

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO- 323
ANSWERED ON 06/02/2025

DEVELOPMENT AND DEPLOYMENT OF BHARAT SMALL REACTORS

323. SMT. RANJEET RANJAN

Will the PRIME MINISTER be pleased to state:-

- (a) the plans for the development and deployment of 'Bharat Small Reactors,' including their intended role in country's energy strategy;
- (b) whether potential locations for the installation of these reactors have been identified, and if so, the details thereof; and
- (c) the current status and progress of research and development on Bharat Small Reactors at the Bhabha Atomic Research Centre, including key milestones achieved and expected timelines for completion?

ANSWER

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

- (a) Bharat Small Reactors (BSR) are an upgraded version of the standard 220 MW Pressurised Heavy Water Reactor (PHWR) designed for deployment in captive mode. These are planned to be deployed in hard to abate industries like steel, metals etc. for their captive use, replacing their existing/planned fossil fuel based captive power plants. BSRs would help reduce the carbon foot print of their products making them competitive in the global markets, apart from helping decarbonisation of the large captive power sector of the country. BSRs are also planned to be set up with private capital in a business model approved by the Government within the existing legal framework.
- (b) Request for Proposals (RFP) inviting proposals from industries for setting up BSRs in line with the approved business model have been published in December 2024. The details of potential locations will be known only on receipt of RFPs from interested industries.
- (c) Bharat Small Reactors (BSRs) are meant for captive power generation purposes, especially for the heavy electricity consumers such as steel, aluminum, process chemicals etc. Enhanced safety features are identified for incorporation in nuclear power plants deploying the BSR. These features are expected to result in reduction of the mandatory exclusion zone radius to about 500m.
