GOVERNMENT OF INDIA
SPACE
LOK SABHA

UNSTARRED QUESTION NO:3929
ANSWERED ON:19.04.2000
CRYOGENIC ENGINE
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Will the Minister of SPACE be pleased to state:

(a) whether the ISRO has tested fully indigenously developed Cryogenic engine for the Satellite Launch Vehicle (GSLV) for the first time; and

(b) if so, the details thereof?

Answer

MINISTER OF STATE IN THE DEPARTMENT OF SPACE (SMT. VASUNDHARA RAJE)

(a) Yes, Sir. ISRO has commenced the testing of an indigenously developed cryogenic engine to be used in theGeo-synchronous Satellite Launch Vehicle(GSLV). This marks the beginning of a series of ground qualification trials of the engine.

(b) On February 16, 2000, the first flight version of the Cryogenic Engine, employing liquid hydrogen and liquid oxygen, was ignited at Liquid Propulsion Systems Centre test complex at Mahendragiri in Tamilnadu. This test had several accomplishments as given below:

(i) fabrication, assembly and integration of the complete cryogenic engine;

(ii) validation and commissioning of the test stand;

(iii) chill down trials of the engine and associated system;

(iv) production of cryogenic propellants to required specifications and;

(v) validation of appropriate safety procedures besides collection of valuable data for the test duration.

However, the test had to be aborted at 15 seconds instead of the planned duration of 30 seconds. Preliminary analysis indicate that an inadvertent leakage of hydrogen caused a flame outside the engine which has resulted in the premature shutdown of the test. The data obtained from the test by the elaborate instrumentation during the test is being analysed to pinpoint the anomaly during the test and to take suitable corrective action.