

**GOVERNMENT OF INDIA  
RAILWAYS  
LOK SABHA**

STARRED QUESTION NO:413  
ANSWERED ON:21.08.2003  
BRIDGE INSPECTION EQUIPMENTS  
BASUDEB ACHARIA

**Will the Minister of RAILWAYS be pleased to state:**

- (a) the details of present system of inspection of railway bridge;
- (b) whether railway has put effort in regard to upgradation of inspection equipment required for inspection of Railway bridges;
- (c) whether there has been inordinate delay by RDSO (Research, Design and Standards Organization) in technology upgradation of inspection equipments; and
- (d) if so, the reasons therefor and time by which the upgraded system of inspection would be introduced?

**Answer**

MINISTER OF RAILWAYS (SHRI NITISH KUMAR)

(a) to (d): A statement is laid on the Table of the Sabha.

STATEMENT REFERRED TO IN REPLY TO PARTS (A) TO (D) OF STARRED QUESTION NO.413 BY SHRI BASUDEB ACHARIA TO BE ANSWERED IN THE LOK SABHA ON 21.08.2003 REGARDING BRIDGE INSPECTION EQUIPMENTS.

(a): A well laid down system of multi tier inspection of bridges is followed on Indian Railways. All the bridges including old and distressed bridges are inspected thoroughly once a year at various levels as laid down in Railway Codes and manuals. For distressed bridges an increased frequency of inspection has been laid down in the manuals. The steel superstructure of all bridges are subject to detailed technical checks once every five years and once a year for the floor system of early steel girders. The inspection of substructures of bridges is done by close visual inspection and hammer tappings to check for any cracks or hollowness of masonry.

(b): Yes, Sir. Action also has been taken for modernization of Bridge Inspection & Management System as per details given in Para 2.4.5 of the White Paper on Railway Safety which has been laid in the Lok Sabha on 07.04.2003. It is planned to make the existing inspection and monitoring systems more scientific as detailed in above para by importing modern technology for inspection and assessment of condition of bridges by using-

- (i) Under Water Inspections
- (ii) Mapping unknown foundations and integrity testing of foundations
- (iii) Non-Destructive Testing Techniques like Ultra Sonics, Acoustic Emission, Strain Gauging and Radar etc.
- (iv) Fatigue life and residual life assessment techniques
- (v) Modern Bridge Management System.

Pilot projects for items

(i) to (iv) of above activities have been approved. Purchase of Non-Destructive Testing equipment has been sanctioned for setting up of mobile testing laboratories over 9 Zonal railways at a cost of Rs. 12.7 crores this year. Two number Mobile Bridge Inspection units have been sanctioned at an approximate cost of Rs.11 crore and are under procurement.

(c) & (d): No, Sir. Introduction of new technology on a large network as Indian Railway System has to be done in a systematic and programmed manner. For this a Task Force was formed in 2002 for study of the systems abroad in some advanced countries. The task force submitted its report and accordingly Pilot Projects have been approved in some areas in association with foreign specialised firms and procurement of some equipment initiated as explained in reply to part (b) of question here above. Procurement of the equipment for all Zonal Railways, training of engineers and implementation on the Indian Railway system is likely to take around three years.

