

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO-2244
ANSWERED ON 12/03/2026

NUCLEAR ENERGY PROJECTS

2244. DR. SANDEEP KUMAR PATHAK

Will the PRIME MINISTER be pleased to state:-

- (a) the details of installed capacity of nuclear energy projects currently operational and under construction in the country and the target set for increasing it by 2035;
- (b) the details of reasons for cost overruns and delays in timelines of nuclear energy projects and the scientific and environmental measures that are currently in place for safe disposal of nuclear waste; and
- (c) whether Government is considering to encourage private sector and foreign investment in the nuclear energy sector and if so, the details of plans to ensure safety and accountability related to this?

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 in the country is 8,780 MW comprising of 24 nuclear power plants (excluding RAPS-1 – 100 MW). In addition, 18 nuclear power reactors with a total capacity of 13600 MW are under implementation, comprising of 8 nuclear reactors under construction (including PFBR – 500 MW) and 10 reactors under pre-project activities, which are expected to be completed progressively by 2031-32. In addition, as a part of the road map of the Nuclear Energy Mission (NEM) to reach 100 GW by 2047, three more projects KAPP-5&6 (2 X 700 MW), RAPP-9&10 (2 X 700 MW) and NAPP-3&4 (2 X 700 MW) are also planned by 2035.

BHAVINI is currently commissioning a 500 MWe Prototype Fast Breeder Reactor (PFBR) project at Kalpakkam, Tamil Nadu. Government has accorded approval to carry out pre-project activities for 2 x 500 MWe twin unit of FBR 1&2 project at Kalpakkam, Tamil Nadu. On attaining first criticality of PFBR, Government will be approached for financial sanction of FBR 1&2 projects.

- (b) The main reasons for cost overruns and delays in completion of projects in the recent past have been initial delays in land acquisition, R&R and obtaining various clearances and thereafter due to factors like delay in execution of works by contractors at site due to

financial crunch / cash flow problems of contractors, shortage of skilled contractor manpower, the Covid 19 pandemic and implementation of recommended design changes following the Fukushima incident in Japan.

As a waste management philosophy, no waste in any physical form is released/disposed to the environment unless the same is cleared, exempted or excluded from regulations. A comprehensive radioactive waste management is established taking into account the operational capability for the management of radioactive waste and an independent regulatory capability for its overview. Radioactive wastes generated at nuclear fuel cycle facilities, during their operation, are of low, intermediate and high activity level. Low and intermediate wastes are treated, concentrated, compacted, immobilized in solid materials like cement and disposed in engineered structures such as reinforced concrete trenches and tile holes, located at the site. High level wastes are immobilised in vitrified glass and stored in interim storage facility located at the site. The disposal/storage facilities are kept under constant surveillance as per the regulatory requirements approved by regulatory body. Environmental samples such as air, water, soil, vegetations, agricultural produces, milk, meat and other dietary products are collected periodically and analysed for radioactivity to assess the impact of storage/disposal of radioactive wastes. The practice is at par with international practices following the guidelines of International Atomic Energy Agency.

- (c) The Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India (SHANTI) Act, 2025, has been enacted and notified by the Ministry of Law and Justice on the 21st of December 2025 as a single, coherent legislation, with enabling provisions for private sector participation to carry out research and innovations for peaceful application of nuclear energy under license and safety authorization. Amendment to the FDI Policy on Atomic Energy sector to facilitate foreign investment in the nuclear sector is under consideration.
