

5 Conclusion and Recommendations

While punctuality monitoring is being done through ICMS, manual interventions still remain which have an impact on the quality and timeliness of data being fed. Complete data of all the trains was not available in ICMS and movement of some types of trains such as diverted trains, EMU trains in some Zonal Railways was not reported through ICMS for monitoring punctuality of all trains.

Train arrival/departure timings details at different stations are manually fed in Control Office Application (COA) and then updated in ICMS. This data is finally reflected in National Train Enquiry System (NTES) where passengers can see arrival and departure timings of the trains in real time. Delay in reporting of arrival and departure timings of trains and lack of accurate data of train movement led to inconvenience to passengers and generation of wrong MIS reports for Railway Administration which affected monitoring of train punctuality by the Railway Administration. It is recommended that

- 1. Punctuality reporting of movement of trains which are not covered under ICMS may also be brought in the scope of ICMS.***
- 2. Accuracy and real time updation of arrival/departure timings of trains may be ensured to provide accurate and reliable information to the passengers.***

Monitoring status of coaching stock in real time and online as well as planning and management of asset maintenance was continued to be done manually as the data in ICMS was not found to be reliable and complete. Data in respect of Coach POH and their sick/fit status was not updated timely and was, thus, inaccurate. Instead of using Management Information System (MIS) reports from ICMS a large number of reports were being prepared manually. Integration with other railway applications such as PRS, COA, CDS and CMS was not effective, as a result of which data updation was done through manual intervention and was not on real time basis. Important reports such as Vehicle Guidance Reports were also being prepared manually. As such, the objectives of implementation of ICMS were not fully achieved. It is recommended that

- 3. Inconsistencies in arrival/departure timings in different modules of ICMS may be rectified to have accurate position of coaches. Accuracy, completeness and timely updation of all coach data and their movement details may be ensured and dependence on manual records may be gradually reduced.***
- 4. Availability of the traffic demand (such as position of waitlisted passengers) may be facilitated in real time environment through ICMS so as to help Railways in augmentation of train composition on the basis of traffic demand, facilitate planning and running of special trains.***
- 5. Provision to capture IOH details of coaches in the system may be created. Timely and accurate updation of coach POH data, sick and fit coach data and effective usage of POH/Sick/Fit operations through ICMS may be ensured.***
- 6. Integration of ICMS and Crew Management System (CMS) may be ensured for generation of complete Vehicle Guidance reports so as to avoid manual intervention in the ICMS output.***

- 7. Integration between ICMS and Passenger Reservation System (PRS), ICMS and Control Office Application (COA) and ICMS and Coach Display System (CDS) may be strengthened to have timely data updation and to avoid manual intervention.**

Application controls provide assurance to the Administration that transactions are properly authorised, complete and accurate, and validity of transactions, their maintenance and other types of data input controls are in place. As seen from the data and live operations checked during field audit ICMS lacked adequate input controls during data entry into the system which led to incorrect/invalid data being entered and also had deficient manual supervisory controls. Due to deficiencies in such controls data accuracy, consistency and completeness could not be ensured.

- 8. Adequate validation and manual supervisory controls over data entry may be introduced in ICMS to ensure accuracy, completeness and validity of various types of data input and output.**

The IT Security was deficient and physical and logical access controls needed strengthening. Change Management was not documented and no system/procedure for getting appropriate approvals before releasing the changes made in the ICMS was found in place. Business Continuity Plan was yet to be fully implemented.

- 9. Physical and logical access controls may be strengthened.**
10. Change Management procedures for updation and approval of changes may be laid down and changes documented.
11. Business Continuity Plan/Disaster Recovery Plan may be fully implemented so as to ensure that business critical information and assets are protected from loss, damage and abuse.



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