GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO–3062
ANSWERED ON 11/03/2026
NUCLEAR ENERGY MISSION

3062. SHRI P P CHAUDHARY
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Will the PRIME MINISTER be pleased to state:-

(a) the details of progress under Nuclear Energy Mission including the budgetary allocation made for design, development and deployment of indigenous Small Modular Reactors (SMR);
(b) the details of the Research and Development (R&D) milestones achieved and private sector partnerships established; and
(c) whether the Department has assessed timeline for first SMR prototype and potential capacity addition towards 100GW nuclear target by 2047 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) Under the Nuclear Energy Mission announced in the Union Budget 2025–26, a total budgetary provision of ₹20,000 crore has been made for the research, design, development, and deployment of Small Modular Reactors (SMRs). Bhabha Atomic Research Centre (BARC), a constituent unit of Department of Atomic Energy (DAE) has undertaken design and development works on SMRs namely,
    (i) 220 MWe Bharat Small Modular Reactor (BSMR-200),
    (ii) 55 MWe Small Modular Reactor (SMR-55), and
    (iii) Up to 5 MWth High temperature gas cooled reactor meant for hydrogen generation.

The lead units of these SMRs will be established at DAE sites for technology demonstration.

The estimated utilisation of the allocated funds by BARC toward setting up SMRs is mentioned below:

Reactor	Cost Outlay (Rs Cr.)
Development and Construction of BSMR-200	5960
Development and Construction of SMR-55 (2 units)	7000
Design and construction of High Temperature Gas Cooled Reactor (HTGCR)	320
Design, engineering & development works for new reactors	800
Civil and General Infrastructure Development for reactors complex	452

The progress of these SMRs is as follows;

(i) BSMR-200: AEC in-principle approval has been received for the project. Proposal for administrative & financial sanction is cleared by Atomic Energy Commission (AEC) for submission of the proposal to the Cabinet Committee.

(ii) SMR-55: In-principle approval has been received for the project.

(iii) HTGCR: In-principle approval has been received for the project. Detailed Project Report (DPR) has been prepared. Siting consent has been received and Terms of Reference (ToR) for obtaining environmental clearances has been received from Ministry of Environment, Forest and Climate Change (MoEF&CC).

(b) The special material called "Advanced Purified Reactor Vessel Alloy (ApuRVA) and technology for forgings for reactor pressure vessels of BSMR-200 and SMR-55 has been developed indigenously in collaboration with Indian Industries. The control rod drive mechanism has also been developed in-house. Necessary technology for deployment of these reactors is available in the country. Majority of equipment are within manufacturing capability of Indian Industries with technological handholding by BARC. Therefore, Indian industries will be engaged in manufacturing of equipment.

(c) Bharat Small Modular Reactor (BSMR) is being jointly designed and developed by BARC and Nuclear Power Corporation of India Limited (NPCIL), a Govt. of India enterprise under DAE. Estimated time for construction of BSMR is 60 to 72 months from receipt of administrative & financial approval.

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