

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO-2249
ANSWERED ON 20/03/2025

NUCLEAR SAFETY AND SECURITY

2249. SHRI AYODHYA RAMI REDDY ALLA

Will the PRIME MINISTER be pleased to state:-

- (a) the manner in which Government is addressing the technical and financial challenges associated with the development of advanced nuclear reactor designs, such as the Small Modular Reactor (SMR) and the Generation IV reactor;
- (b) the details of Government's strategy for promoting international co-operation on nuclear safety and security, particularly in the context of the Nuclear Security Summit and the International Atomic Energy Agency (IAEA); and
- (c) the manner in which Government is addressing the issue of nuclear waste management, including the development of new technologies and strategies for the disposal of radioactive waste?

ANSWER

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

- (a) In FY 2024-25, as part of Budget Announcement, an outlay of Rs.20,000 crore has been allocated for research & development of Small Modular Reactors (SMR) and for at least 5 indigenously developed SMRs & operationalized by 2033 under Nuclear Energy Mission for Viksit Bharat.
- (b) India had announced setting up of a Global Centre for Nuclear Energy Partnership (GCNEP) during the Nuclear Security Summit 2010 held in Washington D.C. Government of India has approved the establishment of GCNEP, under Department of Atomic Energy. The uniqueness of GCNEP rests on its holistic vision of nuclear energy through its five schools on (i) advanced nuclear energy systems, (ii) nuclear security, (iii) radiological safety, (iv) nuclear material characterization, and (v) applications of radioisotopes and radiation technologies, each specializing in an area that promotes an overarching vision of safe, secure and sustainable nuclear energy for global good. Also, GCNEP has signed MoU with 16 international partners including IAEA, and thus entered

into Practical Arrangements with International Atomic Energy Agency (IAEA), for promoting international cooperation on nuclear safety and security.

- (c) The nuclear waste generated from the operation of nuclear power plants is managed safely in accordance with established safety regulations. It undergoes pre-disposal processes, followed by conditioning and disposal within engineered barriers at near-surface disposal facilities. Adherence to regulatory requirements, along with continuous monitoring and surveillance, ensures the safe disposal of nuclear waste in line with international standards. Advancements in technology and innovation strategies focus on waste minimization, as well as the recovery and recycling of valuable radioisotopes for societal and industrial applications.
