

GOVERNMENT OF INDIA  
DEPARTMENT OF ATOMIC ENERGY  
**RAJYA SABHA**  
**UNSTARRED QUESTION No.2083**  
TO BE ANSWERED ON 03.08.2017

**AVAILABILITY OF THORIUM**

2083. DR. SATYANARAYAN JATIYA:

Will the PRIME MINISTER be pleased to state:

- (a) the quantum of radioactive element thorium, available in the country along with the total capacity of radioactive energy inherent in it and the results of measures taken to convert this source into energy, so far, and the action plan for final targets, thereof; and
- (b) the names of countries generating energy from thorium across the world and the technical details of related metallurgical science?

**ANSWER**

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

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- (a) Atomic Minerals Directorate for Exploration and Research (AMD), a Constituent Unit of Department of Atomic Energy (DAE), has so far established 128 deposits of Beach Sand Minerals which contain Monazite 12.47 million tonne. Monazite in these placer sands contains about 9-10% Thorium Oxide ( $\text{ThO}_2$ ) i.e. approximately 0.98 million tonne of Thorium metal (Th) or approximately 1.12 million tonne  $\text{ThO}_2$ . Thorium ( $\text{Th}^{232}$ ) is a fertile material, which is required to be converted into a fissile material ( $\text{U}^{233}$ ) through irradiation in a nuclear reactor. Spent fuel thus produced, is required to be reprocessed to recover  $\text{U}^{233}$ , thereafter fuel in the desired properties is produced using this  $\text{U}^{233}$ . In this regard, necessary R&D has been initiated.
- (b) Presently, no country is producing energy from Thorium.

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