

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION No.3080
TO BE ANSWERED ON 07.08.2014

SHORTAGE OF NUCLEAR FUEL

3080. SHRI AVINASH PANDE:

Will the PRIME MINISTER be pleased to state:

- (a) whether the operational nuclear power plants of the country are facing a shortage of nuclear fuel, if so, the details thereof; and
- (b) whether Government has entered into any agreement with any countries for the supply of Uranium and/or Thorium and the quantity of nuclear fuel imported into India each year?

ANSWER

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

- (a) Yes, Sir. The country has 20 nuclear power reactors under operation with an installed generating capacity of 4780 MWe. Under separation plan, ten reactors are currently placed under IAEA safeguards and are eligible for imported fuel. These reactors are RAPS 1 to 6 located at Rawatbhata, Rajasthan; KAPS 1&2 at Kakrapar, Gujarat and TAPS 1&2 at Tarapur, Maharashtra. These reactors normally operate at their full capacity. RAPS -1 is under extended shutdown for techno-economic assessment. In addition, two more reactors, Kudankulam (KKNPP) Unit 1&2, set up with the international cooperation with Russian Federation, at Kudankulam, in Tamil Nadu are also under IAEA safeguard.

Ten nuclear power reactors viz., KGS 1 to 4 located at Kaiga, Karnataka; NAPS 1 & 2 at Narora, Uttar Pradesh; MAPS 1 & 2 at Kalpakkam, Tamil Nadu; and TAPS 3 & 4 at Tarapur, Maharashtra continue to use uranium sourced within the country. Due to a mismatch between demand and supply of domestic uranium, the total power generated by these reactors is generally lower than their gross installed capacity of 2,840 MWe.

So far, 2,11,473 tonne of U₃O₈ equivalent to 1,79,329 tonne of Uranium has been established by Atomic Minerals Directorate for Exploration and Research (AMD) in various States of India. Following extensive work for exploration of Uranium in the country, the identified in-situ reserves of uranium in the country have been progressing.

- (b) Yes, Sir. Consequent upon India signing the Civil Nuclear Cooperation Agreement with United States of America on 10.10.2008, the Department of Atomic Energy (DAE) has been importing Uranium ore to supply fuel for Nuclear Reactors under IAEA Safeguards in the country as per the separation plan. As a part of this activity, Contractual Agreements were entered into with M/s. AREVA, France (during 2008), M/s. JSC TVEL Corporation, Russia (during 2009), M/s. NAC Kazatomprom, Kazakhstan (during 2009) and M/s NMMC, Uzbekistan (during 2013). As a result of import of Uranium, IAEA safeguarded nuclear reactors are running at optimum level. Entering into long term Agreements with foreign suppliers for supply of Uranium and building a stockpile has been planned to ensure uninterrupted supply. India does not need to import Thorium.

The year-wise details of the nuclear fuel imported from various firms/countries are furnished below:

Firm/Country	(in Metric Tonnes)							
	Total Qty ordered	Quantity of Uranium imported as on July 25, 2014						
		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	118.57
	58@	Nil	58.29	Nil	Nil	Nil	Nil	Nil
M/s. NAC Kazatomprom, Kazakhstan	2100*	Nil	Nil	600	350	402.5	460	Nil
TOTAL	4458	60.49	448	779.79	646.08	698.14	756.31	118.57

* 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