

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
STARRED QUESTION NO. 42
TO BE ANSWERED ON 19.07.2017**

ZERO-ACCIDENT MISSION

***42. SHRI CHANDRAKANT KHAIRE:**

Will the Minister of RAILWAYS be pleased to state:

- (a) whether cases of accidents on railway tracks are on the rise and if so, the details thereof;**
- (b) whether the Railways have launched a zero-accident mission envisaging renewal of railway tracks, more railway bridges, better signalling and rolling out of accident-proof coaches and engines and if so, the details thereof; and**
- (c) whether the Railways have prepared any plan to generate resources to implement the zero-accident mission and if so, the details thereof?**

ANSWER

MINISTER OF RAILWAYS

(SHRI SURESH PRABHAKAR PRABHU)

(a) to (c): A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (c) OF STARRED QUESTION NO. 42 BY SHRI CHANDRAKANT KHAIRE TO BE ANSWERED IN LOK SABHA ON 19.07.2017 REGARDING ZERO-ACCIDENT MISSION.

(a): No, Madam. As can be seen from the Table below, the consequential train accidents have continuously declined from 135 in 2014-15 to 107 in 2015-16 and further to 104 in 2016-17. In the current year also, consequential train accidents decreased from 29 to 15 during 2017-18 (from 01/04/2017 to 30/06/2017) in comparison to corresponding period of the previous year which is an improvement of 48.3% over the last year.

Year	2014-15	2015-16	2016-17	2016-17 (01.04.16 to 30.06.16)	2017-18 (01.04.17 to 30.06.17)
Total No. of consequential train accidents	135	107	104	29	15

Accidents Per Million Train Kilometres (APMTKMs), which is an internationally accepted yard stick of safety has declined from 0.23 in 2006-07 to 0.11 in 2014-15, 0.10 (approximately) in 2015-16 and further declined to 0.09 (approximately) in 2016-17.

(b): Yes, Madam. In the Railway Budget 2016-17, Mission Zero Accident was one of the Missions announced, comprising of the two sub-missions:

- i. Elimination of unmanned level crossings (UMLC) over broad gauge in the next 3-4 years.**
- ii. TCAS (Train Collision Avoidance System): To prevent collisions and signal passing at danger by the Loco Pilot through developing an indigenous technology and also to increase throughput by increasing average sectional speed on Indian Railways (IR).**

Current Status of the implementation of two sub-missions under Mission Zero Accident is as follows:

(1) Elimination of Unmanned Level Crossings: As on 01.04.2017, Indian Railways have 27181 Level Crossings, out of which 19480 are manned and 7701 are unmanned. Out of total 7701 unmanned level crossings, 4943 level crossings are on BG (Broad Gauge). It has been planned to eliminate unmanned level crossings (UMLCs) on Broad Gauge by 2020. Year-wise target fixed for elimination is as under:

Year	No. of UMLCs to be eliminated
2017-18	1500
2018-19	1500
2019-20	1943

(2) Train Collision Avoidance System (TCAS) implementation for High Density Network (HDN) routes. The TCAS system is under developmental stage and trials are in progress on Lingampalli-Vikarabad-Wadi-Bidar pilot section (250 Rkm) on South Central Railway. After successful trials, Safety Certification & Validation, further works shall be taken up.

Considering the fact that the pilot TCAS system is under final stage of development & certification, in the Pink Book 2017-18, a regular work on 1427 RKM's have been sanctioned from Wadi - Guntakal section (228 RKM's), Bidar - Parli Vaijnath - Parbhani section (241 RKM's) and Manmad - Parbhani - Nanded - Secunderabad - Gadwal - Dhone - Guntakal section (958 RKM's) on South Central Railway.

