

passengers killed and injured therein in collisions and in manned level crossing accidents were 14 passengers, 1 staff killed, and 64 passengers and 3 staff injured. Further, in the miscellaneous accidents there were 19 passengers who were injured.

(d) No, Sir. Number of accidents has come down during the current year.

(e) Does not arise.

(f) All possible steps are undertaken on a continuing basis to prevent accidents. These include timely replacement of over-aged assets, adoption of suitable technologies for up-gradation and maintenance of track, rolling stock, signaling and interlocking systems, safety drives, greater emphasis on training of officials and inspections at regular intervals to monitor and educate staff for observance of safe practices. Safety devices introduced to prevent accidents include provision of Train Protection Warning System (TPWS), Anti-Collision Device (ACD), Block Proving Axle Counters (BPAC), Auxiliary Warning System (AWS), LED Signals and Vigilance Control Device (VCD).

#### **Prevention of train accidents in foggy weather**

†1008. SHRI BHAGIRATHI MAJHI:  
SHRI BHAGAT SINGH KOSHYARI:

Will the Minister of RAILWAYS be pleased to state:

(a) whether Government is considering to any modern technology to check the delay and accidents of trains due to fog so that these problems could be resolved and the losses to the rail passengers could be prevented; and

(b) if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI E. AHAMMED): (a) and (b) Yes, Sir. Details of action taken towards mitigating the problems due to fog are appended as a Statement.

#### ***Statement***

*Details on action towards mitigation of problems due to foggy weather condition:*

#### **A. Mitigation of factors causing delays during foggy weather:**

##### **1. Delays arising from unstable traction power supply in Northern Region:**

Replacement of porcelain insulators of 25KV, 132 KV and 220 KV lines by anti-fog composite insulators in polluted areas has been carried out and improved maintenance practices have been adopted on Northern Railway and North Central Railways.

##### **2. Improving visibility of Signals:**

LED signals have been provided at about 3400 stations on Indian Railway to improve visibility of Signals.

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†Original notice of the question was received in Hindi.

**3. Communication aids:**

In order to have communication and to deal with the situation arising out of foggy weather, Walkie Talkie VHF sets have been provided to guards and drivers of trains. Additionally, decision has been taken to provide Closed User Group (CUG) mobile phones to guards and drivers. A dedicated Mobile Train Radio Communication (MTRC) is also being progressively provided on important busy routes to start with for providing communication in running trains for drivers, guards, station masters, controls etc. to enhance safety in train operations.

**4. Flashing tail lamps:**

Flashing LED Tail Lamps on last vehicle of trains are provided in foggy weather.

**N.B.** (i) A pilot project for development of fog vision instrumentation was taken up by Research Designs and Standards Organization, (RDSO) Lucknow in association with Indian Institute of Technology, (IIT), Kanpur under Technology Mission for Railway Safety (TMRS). Under this project, several experiments in the laboratory were carried out at IIT, Kanpur with technologies employing radar, thermal imager and CO2 laser in 'Fog Chamber'. Project was closed due to its not being successful.

(ii) Experiments have been conducted on Electric, Diesel locomotives and EMUs on Northern Railway for assistance to the drivers but none of these have proven to be foolproof.

**B. Mitigation of factors contributing to human errors identified as cause of accidents during fog: Human errors in Automatic Signaling territory:**

Recent incidences indicated that the accidents occurred in high traffic density Automatic Signaling Territories due to human errors. Train Protection System, as a technical aid to drivers, is proposed to be progressively provided, to begin with in automatic signaling territories to mitigate this problem.

**New rail line between Kalyan and Ahmednagar**

1009. SHRI PRAKASH JAVADEKAR: Will the Minister of RAILWAYS be pleased to state:

(a) whether there has been an inordinate delay in taking up the work of 204 kilometre new rail line between Kalyan and Ahmednagar via Malshej Ghat in Maharashtra despite the Railway Board completing requisite formalities;

(b) if so, the reasons therefor; and

(c) by when the work would start and the approximate time frame and cost fixed by the Railway Board for completion of the work?