

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2219
TO BE ANSWERED ON 02.08.2023

Power Generation Capacity

2219. SHRI RAMALINGAM S.:

Will the PRIME MINISTER be pleased to state:

- (a) the details of nuclear power generation capacity in the Country and the actual output thereof;
- (b) the steps taken by the Government to convert the nuclear energy material i.e. thorium into uranium to use as a fuel in Atomic energy production in the Country; and
- (c) whether the Government has taken steps to establish new reactor operating with Uranium 233 fuel and if so, the details thereof?

ANSWER

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

- (a) The present installed nuclear power capacity is 7480 MW comprising of 23 nuclear power reactors. The electricity generation from nuclear power plants in the year 2022-23 was 46982 Million Units (including infirm generation).
- (b) A three-stage nuclear power programme, based on a closed nuclear fuel cycle has been chalked out to use thorium as a viable and sustainable option at the inception of India's nuclear power programme. The three-stage nuclear power programme aims to multiply the domestically available fissile resource through the use of natural uranium in Pressurized Heavy Water Reactors, followed by use of plutonium obtained from the spent fuel of Pressurised Heavy Water Reactors in Fast Breeder Reactors. The third stage of Indian nuclear power programme which contemplates use of Uranium-233 to fuel Thorium Uranium-233 based reactors, can provide energy independence to the country. Efforts are underway towards technology development and demonstration so that a mature technology is available in time.

- (c) Indigenous efforts towards development and demonstration of Thorium-based reactor technology are well underway with BARC-designed Advanced Heavy Water Reactor (AHWR, 300 MWe). This 300 MWe reactor using thorium based fuel will serve as a Technology demonstrator not only for the thorium fuel cycle technologies, but also for several advanced passive safety features. In order to facilitate an early scrutiny of the innovative features of the design from the safety considerations, a Pre-Licensing Design Safety appraisal of the reactor has been completed by the Atomic Energy Regulatory Board. Construction of this reactor can commence after associated statutory clearances, regulatory clearances and financial sanction for the project are in place. It is expected that construction time will be similar to the time required for constructing out Pressurised Heavy Water Reactors (PHWRs).
