GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
STARRED QUESTION NO.333
TO BE ANSWERED ON 18.12.2014

ATOMIC ENERGY FROM IMPORTED AND INDIGENOUS SOURCES

*333. DR. SATYANARAYAN JATIYA:

Will the PRIME MINISTER be pleased to state:

(a) the details of quantity and quality of material for atomic energy which is indigenously available, area-wise and imported from other countries; and

(b) the details of their use in power generation and in other fields for human welfare?

ANSWER

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

(a) & (b) A Statement is laid on the Table of the House.

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GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY

STATEMENT REFERRED TO IN REPLY TO RAJYA SABHA STARRED QUESTION No.*333 DUE FOR ANSWER ON 18.12.2014 BY Dr. SATYANARAYAN JATIYA REGARDING ATOMIC ENERGY FROM IMPORTED AND INDIGENOUS SOURCES

(a) Atomic Minerals Directorate for Exploration and Research (AMD), a constituent unit of Department of Atomic Energy (DAE), has established sizeable *in situ* resources of uranium and thorium in the country.

Till October, 2014, AMD has established 2, 14,158 t *in-situ* U_3O_8 (1, 81,606 t U) resources in the country and 11.93 million tonnes of *in situ* resources of monazite resources in the country, which contains about 1.07 million tonnes of thorium oxide (ThO_2).

(i) Details of uranium and Monazite reserves identified in different States are as under:

State	Uranium reserves		Monazite (Million tonne)
	U_3O_8 (t)	U (t)	
Andhra Pradesh	93,232	79,060	3.72
Telangana	18,550	15,731	
Jharkhand	62,111	52,670	0.22
Meghalaya	21,180	17,961	
Rajasthan	8,393	7,117	
Karnataka	4,682	3,970	
Chhattisgarh	3,986	3,380	
Uttar Pradesh	785	666	
Uttarakhand	100	85	
Himachal Pradesh	784	665	
Maharashtra	355	301	
Odisha			2.41
Tamil Nadu			2.46
Kerala			1.90
West Bengal			1.22
Grand Total	2,14,158	1,81,606	11.93

(ii) The year-wise details of the nuclear fuel imported from various firms / countries are furnished as under:

Firm/Country	Total Quantity ordered	Quantities of imported Uranium as on 10.12.2014 (in MT)						
		2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
M/s. AREVA, France	300*	60.49	239.38	Nil	Nil	Nil	Nil	Nil
M/s. TVEL Corporation, Russia	2000**	Nil	150.33	179.79	296.08	295.64	296.31	237.23
	58@	Nil	58.29	Nil	Nil	Nil	Nil	Nil
M/s. NAC Kazatomprom, Kazakhstan	2100*	Nil	Nil	600	350	402.5	460	283.4
TOTAL	4458	60.49	448	779.79	646.08	698.14	756.31	520.63

***** In the form of Natural Uranium Ore Concentrate.
****** In the form of Natural Uranium Di-oxide Pellets
@ In the form of Enriched Uranium Di-oxide Pellets

(b) The above material i.e., Uranium and Monazite is used for nuclear power generation and for conducting research. The related elements namely Beryllium and Boron that are required in the nuclear power reactors are developed in-house. The materials have both nuclear as well as non-nuclear applications as below:

i) Beryllium Metal / Components

Beryllium Metal / Components have applications in the nuclear, defence and space programmes in the country. In nuclear industry, beryllium metal and beryllia ceramic are used in photo-neutron source and moderator and reflector material. Beryllium has been a strategic material and its production is monitored by Government.

ii) Boron Based Materials

Bhabha Atomic Research Centre (BARC), a constituent unit of DAE has indigenously developed technology for boron materials. These materials find extensive applications in nuclear industry in the following forms:

(a) Natural Boron carbide Powder.
(b) Enriched Boron carbide Pellets
(c) Special Boron alloy pellets
(d) Natural boron carbide+ZrB2 (Zirconium di-boride) composites

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