

**GOVERNMENT OF INDIA/BHARAT SARKAR
MINISTRY OF RAILWAYS/RAIL MANTRALAYA
RAILWAY BOARD**

No.96/M(C)/141/77

New Delhi, dated 29.05.2024

**Principal Chief Mechanical Engineers
All Zonal Railways and ICF, RCF, MCF**

Sub:- IOT Based Water Level Monitoring System.

**Ref:- (i) Railway Board's letter of even number
dated 28.05.2024.**

**(ii) CRSE/Chg./SR's letter No.M/CW/271/PC
dated 27.05.2024.**

1. RailMadad Portal has thrown up issues regarding watering in trains. In view of the huge number of complaints related to watering, online monitoring of water level is a mission item for the department. In this regard, some pioneering work has been done by Southern, Central and East Central Railways. On the basis of the work already done by these Railways, instructions have been issued for further action by Zonal Railways vide reference (i) above.

2. However, to ensure that we have a simple and robust system, a strategic decision has been taken to adopt technology which does not need wiring and also to eliminate unnecessary indications in the coach by straightaway going to online system. As already brought out by the CRSE's report dated 27.05.2024, this means the system will consist of the following components:-

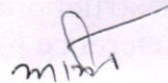
- (a) Hydrostatic pressure sensor may be used for measurement of water level.
- (b) LoRa WAN based communication shall be adopted.
- (c) Power supply shall be Battery powered with minimum six months back up (no charging should be required within six months at least).
- (d) CRIS shall develop a dashboard on similar lines of CR. CRIS shall provide API to the Railways for sensor integration on the same dashboard provided by the CRIS. The dashboard should be compliant with common protocols like TCP/IP, MQTT, HTTPS etc., so that integration with different controllers can be easily done.
- (e) Live notification on mobile/dashboard to be made available by CRIS duly integrating with available CMM and RailMadad portals.
- (f) A provision for reports shall be available from the dashboard linking Location of Train and Critical water levels.

3. Railways are encouraged to start this work either through in-house assembly or through quotation contract or through bigger tender. For in-house assembly, assistance can be taken from the following:-

- i) Shri Suryakant Munjewar, Sr. CDO/LTT (Mobile No.8828119401).
- ii) Shri Ashish Kumar, AME/Sonpur (Mobile No.9771429402).

For doing a work through an outsourced agency, specifications, details etc. can be taken from Shri P. Srinivas, CRSE/Southern Railway (Mobile No.9910487542).

4. In this regard, a Seminar will be organized by Shri Pranjal Mishra, JDME/Coaching, Railway Board. It is advised that all the young officers should be encouraged to participate in this Seminar, so that their technical knowledge can help us to proliferate the product as well as improve it.



(Amit Kumar Agarwal)
Additional Member/Mechanical Engineering
Railway Board