Other measures taken to prevent rail accidents:

- **Track Renewal – Track renewal is an ongoing process which is undertaken as and when a stretch of track becomes due for renewal on age-cum-condition basis. Track Renewal works are planned in advance every year and their execution is prioritized according to the condition of track and overall availability of funds ensuring all the time that track is in a sound condition for safe running of trains. The allocation for track renewal has been almost doubled from the last 5 years average of ₹5548.6 crores to ₹9961 crores in the Budget Estimate of 2017-18.**
- **Vehicular Ultrasonic Flaw Detection (USFD) System, Self Propelled Ultrasonic Rail Testing (SPURT Car): - Decision to use Vehicle bound USFD testing has been taken to ensure faster as well as more reliable testing as it would cover larger cross-sectional area of rail. One tender has been called by Northern Railway for 30400 Track kilometer (Tkm) of USFD testing on Rajdhani routes between New Delhi–Mugalsarai and New Delhi–Ratlam sections of Indian Railways. Initially 6 nos. SPURT (Self Propelled Ultrasonic Rail Testing) Cars will be used for USFD testing of rails on Indian Railways. Procurement of these 6 nos.**

SPURT cars have been included in Rolling Stock Program 2017-2018 at total cost of ₹186.24 crores.

- **Trial of Ultrasonic Broken Rail Detection System (UBRDS) for detection of Rail/Weld fractures has been undertaken on Northern Railway and North Central Railway on 25 Km track length each. It has been decided to proliferate this system on Indian Railways based on outcome of trial.**
- **Centre Buffer Coupler: Progressive fitment of tight lock Centre Buffer Coupler (CBC) in lieu of screw coupling on new manufacturing of ICF design coaches has been carried out with a view to prevent the coaches from climbing over each other in unfortunate event of an accident.**
- **Proliferation of Linke Hofmann Busch (LHB) coaches for improving Safety: Indian Railways is embarking on a mission to provide upgraded safety features on its coaching stock. As a part of this, it has been decided that only LHB coaches would be manufactured from 2018-19. LHB coaches are of a superior design that reduces the chances of derailment and mitigates the possibility of grievous injury or death in case of accidents. LHB coaches have superior body-bogie and wheel-bogie connections, anti-climbing features, tight lock coupling, provision of bump stop, superior braking, provision of yaw dampers to ensure better riding and comfort with lesser chances of dislocation of body from shell, destabilization and tilting of the coach, possibility of overriding of one coach over the other, uncoupling of coaches and consequent movement in an uncontrolled manner, etc. in case of accidents.**

- **Refurbishment of ICF coaches:** A policy decision has been taken to carry out the work of refurbishment and providing improved safety features in its existing ICF design coaches which have a residual life of more than 10 years. A total of about 40,000 coaches will be provided with these features in the next 5 years including production of new coaches.
- **Progressive use of Air springs:** To maintain constant height at variable load, air spring are being used in secondary suspension of EMU/DMU coaches. These springs shall also be introduced in mainline and LHB coaches to enhance safety and reliability.
- **Train Protection & Warning System (TPWS):** Train Protection & Warning System (TPWS) has capability to control the speed of train in accordance with the sectional permitted speed and signal aspect ahead by automatic actuation of brakes, in case loco pilot fails to do so in time. Thus it mitigates safety risk of accidents/collisions due to loco pilot's error of Signal Passing at Danger or over speeding. TPWS also reduces delays during foggy weather. It is a proven European train protection technology and deployed extensively on World Railways.

TPWS based on this proven technology has been operationalized on 342 RKM's in following sections of Indian Railways,

- (i) **Chennai - Gummidipundi Suburban Section of Southern Railway (50 RKMs).**
- (ii) **Dum Dum - Kavi Subhash section of Metro Railway, Kolkata (25 RKMs).**
- (iii) **Hazrat Nizamuddin – Agra Section of Northern/North Central Railway (200 RKMs).**

(iv) Basin Bridge - Arrakkonam Section of Southern Railway (67 RKMs).

(c): In 2017-18, a Fund namely 'Rashtriya Rail Sanraksha Kosh' (RRSK) has been created for financing critical safety related works. The Fund has been created with a corpus of ₹1 lakh crore over a period of five years. In Budget Estimates of 2017-18, a provision of ₹20,000 crore has been made under RRSK, which includes ₹5000 crore from Budgetary Support, ₹10,000 crore from Central Road Fund and ₹5000 crore out of Railways' internal resources.
