

GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 1401
TO BE ANSWERED ON 28.07.2021

NUCLEAR ENERGY

1401. MS. RAMYA HARIDAS:
SHRI SUNIL BABURAO MENDHE:

Will the PRIME MINISTER be pleased to state:

- (a) whether the nuclear energy is the cheapest source of energy compared to other traditional sources of energy;
- (b) if so, the number of nuclear power plants which are generating energy in the country and comparative power generated by each of them;
- (c) whether any incident leading to risk to human lives has occurred during the last three years and if so, the details thereof;
- (d) whether proper safeguards are in place in each of the power plants and if so, the details thereof; and
- (e) whether the Government has planned to commission more nuclear power plants 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) Tariffs of electricity generated by nuclear power are comparable to those of contemporary conventional base load generators like thermal power.
- (b) The present installed nuclear power capacity comprises of 22 reactors with a total capacity of 6780 MW. In addition, one reactor, KAPP-3 (700 MW) has been connected to the grid on January 10, 2021. The details are given in *Annexure*.
- (c) No, Sir.

- (d) Yes, Sir. Highest priority is accorded to safety in all aspects of nuclear power viz. siting, design, construction, commissioning, and operation. Nuclear power plants are designed adopting safety principles of redundancy, diversity and provide fail-safe design features following a defence-in-depth approach. This ensures that there are multiple barriers between the source of radioactivity and the environment.

The operations are performed adopting well laid out procedures by highly qualified, trained and licensed personnel. Appropriate Personal Protection Equipment and monitoring aids are provided to all the personnel working in the nuclear power plants.

- (e) Yes, Sir. There are presently 22 reactors with a total capacity of 6780 MW in operation and one reactor, KAPP-3 (700 MW) has been connected to the grid on January 10, 2021. In addition, there are 10 reactors (including 500 MW PFBR being implemented by BHAVINI) totaling to 8000 MW under construction at various stages.

The Government has accorded administrative approval and financial sanction for construction of 10 indigenous 700 MW Pressurized Heavy Water Reactors (PHWRs) to be set up in fleet mode. On progressive completion of the projects under construction and accorded sanction, the nuclear capacity is expected to reach 22480 MW by 2031. More nuclear power plants are also planned in future.

State	Location	Unit	Capacity (MW)
Maharashtra	Tarapur	TAPS-1 ^{&}	160
		TAPS-2 ^{&}	160
		TAPS-3	540
		TAPS-4	540
Rajasthan	Rawatbhata	RAPS-1 [@]	100
		RAPS-2	200
		RAPS-3	220
		RAPS-4	220
		RAPS-5	220
		RAPS-6	220
Tamil Nadu	Kalpakkam	MAPS-1 ^{&}	220
		MAPS-2	220
	Kudankulam	KKNPP-1	1000
		KKNPP-2	1000
Uttar Pradesh	Narora	NAPS-1	220
		NAPS-2	220
Gujarat	Kakrapar	KAPS-1	220
		KAPS-2	220
Karnataka	Kaiga	KGS-1	220
		KGS-2	220
		KGS-3	220
		KGS-4	220

[@] RAPS-1 is under extended shutdown for techno-economic assessment

[&] TAPS-1&2 & MAPS-1 are presently under project mode.