

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
UNSTARRED QUESTION NO. 2187
TO BE ANSWERED ON 02.08.2023**

MODERNISATION OF RAILWAY INFRASTRUCTURE

2187. SHRI KUMBAKUDI SUDHAKARAN:

ADV. ADOOR PRAKASH:

SHRI MOHAMMED FAIZAL P.P.:

SHRI BENNY BEHANAN:

Will the Minister of RAILWAYS be pleased to state:

(a) whether the Government intends to modernize current railway infrastructure including railway tracks, signaling systems, electrical systems, etc., if so, the details thereof;

(b) whether the Government is cognizant of the large number of vacancies in the Indian Railways, especially at lower-level functionaries, if so, the details thereof and if not, the reasons therefor;

(c) whether the Government is aware that 794 officials dealing with track maintenance were not given training as per the CAG report of 2022, if so, the details thereof;

(d) whether the Government is aware of the recent CAG report that suggests spending on basic railway maintenance that has seen a reduction since 2017, leading to serious lapses in safety;

(e) if so, whether the Government has any tangible plan to develop and revitalize current railway infrastructure; and

(f) if so, the details thereof and if not, justifications therefor?

ANSWER

**MINISTER OF RAILWAYS, COMMUNICATIONS AND
ELECTRONICS & INFORMATION TECHNOLOGY**

(SHRI ASHWINI VAISHNAW)

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

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (f) OF UNSTARRED QUESTION NO. 2187 BY SHRI KUMBAKUDI SUDHAKARAN, ADV. ADOOR PRAKASH, SHRI MOHAMMED FAIZAL P.P. AND SHRI BENNY BEHANAN TO BE ANSWERED IN LOK SABHA ON 02.08.2023 REGARDING MODERNISATION OF RAILWAY INFRASTRUCTURE

(a) to (f) Modernisation of current railway infrastructure is a need based ongoing process subject to operational requirement, technical feasibility, commercial viability, resource availability etc. A number of works have been sanctioned/under execution to modernize railway infrastructure. Some of them are as under:

- 1. Rashtriya Rail Sanraksha Kosh (RRSK) has been introduced in 2017-18 for replacement/renewal/upgradation of critical safety assets, with a corpus of ₹1 lakh crore for five years. From 2017-18 till 2021-22 a gross expenditure of ₹1.08 lakh crore was incurred on RRSK works.**
- 2. Electrical/Electronic Interlocking Systems with centralized operation of points and signals have been provided at 6427 stations upto 31.05.2023 to eliminate accident due to human failure.**
- 3. Interlocking of Level Crossing (LC) Gates has been provided at 11093 level Crossing Gates up to 31.05.2023 for enhancing safety at LC gates.**
- 4. Complete Track Circuiting of stations to enhance safety for verification of track occupancy by electrical means has been provided at 6377 stations upto 31.05.2023.**

- 5. Detailed instructions on issues related with safety of signaling e.g. mandatory correspondence check, alteration work protocol, preparation of completion drawing, etc. have been issued.**
- 6. System of disconnection and reconnection for S&T equipment as per protocol has been re-emphasized.**
- 7. All locomotives are equipped with Vigilance Control Devices (VCD) to ensure alertness of Loco Pilots.**
- 8. Retro-reflective sigma boards are provided on the mast which is located two OHE masts prior to the signals in electrified territories to warn the crew about the signal ahead when visibility is low due to foggy weather.**
- 9. A GPS based Fog Safety Device (FSD) is provided to loco pilots in fog affected areas which enables loco pilots to know the distance of the approaching landmarks like signals, level crossing gates etc.**
- 10. Modern track structure consisting of 60kg, 90 Ultimate Tensile Strength (UTS) rails, Prestressed Concrete Sleeper (PSC) Normal/Wide base sleepers with elastic fastening, fanshaped layout turnout on PSC sleepers, Steel Channel/H-beam Sleepers on girder bridges is used while carrying out primary track renewals.**
- 11. Mechanisation of track laying activity through use of track machines like PQRS, TRT, T-28 etc to reduce human errors.**
- 12. Maximizing supply of 130m/260m long rail panels for increasing progress of rail renewal and avoiding welding of joints, thereby ensuring safety.**

