GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO-2783
ANSWERED ON 17/12/2025

NUCLEAR MISSION

2783. DR. D. PURANDESWARI

Will the PRIME MINISTER be pleased to state :-

(a) whether the Government has launched a national "Nuclear Mission" to meet country's growing energy demands through clean and environment-friendly sources and if so, the details thereof;
(b) the target set for achieving 100 GW of nuclear energy capacity by 2047 and the roadmap to achieve the said goal;
(c) whether Small Modular Reactors (SMRs) are being developed to ensure decentralized and scalable nuclear power solutions across the country and if so, the details thereof;
(d) the role of private sector participation and indigenous R&D in supporting the Nuclear Mission and enhancing technological innovation; and
(e) the manner in which this Mission reinforces country's long-term clean energy and net-zero commitments?

ANSWER

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

(a) Yes. The Nuclear Energy Mission launched by the Government envisages reaching a nuclear power capacity of about 100 GW by 2047 through deployment of existing and emerging advanced nuclear technologies, both indigenous & with foreign cooperation.

(b) The Government has drawn up a roadmap to reach a capacity of 100 GW by 2047, of which NPCIL will contributing 54 GW by 2047 by setting up new nuclear power plants based on indigenous Pressurised Heavy Water Reactors and Light Water Reactors with foreign cooperation.

(c) Yes. BARC has initiated design and development works on SMRs namely,
(i) 200 MWe Bharat Small Modular Reactor (BSMR-200), and
(ii) 55 MWe Small Modular Reactor (SMR-55)
BSMR-200 and SMR-55 can be deployed as captive plant for energy intensive industries such as aluminum, steel, etc., repurposing of retiring fossil fuel-based power plants and for providing energy for remote as well as off-grid locations. Thus, these SMRs are positioned as key contributors to ensure decentralised, scalable and cleaner

nuclear power solutions across the country. Additionally, a high temperature gas cooled reactor with capacity up to 5 MW_{th} is also being developed for hydrogen production.

(d) Necessary technology for deployment of the large reactors such as 700 MWe indigenous PHWRs and Small reactors such as BSMR-200 and SMR-55, is available in the country and majority of equipment are within manufacturing capability of Indian industries with technological handholding by DAE. Post FY 2024-25 budget announcement of private players' participation in deploying Bharat Small Reactors (BSR) as captive plants for industries, NPCIL has floated 'Request for Proposal' to deploy 220-MW PHWR technology-based BSR reactors by Indian Industries, under the existing legal framework. The mission is further supported by R&D with objective to develop indigenous advanced reactors comprising safety features, its fuel cycles and technology for hydrogen production for coupling with reactors for decarbonising transport sector & process industry.

(e) Nuclear power is a clean, base load source of electricity available 24X7. The lifecycle emissions of nuclear power are comparable to those of renewables like hydro and wind. Thus, nuclear energy will contribute significantly in India’s clean energy transition towards Net Zero by 2070.

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