GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:4564
ANSWERED ON:23.12.2005
INTERNATIONAL FUSION ELECTRICITY PROJECT
Kaushal Shri Raghuvir Singh

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the energy production principle on which International fusion Electricity Project is based;

(b) whether India, China, Japan and South Korea from amongst the Asian countries have associated themselves with the said project;

(c) if so, the details thereof;

(d) the details of the work being carried out in this regard in India;

(e) whether the Government of India is inclined towards associating itself with the said international project keeping in view the quality of renewable electricity generation through fusion technology which is free of any adverse effects; and

(f) if so, the details thereof?

Answer

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE & TECHNOLOGY AND MINISTER OF STATE (INDEPENDENT CHARGE) OF THE DEPARTMENT OF OCEAN DEVELOPMENT (KAPIL SIBAL)

a) A fusion reaction is a nuclear reaction between light atomic nuclei, producing a heavier nucleus with the release of considerable energy.

b) Yes, Sir.

c) A Consortium of China, EU, Japan, India, Russia, South Korea and the US is planning to build an International Thermonuclear Experimental Reactor at Cadarache, France to demonstrate that large amount of fusion power can be produced in a controlled way. India joined the consortium on December 6, 2005.

d) The Institute for Plasma Research (IPR), a fully Aided Institution of Department of Atomic Energy is engaged in Fusion Research. The IPR has been carrying out experiments in tokamak device, ADIT, a magnetic bottle that can hold multi-million degree hot plasma for a fraction of a second. IPR has also designed, fabricated and assembled an advanced Super Conducting Steady State TOKAMAK device, which is ready for commissioning. When put into operation, it will be one of the first machines in the world to produce a thousand second long diverter plasma discharge.

e) Yes, Sir.

f) Details are given in part (c).