GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO- 5208
ANSWERED ON 02/04/2025

CURRENT ATOMIC ENERGY PLANTS IN THE COUNTRY

5208. DR. GANAPATHY RAJKUMAR P

Will the PRIME MINISTER be pleased to state:-

(a) the number of Atomic Energy Stations established in the country and the energy produced by each station;

(b) whether there are any proposals to establish new Atomic Energy Stations in the country;

(c) if so, the details thereof; and

(d) the action taken by the Government on safe disposal of waste fuel of Atomic Energy Stations?

ANSWER

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

(a) The details of the operational nuclear power plants along with the electricity generated in the current year (FY 2024-25), up to February-2025, is given in Annexure.

(b) & (c) The detail of the projects under different stages of implementation is given below:

State	Location	Project	Capacity (MW)
Projects Under Construction / Commissioning			
Rajasthan	Rawatbhata	RAPP-8	700
Tamil Nadu	Kudankulam	KKNPP-3&4	2 X 1000
		KKNPP-5&6	2 X 1000
	Kalpakkam	PFBR	1 X 500
Haryana	Gorakhpur	GHAVP-1&2	2 X 700
Projects under pre-project activities			
Karnataka	Kaiga	Kaiga-5&6	2 X 700
Haryana	Gorakhpur	GHAVP– 3&4	2 X 700
Madhya	Chutka	Chutka-1&2	2 X 700
Rajasthan	Mahi Banswara	Mahi Banswara-1&2	2 X 700
		Mahi Banswara-3&4	2 X 700

(d) India is pursuing a three-stage nuclear power programme, for optimum utilisation of its limited uranium resources and exploit vast thorium resources for long term energy security, by following nearly closed nuclear fuel cycle wherein the spent fuel from reactors is treated as resource material and not waste. India has developed expertise in backend fuel cycle of Pressurised Heavy Water Reactors (PHWRs).

Currently, the spent fuel from PHWRs is reprocessed to extract fissile material for use as fuel for next stage nuclear power plants. However, a small volume of radioactive liquid wastes containing minor actinides and fission products is generated during reprocessing. The high level radioactive liquid waste, generated from reprocessing of spent fuel, is subjected to a process called vitrification, wherein it is converted to glass. This vitrified solid product is subjected to natural cooling in solid storage surveillance facility. This policy is at par with international practices following the guidelines of International Atomic Energy Agency.

For efficient management of high-level radioactive waste, Bhabha Atomic Research Centre (BARC) has developed and demonstrated partition technology for separation of long-lived actinides to facilitate increase in specific loading of waste in the vitrified solid and thereby facilitating substantial volume reduction of vitrified waste. Moreover, this partition technology also helps in recovery of useful radio-isotopes such as Caesium-137, Strontium-90, Ruthenium-106 from the liquid wastes for various societal applications.

Capacity enhancement for PHWR fuel reprocessing and waste management is under progress by construction of large capacity Integrated Nuclear Recycling Plant (INRP) for deploying the partition technology.

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Annexure

State	Location	Unit	Capacity (MW)	Generation (MUs)
Maharashtra	Tarapur	TAPS-1	160	*Under project mode for refurbishment*
		TAPS-2	160	
		TAPS-3	540	4283
		TAPS-4	540	3468
Rajasthan	Rawatbhata	RAPS-1	100	*Under extended shutdown*
		RAPS-2	200	1194
		RAPS-3	220	856
		RAPS-4	220	1406
		RAPS-5	220	1659
		RAPS-6	220	1823
		RAPS-7	700	*Connected to the grid on 17.03.2025*
Tamil Nadu	Kalpakkam	MAPS-1	220	*Under project mode for refurbishment*
		MAPS-2	220	1518
	Kudankulam	KKNPP-1	1000	7675
		KKNPP-2	1000	6643
Uttar Pradesh	Narora	NAPS-1	220	1682
		NAPS-2	220	1743
Gujarat	Kakrapar	KAPS-1	220	1512
		KAPS-2	220	1697
		KAPS-3	700	3838
		KAPS-4	700	4266
Karnataka	Kaiga	KGS-1	220	1672
		KGS-2	220	1412
		KGS-3	220	1866
		KGS-4	220	1750

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