- 13. Laying of longer rails, minimizing the use of Alumino Thermic Welding and adoption of better welding technology for rails i.e. Flash Butt Welding.**
- 14. Monitoring of track geometry by OMS (Oscillation Monitoring System) and TRC (Track Recording Cars).**
- 15. Patrolling of railway tracks to look out for weld/rail fractures.**
- 16. The use of Thick Web Switches and Weldable CMS Crossing in turnout renewal works.**
- 17. Inspections at regular intervals are carried out to monitor and educate staff for observance of safe practices.**
- 18. Web based online monitoring system of track assets viz. track database and decision support system has been adopted to decide rationalized maintenance requirement and optimize inputs.**
- 19. Detailed instructions on issues related with safety of track e.g. integrated block, corridor block, worksite safety, monsoon precautions etc. have been issued.**
- 20. Preventive maintenance of railway assets (Coaches & Wagons) is undertaken to ensure safe train operations and to keep a check on rail accidents across the country.**
- 21. Replacement of conventional ICF design coaches with LHB design coaches is being done.**
- 22. All unmanned level crossings (UMLCs) on Broad Gauge (BG) route have been eliminated by January 2019.**
- 23. Safety of railway bridges is ensured through regular inspection of bridges. The requirement of repair/rehabilitation**

of bridges is taken up based upon the conditions assessed during these inspections.

24.Indian Railways has displayed statutory “Fire Notices” for widespread passenger information in all coaches. Fire posters are provided in every coach so as to inform and alert passengers regarding various Do’s and Don’ts to prevent fire. These include messages regarding not carrying any inflammable material, explosives, prohibition of smoking inside the coaches, penalties etc.

25.Production Units are providing fire detection and suppression system in newly manufactured power cars and pantry cars and fire and smoke detection system in newly manufactured coaches. Progressive fitment of the same in existing coaches is also underway by Zonal Railways in a phased manner.

26.Regular counselling and training of staff is undertaken.

27.Concept of Rolling Block system introduced wherein work of maintenance/repair/replacement is planned for 2 weeks in advance on rolling basis and executed as per plan.

28.Indigenously developed automatic train protection system “KAVACH” has been deployed on 1465 route km and 121 locomotives. Further, the work is in progress on about 3000 route km and preparation of DPR has been taken up on about 6000 route km.

In recent times, there has been an increasing focus on works related to safety, as summarized below:

SN	Item	Unit	During FY 2004-05 to 2013-14		During FY 2014-15 to 2022-23		Comparison of the period 2014-23 with the period 2004-14
			Cumulative for 10 years	Average Per Year	Cumulative for 9 years	Average Per Year	
A.	Track Maintenance						
1.	Expenditure on Track Renewal	Rs. In Cr.	47,018	4,702	91,809	10,201	2.2 Times
2.	Rail Renewal Primary	TKM	32,260	3,226	37,284	4,143	1.3 Times
3.	Use of high quality rails (60 Kg)	KM	57,450	5,745	1,23,717	13,746	2.4 Times
4.	Longer Rail Panels (260m)	KM	9,917	992	68,233	7,581	7.7 Times
5.	USFD (Ultra Sonic Flaw detection) Testing of Rails	TKM	20,19,630	2,01,963	26,52,291	2,94,699	1.5 Times
6.	USFD (Ultra Sonic Flaw detection) Testing of Welds	Nos.	79,43,940	7,94,394	1,73,06,046	19,22,894	2.4 Times
7.	Track KM added	TKM	14,985	1,499	25,871	2,875	1.9 Times
8.	Weld failures	Nos.	In 2013-14 : 3699		In 2022-23: 724		80% Reduction
9.	Rail fractures	Nos.	In 2013-14 : 2548		In 2022-23: 531		79% Reduction
10	Thick Web Switches	Nos.	Nil	Nil	15,146	1,683	
11	Track Machines	Nos.	As on 31.03.14 = 748		As on 31.03.23 = 1548		2.1 Times
B.	Level Crossing Gate Elimination						
1.	Elimination of	Nos.	As on 31.03.2014:		As on 31.03.2023: Nil		100%

