

**GOVERNMENT OF INDIA  
SPACE  
LOK SABHA**

STARRED QUESTION NO:216  
ANSWERED ON:28.03.2012  
REVIEW OF GSLV PROGRAMME  
Deo Shri Kalikesh Narayan Singh

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

- (a) whether the Geo-synchronous Satellite Launch Vehicle (GSLV) programme has been reviewed in the wake of its recent launch failures;
- (b) if so, the outcome thereof;
- (c) whether the GSLV development programme is running on schedule;
- (d) if so, the details of the timelines;
- (e) if not, whether the GSLV programme is likely to affect the Chandrayan-2 mission; and
- (f) if so, the steps taken/being taken by the Government in this regard?

**Answer**

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (SHRI V. NARAYANASAMY):

(a), (b), (c)

(d), (e) & (f) A Statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY TO (a) TO (f) OF STARRED QUESTION NO.216 REGARDING 'REVIEW OF GSLV PROGRAMME' ASKED BY SHRI KALIKESH N. SINGH DEO FOR ANSWER ON WEDNESDAY MARCH 28, 2012

(a) Yes, Sir. The launch of GSLV-D3 carrying the GSAT-4 spacecraft on April 15, 2010 was unsuccessful. The primary objective of the mission was the flight qualification of the indigenous cryogenic stage. The launch of GSLV-F06 carrying the GSAT-5P spacecraft on December 25, 2010 was unsuccessful. The GSLV-F06 employed the cryogenic stage imported from Russia.

Two independent Failure Analysis Committees were constituted to carryout in-depth analysis of the flight data, identify the reasons for the failure and recommend corrective measures.

(b) The GSLV-D3 Failure Analysis Committee concluded that the anomalous stoppage of the fuel booster turbo pump of the indigenous cryogenic stage shortly after the ignition of the cryogenic engine was the cause for the mission failure.

The GSLV-F06 Failure Analysis Committee concluded that the primary cause of the failure is the untimely and inadvertent snapping of a group of ten connectors located at the bottom portion of the Russian Cryogenic Stage.

Based on the recommendations of the Failure Analysis Committees, the Fuel Booster Turbo Pump and the Lower Shroud of the Indigenous Cryogenic Stage has been redesigned and qualification test are in progress.

(c) No, Sir. The GSLV programme schedule has been revised due to the unexpected failures of GSLV-F02 (Russian cryogenic stage) in July 2006; GSLV-D3 (Indigenous cryogenic stage) in April 2010 and GSLV-F06 (Russian up rated cryogenic stage) in December 2010 and partial success of GSLV-F04 (Russian cryogenic stage) in September 2007. After incorporating the recommendations of the two failure analysis committees, the next development flight GSLV-D5 is targeted in the third quarter of 2012.

(d) Does not arise.

(e) Yes, Sir.

(f) ISRO is planning to carry out two developmental flights of GSLV with the indigenous Cryogenic Stage in order to ensure successful launch of Chandrayaan-2 in 2014-15 timeframe.