

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2871
TO BE ANSWERED ON 10.12.2014

REQUIREMENT OF URANIUM

2871. SHRI VINCENT H. PALA:

Will the PRIME MINISTER be pleased to state:

- (a) the quantum of uranium required for our nuclear reactors for generation of power and other purposes during the current year and the next year, reactor and purpose wise;
- (b) the quantum of uranium available within the country; and
- (c) the quantum of uranium required to be imported along with its cost ?

ANSWER

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

- (a) The average annual requirements of nuclear fuel are as given below:

Unit Capacity (MW)	Annual requirement at 85% Capacity Factor [tonnes Uranium Oxide (in the form of UO ₂)]	Reactor type
220	45	Pressurised Heavy Water Reactors
540	100	
700	125	
160	6 (Low enriched uranium)	Light Water Reactor
1000	25 (Low enriched uranium)*	

* at 90% capacity factor

Prototype Fast Breeder Reactor (PFBR) is totally an indigenous project and uses Uranium and Plutonium (Mixed Oxide) as fuel, which is obtained from reprocessing and fabrication of spent fuel of first stage reactors viz. Pressurised Heavy Water Reactors (PHWRs). Government has already allocated fuel for PFBR criticality and has tied up fuel availability for future operation of PFBR, as fuel processing facility namely Fast Reactor Fuel Cycle Facility (FRFCF) is being set up by Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam for this purpose.

- (b) As of October, 2014, Atomic Minerals Directorate for Exploration and Research (AMD) a constituent unit of the Department of Atomic Energy (DAE) has established 2,14,158 tonne in *situ* Uranium oxide (U₃O₈) (equivalent to 1,81,606 tonnes of Uranium) reserves in the country.
- (c) Presently, there are 10 nuclear reactors [7 x 220 MW PHWRs, 2 x 160 MW Light water reactor and 1 x 100 MW PHWR(under extended shutdown since October 2004)] under IAEA Safeguards. Thus, we require 315 MT (7 x 45) of Uranium and 12 MT (2 x 6) of enriched uranium, for operating these reactors at 85% capacity factor. The cost of importing this material at the current prices, for 7 x 220 MW PHWRs and 2 x 160 MW LWRs amounts to approximately Rs.330 crore per annum.
