GOVERNMENT OF INDIA
URBAN DEVELOPMENT
LOK SABHA

STARRED QUESTION NO:90
ANSWERED ON:11.12.2013
METRO PROJECTS
J Helen Davidson

Will the Minister of URBAN DEVELOPMENT be pleased to state:

(a) the details of the ongoing metro projects being undertaken in the country;

(b) whether complaints have been received that the metro construction activities including tunnelling work have posed danger to the heritage sites and old buildings;

(c) if so, the details thereof along with remedial steps taken and specific measures being taken to protect heritage sites;

(d) whether structural deficiencies/ defects in designing of pillars/alleged use of inferior quality construction material have been noticed/reported in certain operational sections of Metros in the country; and

(e) if so, the details thereof and steps taken to ensure unhindered metro operations and commuter safety?

Answer

MINISTER OF URBAN DEVELOPMENT (SHRI KAMAL NATH)

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

Statement referred to LokSabha Starred Question No.90 for 11thDecember, 2013 asked by Shrimati J. Helen Davidson regarding Metro Projects.

(a): The details of the ongoing Metro projects are given in the Annexure-I.

(b)&(c): Chennai Metro Rail Limited (CMRL), Bangalore Metro Rail Corporation Limited (BMRCL) and Jaipur Metro Rail Corporation Limited (JMRCL) have informed that concerns were raised to heritage buildings / old buildings in some locations. The remedial steps taken by them to protect the heritage buildings / old buildings are given below:-

Steps taken by CMRL

As part of precautionary measures, strengthening and propping arrangements and even temporary evacuation are being implemented in case of structurally weak buildings to ensure safety of the buildings. In the event of significant impact on any building, the repair works are undertaken based on the recommendations given by the experts from Indian Institute of Technology, Madras.

Steps taken by BMRCL

(i) Prior to tunnelling, the Building Condition Study of all the buildings within the influence zone of tunnel have been done to ascertain the effect of tunnelling on these buildings.

(ii) The buildings which are analysed to be unsafe during tunnelling due to old age of the building, poor quality of construction or due to indeterminate state of construction, have been identified for evacuation temporarily during the tunnelling period below these buildings.

(iii) The buildings so evacuated are propped up as required and monitored during the tunnelling.

(iv) Once the tunnelling was completed below these buildings, buildings were inspected and handed over in good condition.

Steps taken by JMRCL

Before commencement of tunnelling work, various steps have been initiated to ensure safety of heritage buildings and sites, namely:-

(a) With assistance from Asian Development Bank (ADB), an environment impact assessment study has been done.

(b) Soil testing and building condition survey have been taken up to suitably design the civil work.

(c) A joint Committee of JMRC and Archaeology & Museums Department of Government of Rajasthan has been set up to periodically

review the work from the angle of safety of the heritage buildings and sites.

(d) Adequate safeguards have been built in the conditions of contract awarded for execution of the tunnelling work.

(d)&(e): No structural deficiencies/defects in designing of pillars/ use of inferior quality construction material have been reported in Metros operational sections. Delhi Metro Rail Corporation Ltd. has informed that they have observed following defects in the system after start of operations:-

(i) There were some defects in girder bearing system of the Airport Metro Express Link. The grout material used above and below the bearings at few locations was found damaged during inspection. The service was suspended temporarily considering commuter safety and the defective bearings were replaced. Also all other bearings were replaced so that these would not develop defects later.

(ii) Cracks were found in balanced cantilever cross girder of NOIDA City Centre metro station. First and last cantilever cross girders developed cracks in arms supporting Down line platform of NOIDA City Centre station leading to sagging of Delhi end of platform. However, the up line side structure and platform were unaffected for the continuance of traffic. The occurrence of cracks was due to non-adherence to structural drawings w.r.t. placement of reinforcement. The defect been repaired and the normal service has been resumed.