

Train protection and warning system

1689. SHRIMATI VASANTHI STANLEY: Will the Minister of RAILWAYS be pleased to state:

(a) whether Government plans to use Train Protection and Warning System to enhance the safety of train passengers, and if so, the details thereof;

(b) whether the Kakodkar High Level Committee has raised doubts on the functionality of this System;

(c) if so, the steps taken by Government to address these issues; and

(d) the other measures taken by Government to enhance safety of train passengers?

THE MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI K.J. SURYA PRAKASH REDDY): (a) Yes, Sir. Government has decided to deploy Train Protection Warning System (TPWS) to prevent train accidents caused by human error like Signal Passing At Danger (SPAD) and Over Speeding. Pilot project of TPWS (ETCS Level-1) (European Train Control System) has been commissioned on Chennai Central - Gummuddipundi (50 RKms) suburban section of Southern Railway in May, 2008. Commercial trials of pilot project on Delhi-Agra non-suburban section (200 RKms) of Northern/North Central Railway is in progress with 35 locomotives on nominated trains. Based on experience gained, TPWS has been approved for 3330 Route Kilometers (RKMs) at a cost of Rs. 1740 crore covering Automatic Signalling Sections/Heavy Density Network (HDN) of Indian Railways (IR). In first phase, process to acquire TPWS (ETCS Level 1) on Automatic Signalling Suburban Sections where EMUs, MEMUs and DEMUs and Main Line Locomotives ply on Eastern, South Eastern and North Central Railways has been initiated.

(b) and (c) High Level Safety Review Committee, in their report, mentioned that TPWS which is based on proven European Technology is reported not working well under IR conditions. This was observed during Committee Members visit, when

the motormen operating on Chennai Suburban complained of false braking, system problems etc. Following steps were taken which has improved performance availability of TPWS to 98%.

- (i) Use of shielded twisted pair cables to eliminate Electro Magnetic Induction (EMI) interference.
- (ii) Modification in the software.
- (iii) Power supply filter for Driver Machine interface (DMI) to avoid blanking.
- (iv) Power supply backup with UPS for Line side Electronic Unit (LEU).
- (v) Removal of antenna protection plates to eliminate reflections.
- (vi) Modifications of location box design with provision of dual metal wall for air colling and ventilation.

(d) Other measures taken by the Government to enhance safety to train travel include timely replacement of over-aged assets, adoption of suitable technologies for upgradation and maintenance of track, rolling stock, signalling 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. In addition to TPWS, other safety devices/systems being introduced to prevent accidents include provision of Anti Collision device (ACD)/Train Collision Avoidance System (TCAS), Vigilance Control Device, Electrical/Electronic Interlocking with Centralised operation of Points and Signals to replace old mechanical signalling systems Complete Track Circuiting of Station Section, Block Proving Axle Counter (BPAC) and Auxiliary Warning System (AWS).

Implementation of recommendations of committees

1690. DR. V. MAITREYAN: Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Sam Pitroda and Anil Kakodkar Committees on