	Unmanned Level Crossing Gates		8948		(All eliminated by 31.01.19)		Reduction
2.	Elimination of Manned Level Crossing Gates	Nos.	1,137	114	6,291	699	6.2 Times
3.	Construction of Road over Bridges (i.e. Flyovers)/ Road under Bridges (i.e. Underpasses)	Nos.	4,148	415	10,867	1,207	2.9 Times
4.	Expenditure on LC Elimination	Rs. In Cr.	5,726	573	30,602	3,400	5.9 Times
C.	Bridge Rehabilitation						
1.	Expenditure on Bridge Rehabilitation	Rs. In Cr.	3,919	392	6,380	709	1.8 Times
D.	Signalling Works						
1.	Electronic Interlocking	Stations	837	84	2,521	280	3.3 Times
2.	Automatic Block Signaling	Km	1,486	148.6	1,915	212.8	1.4 Times
3.	Fog Pass Safety Devices	Nos.	As on 31.03.14 : 90		As on 31.03.23 : 19,742		219 Times
E	Rolling Stock						
1.	Manufacture of LHB Coaches	No.	2,337	234	31,956	3,551	15.2 Times
2.	Provision of Fire and Smoke Detection System in coaches	Nos. of Coaches	0	0	12,711	1,412	
3.	Provision of Fire Detection and Suppression	Nos. of Coaches	0	0	2,635	293	

	System in Pantry and Power Cars						
4.	Provision of Fire Extinguishers in Non –AC coaches	Nos. of Coaches	0	0	39,819	4,424	
F.	Gross Budgetary Support for Railway Investment (GBS FY 23-24: Rs 2.4 Lakhs Cr.)	Rs. In Cr.	1,56,739	15,674	8,25,967 (Incl. of BE 23-24)	82,597	5.3 Times
G.	Expenditure on safety related works	Rs. In Cr.	70,273	7,027	1,78,012 (Incl. of BE 23-24)	17,801	2.5 Times

Occurrence and filling up of vacancies are continuous process on Indian Railways considering its size, spatial distribution and criticality of operations. While 4,11,624 candidates were empanelled during the period 2004-2014 for appointment in Indian Railways, 4,86,031(Provisional) candidates have been empanelled in the 9 years period from 01.04.2014 to 30.06.2023. Out of the total vacancies of 2,61,233 as on 01.07.2023, the vacancies of Operational Safety categories are 53,178. A massive recruitment exercise has been completed recently for empanelling 1,39,050 candidates by conducting Computer Based Test (CBT) of approximately 2.37 crore candidates. During 2017-18 to 2020-21, 1,87,375 number of track maintenance officials have been imparted trainings across all zonal railways. However, during this period, training of a fraction of the track maintenance officials got deferred due to various reasons like Covid-19 situation, working requirements, personal reasons, etc. Further,

such cases are dealt on priority and sent for training at the earliest opportunity.

Details of expenditure incurred on “Safety related works” viz. level crossing, ROB/RUB, track renewal, bridge works and signal & telecom (S&T) works since 2017-18 (Budget data) are as under:

Year	Expenditure (in Cr)
2017-18	14307.66
2018-19	15961.64
2019-20	15887.02
2020-21	20887.77
2021-22	24680.73
2022-23	25179.50
2023-24 (BE)	30850.06

The total expenditure on such items have been increasing.

In order to augment railway infrastructure, during 2014-23, total 25,871 km new tracks @ 2,875 km/year have been commissioned which is about 89% more than average commissioning during 2009-14 (1,520 km/year). Further, as on 01.04.2023, there are 459 railway infrastructure projects (189 New Lines, 39 Gauge Conversions and 231 Doubling) of total length 46,360 km are in planning/approval/construction stages.
