

GOVERNMENT OF INDIA  
DEPARTMENT OF ATOMIC ENERGY  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 2082**  
TO BE ANSWERED ON 21.12.2023

**Safety and security of nuclear power plants**

2082. Shri Neeraj Shekhar:  
Shri Kartikeya Sharma:

Will the PRIME MINISTER be pleased to state:

- (a) the details of steps taken by Government to address the issue of nuclear waste management;
- (b) the measures taken by Government to ensure the safety and security of nuclear power plants in the country; and
- (c) the future plans of Government in the field of atomic energy, including the development of advanced nuclear technologies and the expansion of nuclear reactors?

**ANSWER**

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

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- (a) The wastes generated at the nuclear power stations during their operation are of low and intermediate radioactivity level. These wastes are appropriately treated, concentrated and subjected to volume reduction. The concentrates are immobilized in inert materials like cement, bitumen, polymers etc. and stored in specially constructed structures (near surface disposal facilities) located at the site under monitoring. The treated liquids and gases are diluted and discharged under continuous monitoring, ensuring that the discharges are well within the limits set by Atomic Energy Regulatory Board (AERB). The radioactivity level of the stored wastes reduces with time and by the end of the plant life, falls to very low levels.
- (b) Highest priority is accorded to safety in all aspects of nuclear power viz. siting, design, construction, commissioning, and operation. Nuclear power plants are designed adopting safety principles of redundancy, diversity and provide fail-safe design features following a defence-in-depth approach. The operations are

performed adopting well laid out procedures by highly qualified, trained and licensed personnel.

A multi-tier safety review mechanism within Nuclear Power Corporation of India Limited (NPCIL) by the regulatory authority (Atomic Energy Regulatory Board-AERB) is in place. Based on these reviews and operating experience feedback, necessary upgrades are carried out and the nuclear power plants are maintained at state-of-the-art in terms of safety.

Adequate measures are taken to ensure the security of nuclear power plants. All operating nuclear power plants in the country are under security cover of Central Industrial Security Force (CISF) and integrated security systems including Electronic Surveillance Systems and Access Control mechanisms are in place to deter security breach. These systems are subjected to periodic audits & reviews and necessary upgrades are carried out based on the reviews and various inputs received from the central and state security agencies.

- (c) A nuclear power expansion programme, based on both indigenous technologies and with foreign cooperation is being implemented to increase the installed nuclear power capacity to 22480 MW by 2031-32 from 7480 MW at present.

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