**GOVERNMENT OF INDIA**
**MINISTRY OF RAILWAYS**

**LOK SABHA**
**UNSTARRED QUESTION N0. 507**
**TO BE ANSWERED ON 05.02.2020**

**RAIL PROPULSION TECHNOLOGY**

**507. SHRI DUSHYANT SINGH:**

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

**(a) whether the Government is working on developing hydrogen powered suburban train;**

**(b) if so, the details of the proposed train and the details of the rail propulsion technology to be used and the source of hydrogen gas to operate such trains;**

**(c) whether the process of producing hydrogen gas will be emission free and if so, whether the Government plans to deploy hydrogen propelled trains for long distance routes in future;**

**(d) if so, the details thereof and the potential presented by hydrogen powered trains;**

**(e) the details of increased safety concerns for passengers because of hydrogen fuel and the details of threat assessment; and**

**(f) the details of various other alternate fuel technologies explored by Indian Railways with the development and future plans?**

**ANSWER**

**MINISTER OF RAILWAYS AND COMMERCE & INDUSTRY**

**(SHRI PIYUSH GOYAL)**

**(a) Yes, Sir.**

**(b) The details will be worked out based on the response of Expression of Interest (EOI), which has been floated. Hydrogen is planned to be sourced from industry in India.**

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(c) Hydrogen production is not planned by Indian Railways. The decision on deployment of hydrogen propelled trains for long distance routes will be based on the development of the technology.

(d) Does not arise.

(e) In India, TATA motors has developed seven hydrogen fuel cell buses. All these vehicles are complying with International Safety Standards of Hydrogen Safety. International Standards Organisation, Society of Automotive Engineers and United Nations have published stringent safety standards for use of hydrogen in transport vehicles. Type test of these vehicles have shown that Hydrogen as a transport fuel is safe to handle and use. Similarly, safety aspects concern for passengers shall be an integral part of the technical specifications of the hydrogen powered trains.

(f) Solar panels have been fitted on roof top of Diesel Electric Multiple Unit (DEMU) trains of capacity 4.5 KWp for catering to hotel load. Blending of high speed diesel with Bio-diesel by 5% has also been started for railway locomotives. Running of DEMU trains with Compressed Natural Gas (CNG) has also been introduced as pilot project over 18 trains.

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