

GOVERNMENT OF INDIA  
DEPARTMENT OF ATOMIC ENERGY  
**LOK SABHA**  
**UNSTARRED QUESTION NO. 4063**  
TO BE ANSWERED ON 17.07.2019

**SETTING UP OF NUCLEAR PLANTS/REACTORS**

4063. SHRI SELVAM. G.:  
SHRI A. GANESHAMURTHI:  
SHRI T. N. PRATHAPAN:

Will the PRIME MINISTER be pleased to state:

- (a) total number of Nuclear Power Plants/reactors operating as on date, State-wise along with the quantum of energy produced by each plant/reactor;
- (b) the total number of new nuclear power stations/reactors proposed to be set up, State-wise along with the total quantum of power likely to be produced from these proposed new nuclear power stations/reactors;
- (c) the fund earmarked and allocated for these new projects during the current year and the time by which the power production is proposed to be commenced and commercialised from these plants/reactors;
- (d) whether the nuclear reactors set up in the country are safe according to the international nuclear standard; and
- (e) if so, the details thereof along with the frequency of security tests conducted in nuclear reactors and the authority responsible for such tests?

**ANSWER**

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

- (a) The present installed nuclear power capacity comprises of 22 nuclear power reactors with a total capacity of 6780 MW. The details are given in Annexure.
- (b) A total of nine nuclear power reactors with an aggregate capacity of 6700 MW are presently under construction. The details are as follows:

State	Location	Project	Capacity (MW)
Gujarat	Kakrapar	KAPP-3&4	2 x 700
Rajasthan	Rawatbhata	RAPP-7&8	2 X 700
Haryana	Gorakhpur	GHAVP-1&2	2 X 700
Tamil Nadu	Kudankulam	KKNPP- 3&4	2 X 1000
	Kalpakkam	PFBR*	500

\* being implemented by BHAVINI

In addition, the Government has accorded administrative approval and financial sanction for setting up 12 more nuclear power reactors with a total capacity of 9000 MW. The details are as given below:

State	Location	Project	Capacity(MW)
Madhya Pradesh	Chutka	Chutka - 1&2	2 X 700
Karnataka	Kaiga	Kaiga - 5&6	2 X 700
Rajasthan	Mahi Banswara	Mahi Banswara - 1&2	2 X 700
		Mahi Banswara - 3&4	2 X 700
Haryana	Gorakhpur	GHAVP - 3&4	2 X 700
Tamil Nadu	Kudankulam	KKNPP - 5&6	2 X 1000

The Government has also accorded 'In-Principle' approval of the following sites for setting up nuclear power reactors in future:

State	Location	Site	Capacity (MW)
Maharashtra	Jaitapur	Jaitapur, Units- 1 to 6	6 x 1650
Andhra Pradesh	Kovvada	Kovvada, Units- 1 to 6	6 x 1208
Gujarat	Chhaya Mithi Virdi	Chhaya Mithi Virdi, Units - 1 to 6	6 x 1000*
West Bengal	Haripur	Haripur, Units – 1 to 6	6 x 1000*
Madhya Pradesh	Bhimpur	Bhimpur, Units- 1 to 4	4 X 700

\*Nominal Capacity

- (c) The details in respect of nuclear power projects presently under construction and accorded administrative approval and financial sanction are given below:

State	Location	Project	Capacity (MW)	Sanctioned Cost (Rs. crore)	Allocated 2019-20 (Rs. crore)	Expected Completion
<b>Projects Under Construction</b>						
Gujarat	Kakrapar	KAPP 3&4	2 x 700	11459	1704	2019/20
Rajasthan	Rawatbhata	RAPP 7&8	2 X 700	12320	1818	2020/21
Tamilnadu	Kudankulam	KKNPP 3&4	2 X1000	39849	4599	2023
	Kalpakkam	PFBR <sup>&amp;</sup>	500 <sup>&amp;</sup>	5677	100	2021
Haryana	Gorakhpur	GHAVP 1&2	2 x 700	20594	1189	2025

State	Location	Project	Capacity (MW)	Sanctioned Cost (Rs. crore)	Allocated 2019-20 (Rs. crore)	Expected Completion
<b>Projects Accorded Administrative Approval &amp; Financial Sanction</b>						
Madhya Pradesh	Chutka	Chutka 1&2	2 X 700	105000	181	Progressive Completion by 2031
Karnataka	Kaiga	Kaiga 5&6	2 X 700		316	
Rajasthan	Mahi Banswara	Mahi Banswara - 1&2	2 X 700		96	
		Mahi Banswara - 3&4	2 X 700		--	
Haryana	Gorakhpur	GHAVP 3&4	2 X 700		149	
Tamilnadu	Kudankulam	KKNPP 5&6	2 X 1000	49621	1100	2025

*& Implemented by BHAVINI*

(d) Yes, Sir.

(e) All the nuclear power reactors are designed in accordance with the codes and guides of the regulatory authority i.e. Atomic Energy Regulatory Board (AERB), which are in line with the International Standards.

A multi-tier safety mechanism comprising safety review committees within Nuclear Power Corporation of India Limited (NPCIL) and safety review committees in the regulatory authority, Atomic Energy Regulatory Board (AERB) is in place to monitor the safety of nuclear power plants. In addition, a framework of periodic safety reviews, audits and inspection is in place, for ensuring safety. AERB team conducts structured on-site inspections four times in a year. In addition, inspections during Biennial Shutdowns of nuclear power reactors, based on feedback of safety reviews & events and unannounced inspections are also undertaken by AERB.

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## Annexure

State	Location	Unit	Capacity (MW)	Lifetime Commercial Generation upto June 2019 (in Million Units, MU) <sup>§</sup>
Maharashtra	Tarapur	TAPS-1	160	48518
		TAPS-2	160	49469
		TAPS-3	540	47477
		TAPS-4	540	44684
Rajasthan	Rawatbhata	RAPS-1	100	11822
		RAPS-2	200	41887
		RAPS-3	220	30060
		RAPS-4	220	29826
		RAPS-5	220	17214
		RAPS-6	220	14438
Uttar Pradesh	Narora	NAPS-1	220	33346
		NAPS-2	220	33095
Gujarat	Kakrapar	KAPS-1	220	29057
		KAPS-2	220	30656
Karnataka	Kaiga	KGS-1	220	27434
		KGS-2	220	28168
		KGS-3	220	16469
		KGS-4	220	14300
Tamil Nadu	Kalpakkam	MAPS-1	220	34934
		MAPS-2	220	36728
	Kudankulam	KKNPP-1	1000	18719
		KKNPP-2	1000	8930

<sup>§</sup> The generation figures are rounded to nearest integer.