

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY

LOK SABHA
UNSTARRED QUESTION NO – 4480
ANSWERED ON 20/08/2025

R&D OF SMALL MODULAR REACTORS

4480. SHRI MADDILA GURUMOORTHY

Will the PRIME MINISTER be pleased to state:-

- (a) the current status of the Rs.20,000 crore Nuclear Energy Mission announced during the Budget 2025–26 for the Research and Development (R&D) of Small Modular Reactors (SMRs);
- (b) whether any public or private institutions in Andhra Pradesh have been selected to participate in SMR research or proposed to host such facilities and if so, the details thereof;
- (c) whether the Government is planning to involve academic or scientific institutions in Tirupati district such as those under SVIMS or IISER for R&D collaboration on nuclear technology and if so, the details thereof;
- (d) the details of roadmap for ensuring equitable regional participation in SMR development; and
- (e) whether the Government will consider Andhra Pradesh as a pilot State for the operationalisation of indigenously developed SMRs by 2033 and if so, the details thereof?

ANSWER

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

- (a) During the Budget 2025 announcement the government had launched a Nuclear Energy Mission with an outlay of ₹20,000 crore for research and development of Small Modular Reactors (SMRs). Currently, Bhabha Atomic Research Centre (BARC) a constituent unit of DAE, is developing following Small Modular Reactors:
 - i. Bharat Small Modular Reactors (BSMR-200) for repurposing of retiring thermal power plants & captive power plants for energy intensive industry such as aluminium, steel, metal etc.
 - ii. Small Modular Reactors (SMR-55) for providing energy for remote as well as off grid location with objective to decarbonise the energy sector.

iii. High Temperature Gas Cooled Reactor of capacity 5 MWth for hydrogen generation for decarbonisation of transport sector & process industries. Lead units of these reactors are planned to be set up at DAE sites. The subsequent units are to be located at the sites of the end-user industry in case of captive power plants and at brownfield sites of retiring thermal power plants. The Department has obtained in-principle approval for construction of these reactors.

(b) (c) & (d) There are plans to establish some of the newly proposed SMR-type reactors at BARC Vizag, Andhra Pradesh. Sites for Nuclear Power Plants including SMRs are finalized based on various criteria decided by the Site Selection Committee. Prospective vendors and public or private institutions will be selected on the basis of appropriate bidding process, for execution of equipment delivery, construction, erection and commissioning activities pertaining to these reactors.

(e) BARC has developed a new campus at Vizag, Andhra Pradesh. This new campus will be housing several research reactors and R&D facilities in addition to some of the new SMRs being developed by the Department.

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