

GOVERNMENT OF INDIA  
DEPARTMENT OF ATOMIC ENERGY  
**RAJYASABHA**  
**UNSTARRED QUESTION NO – 324**  
ANSWERED ON 06/02/2025

**ESTABLISHMENT OF A REGULATORY FRAMEWORK FOR  
SMALL MODULAR REACTORS**

324. SHRI S NIRANJAN REDDY

Will the PRIME MINISTER be pleased to state:-

- (a) whether Government plans to establish a regulatory framework for small modular reactors, if so, the details thereof;
- (b) the details of the extent to which the private sector will be involved in building of Bharat Small Reactors; and
- (c) the manner in which Government plans to ensure nuclear security and maintain its credibility as a responsible nuclear power in the event of private participation in the nuclear sector?

**ANSWER**

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

- (a) Atomic Energy Regulatory Board (AERB) has been constituted by a statutory order (S.O. 4772) to carry out certain regulatory and safety functions envisaged under Section 16, 17 and 23 of the Atomic Energy Act, 1962. As per this order, the AERB is empowered to lay down safety standards and frame rules and regulations for regulatory and safety requirements envisaged under the Act. One of the main functions of AERB is to develop Safety Codes, Guides and Standards for siting, design, construction, commissioning, operation and decommissioning of the different types of plants, keeping in view of the international recommendations and local requirements and develop safety policies in both radiation and industrial safety areas. The regulatory framework of AERB ensures compliance by DAE and non-DAE installations of safety codes and standards during all stages.

All types / designs of Nuclear Power Plants (NPPs) in India are designed, constructed, commissioned & operated complying with the regulatory requirements of AERB. The

same regulatory framework can be utilised for small modular reactors as well. Any design specific regulatory requirements can be developed for Small Modular Reactors, using the existing regulatory framework, once the design is shared with AERB for licensing purpose.

- (b) Setting up of 220 MW Bharat Small Reactors (BSRs) is planned, broadly envisaging provision of land, cooling water and capital by a private entity, with the design, quality assurance and operation & maintenance by Nuclear Power Corporation of India Limited (NPCIL), in line with business model approved by the Government. The Request for Proposals (RFP) in this regard have been invited by NPCIL.
- (c) 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. This ensures that there are multiple barriers between the source of radioactivity and the environment. These safety principles are independent of operator.

AERB has been carrying out review of nuclear security aspects of NPPs since 2009.

The security aspects which have a bearing on safety, within the main plant boundary of Nuclear Power Plant (NPP), is regulated by AERB as per requirements specified in the AERB document titled “Nuclear Security Requirements for Nuclear Power Plants”. AERB carries out the regulatory review for the operation and maintenance of nuclear security systems within main plant boundary including Operating Island, Vital/Inner areas and Central Alarm Station. AERB ensures that the operating NPPs comply with the nuclear security requirements specified in this document and same is being verified during periodic regulatory inspections of NPPs.

In addition to above, regulatory review of nuclear security aspects of nuclear projects is also being carried out at various consenting stages, starting from siting, construction, commissioning and operating phase following the multi-tier review structure in AERB.

Security aspect beyond the main plant boundary of NPP is not in the purview of AERB.

All necessary security provisions beyond the main plant boundary of NPP is made considering Design Basis Threats before the plant is made to operate.

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