

**GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA**

UNSTARRED QUESTION NO:3676

ANSWERED ON:01.12.2010

NUCLEAR ENERGY PROGRAMME

Chavan Shri Harischandra Deoram;Rathwa Shri Ramsinhbhai Patalbhai

Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether the Government has formulated a three stage nuclear energy programme on the basis of indigenous nuclear fuel sources to provide long-term energy security to the country;

(b) if so, the details thereof; and

(c) the present status thereof ?

Answer

THE MINISTER OF STATE FOR PLANNING AND PARLIAMENTARY AFFAIRS (SHRI V. NARAYANASAMY) :

(a) Yes, Sir.

(b) The three-stage nuclear power programme is aimed at optimum utilization of the indigenous nuclear resource profile of limited uranium and abundant thorium. It comprises Pressurised Heavy Water Reactors (PHWRs) based on natural uranium with a potential of about 10,000 MW in the first stage, Fast Breeder Reactors (FBRs) utilising plutonium-uranium fuel cycle in the second stage with a power potential of around 5,00,000 MW and Reactors for utilization of thorium in the third stage with immense potential to sustain the country's energy needs for several hundred years. The three stages have fuel cycle linkages and have to be gone through sequentially.

(c) The first stage has reached a state of commercial maturity with seventeen PHWRs (4240 MW) in operation and one PHWR (Kaiga Unit -4 of 220 MW) in the process of first start this month. Construction of two PHWRs each of 700 MW has started at Kakrapar in Gujarat. In addition, two 700 MW PHWRs have been launched at Rawatbhata in Rajasthan. The second stage has been launched and a 500 MW Prototype Fast Breeder Reactor (PFBR) is under advanced stage of construction at Kalpakkam, Tamilnadu. The technologies for the third stage are in the process of development.