

# **PLATFORM SANITARY CODE ENFORCER FOR ON BOARD RAILWAY COACH**

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## **Introduction**

Indian railways are one of the largest transportation service providers in India. Wide variety of facility are available like high-tech AC, Catering, individual compartments and many more.

The only untouched zone is sanitation control at platform and a wide scope is available for improvement, hence an attempt is made to prevent the sanitation disposal at railway platforms.

The new designed toilet system should be simple to operate and safe for users. It should not contain any components, which are prone to pilferage. It should be robust, reliable and low-maintenance, and should require minimum ground facilities at the terminals or en-route stations for it's operation.

The water consumption shall be minimum, with 100% wash of the commode (max. 2.5 ltr. Per flush for Indian type and 1.5 ltr. For Western type). The toilet system is required to suit the space constraints of different types of coaches. All parts of the system should be at least 225 mm above rail level (preferably 400 mm). The equipment should not impede free -movement of the bogies, nor the routine inspection & maintenance of various bogie/coach subassemblies.

## **Objectives**

- To Design and develop new model which can be attached to the existing systems.
- To reduce the cleaning effort of cleaning the platform.
- Self automated & no human intervention.
- To reduce the water usage for cleaning the platform and other parts

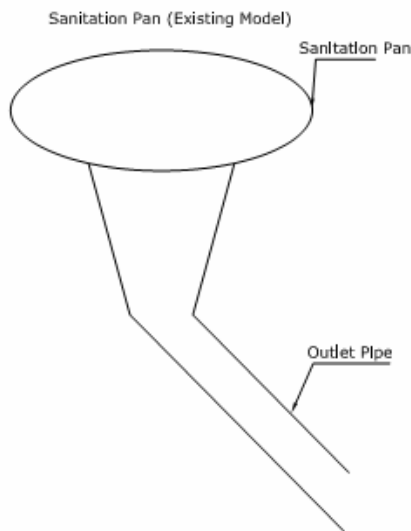
## **Methodology**

The mechanism includes additional storage tank of 30lts capacity having a control valve in the outlet pipe. This storage tank inlet is connected to the existing outlet of present system.

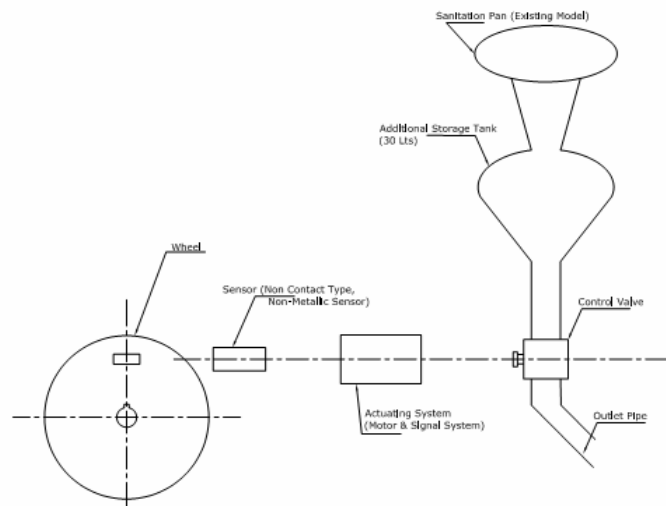
As train approaches station the speed of train is slowed down to 25 Km/hr. The mechanism actuates the motor then closes the control valve which is fixed in the outlet pipe of the additional storage tank. So during the halt period of train at the station the place is protected from unhygienic environment.

When the train departs from the station and attains 30Km/hr speed, the mechanism actuates again and opens the control valve there by sanitary system continues to work.

## Existing System



## Modified System with Automation



## Results and Conclusions

1. The Railway platform is maintained clean, healthy and hygienic from Sanitation at no cost.
2. The man power employed is less for maintaining the bogie cleaning and toilet compartment.
3. Wastage of water is reduced.
4. Self Automated, no human intervention hence high reliability on the system.