

REMLOT

Remote Monitoring and Management of Locomotive and Trains:

It is a system that enables remote monitoring of diesel electric locomotives, it also enables monitoring of performance of crew and helps in identifying the lapses, operational aspects, safe driving etc.

Which will help during counselling and training of such crew who are prone to unsafe working.

REMLOT also monitors the condition of locomotive and makes preventive maintenance of locomotive more efficient.

REMLOT - Basically consist of two main component.

1. **LTMS** (Locomotive and Train Management System)
2. **LRMS** (Locomotive Remote Monitoring System)

LTMS: it is a centralized server hosted on the internet for railways and provides 24*7 services and can be accessed via a static IP address.

It generates reports fault status, health status, and other information related to running of locomotives and trains, which is to be used by railway management for decision-making.

LRMS: it is on board embedded system mounted in the locomotive, it communicates with LTMS through GSM network for various applications as per user requirement.

Advantages:

1. It is useful for monitoring the health of locomotive when locomotive is working on open line.
2. In case of any failure, prior indications are available.
3. The parent shed can monitor the health of each locomotive on real time basis.
4. The home shed or power controller where loco having some problem is working to take preventive actions or to remove the loco from the service on first opportunity depending upon the gravity of the problem. This may prevent a potential failure on line.

Vigilance Control Device (VCD)

The function of VCD is to apply penalty brake if operator incapable or locomotive is not secure for some region.

VCD monitors the alertness of the operator by checking the following activity in the locomotive in every 60-second cycle.

1. Movement of throttle handle. (Notch Changing)
2. Application and Release of Dynamic Brakes.
3. Variation in dynamic Brake position by 20%
4. Auto Brake operation
5. Horn push button operation
6. Manual sanding button operation
7. Movement of reversal handle(changing direction of locomotive)
8. Generator Field Operation Switch
9. Operation of VCD – Reset push button on

control stand. VCD Cycle: A VCD operation cycle is of 76 seconds in locomotive.

1. 1st 60 second- ((Monitoring Movement) First 60 second VCD monitors for the operations mentioned above to be operated, if this time interval exceeds without any movement the next procedure starts
2. 2nd 8 second- (yellow Light indication) when the 1st 60 second exceeds without any operation a yellow VCD lamp starts flashing for next 8 seconds, if operator fails to operate any operation above in this duration too next 8 second procedure starts as follows
3. 3rd 8 second in this 8-second duration a VCD buzzer starts buzzing to attract the operators attention, if operators again fails this time spell VCD penalty brake will be initiated by VCD unit.

