

**GOVERNMENT OF INDIA
RAILWAYS
LOK SABHA**

UNSTARRED QUESTION NO:3200
ANSWERED ON:31.07.2014
DISCONTINUATION OF ANTI COLLISION DEVICE
Chowdhury Shri Adhir Ranjan;Singh Shri Rakesh

Will the Minister of RAILWAYS be pleased to state:

- (a) whether Global Positioning System (GPS) based Anti-Collision Device Introduced, as a pilot project has been successfully implemented;
- (b) if so, the details thereof, zone-wise, train-wise;
- (c) whether alternative options for Anti-Collision Device like Train Collision Avoidance System (TCAS), Train Protection Warning System (TPWS) are being explored; and
- (d) if so, the reasons therefor along with the funds allocated for the purpose?

Answer

MINISTER OF STATE IN THE MINISTRY OF RAILWAYS (SHRI MANOJ SINHA)

(a) & (d) A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF UNSTARRED QUESTION NO. 3200 BY SHRI RAKESH SINGH AND SHRIADHIR RANJAN CHOWDHURY TO BE ANSWERED IN LOK SABHA ON 31.07.2014 REGARDING DISCONTINUATION OF ANTI-COLLISION DEVICE.

(a) & (b) Development and deployment of Anti-Collision Device (ACD) was taken up by Konkan Railway Corporation Limited (KRCL) as a pilot project on 1736 Route kilometers (RKms) and 548 locomotives on Northeast Frontier Railway (NFR) and it was operationalised in the year 2006. Technical and operational problems have been experienced in the functioning of ACD on NFR. Major problem is of unwarranted brakings which has adverse impact on train running.

Research & Development (R&D) and Engineering efforts in resolving these technical and operational problems have been undertaken since its deployment on NFR. KRCL developed improved version 1.1.2 of ACD which was validated by Electronic Test & Development Centre (ETDC), Chennai and the same has been implemented on all Divisions of NFR. However, unwarranted brakings still continue to exist.

To deploy the system on the main line sections having multiple lines / electrified routes, KRCL developed ACD version 2.0 with revised specifications and design configuration.

Trials of ACD version 2.0 were conducted jointly by KRCL, Research Design and Standard Organization (RDSO) and NFR on section Pattabiram – Arakkonam on Chennai Division of Southern Railway during 2010-11. A large number of complex operational and technical problems were experienced during the trials on Southern Railway which could not be fully resolved by KRCL due to design limitations of ACD. Due to this, development of ACD version 2.0 has been put on hold by KRCL and further proliferation of ACD on other Zonal Railways is not contemplated.

(c) & (d) To overcome major problems noticed in ACD due to its dependence on GPS for location, need for a number of mid-section repeaters which are prone to theft and vandalism and also being a single vendor system, an alternative system termed as Train Collision Avoidance System (TCAS) is being developed indigenously by RDSO in association with three Indian Vendors. TCAS has features of Automatic Train Protection and Anti- Collision. Extended field trials with multi vendor, interoperability features are in progress by RDSO, on 250 Km section of Secunderabad Division, South Central Railway. Funds of Rs. 6.0 crore have been allocated in year 2014-15 for this pilot project.

Train Protection & Warning System (TPWS) is based on proven European Train Control System (ETCS) Level 1 technology. Pilot project on suburban section (50 RKms) of Southern Railway has been commissioned in May 2008. The service trials of pilot project of TPWS on non- suburban Delhi-Agra section (200 RKms) of North & North Central Railways is in progress.

TPWS has also been provided on Dum Dum-Kavi Subhash section of Kolkata Metro (25 RKMs) on ICF rakes and work is in progress to provide TPWS on NGEF/BHEL rakes. Work for provision of TPWS on Basin Bridge – Arakkonam section (67 RKms) of Southern Railway has been awarded in April 2014 and is in progress.

Based on the experience of TPWS pilot projects, TPWS works have been sanctioned at a cost of Rs. 1768 crore covering 3397 Route Kilometers over 8 Zonal Railways viz Central, Eastern, Northern, North Central, Southern, South Eastern, South Central and Western Railways covering all Automatic Block Signalling (ABS) sections of Indian Railways. Funds of Rs. 10.8 crore have been allocated in year 2014-15 for TPWS works.