthenticated data.